Live Local

Achieving Equitable and Sustainable Neighborhood Development through Anchor-Led Housing Incentives.

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Abstract: Anchor Institutions, such as universities and hospitals, have the power to bring about positive economic and physical change in their surrounding neighborhoods. Through Employer Assisted Housing Incentives (EAHI), anchor institutions can support the positive development of their surrounding communities by encouraging employees and students to live close to campus and invest in the local housing market.

EAHI programs have significant benefits for both the institution and the neighborhood. For the institution, encouraging employees to live closer to work can help reduce their commute times, increase quality of life, and support the attraction and retention of talent. EAHIs are also useful in supporting local community development goals within both weak and strong housing markets by stimulating demand and bridging the affordability gap respectively. They can also be used to reduce automobile dependency, which decreases parking demand, and makes room for infill development.

Using participation data from the Live Midtown program – a housing program launched collectively by three anchor institutions in Detroit, MI – and other EAHI's, this paper examines the impact that university- and hospital-driven housing incentives can have in stimulating local housing demand, reducing automobile dependence, and advancing the growth of livable, sustainable and inclusive neighborhoods.

Introduction

By 1995 The University of Pennsylvania needed a radical solution to stem the decline of the housing markets in historic West Philadelphia. The legacy of deindustrialization and disinvestment (coupled with land use decisions made by the University during Urban Renewal in the 1950s) had crippled the local housing stock. At best, homes remained on the market for longer stretches of time and abandoned family homes began to appear in the middle of historically stable blocks; at worst, negligence from property managers, unsafe buildings, rampant vacancy and violent crime combined to create unsafe and undesirable blocks that drove away residents. Rather than look to the city to solve the problem, the University of Pennsylvania looked internally – it would leverage the growing demand for housing from employees as a catalyst for the local housing market.

In 1998 Penn launched a series of Employer Assisted Housing Incentives (EAHI) marketed to their employees. These programs offered employees $21,000 (over $30,000 in today's dollars) forgivable loans to purchase homes, $7,500 grants to remodel, as well as guaranteeing any mortgage for a University-affiliated household up to 120% of the value. By 2004 almost 400 people had purchased homes through the program, and another 150 had made home improvements. The programs leveraged over $48M in mortgage financing. Properties had appreciated by 15% annually, and the average sale price increased from $78,500 to $175,000.[i]

The Employer Assisted Housing Incentive was not the only investment Penn made in West Philadelphia during the 1990s and early 2000s – but it was one of the most important because it proved how a strategy that simultaneously benefits employees and institutions could also have a transformative impact on the local community. Anchor Institutions – colloquially described as "Eds and Meds" – have the potential to become catalysts for economic and physical changes in their neighborhoods. Employer Assisted Housing Incentives, especially when coupled with other programs such as activation of institutional real estate, can have transformative effects on their surrounding neighborhoods. Today[ii] there are *at least* 52 unique EAHI programs in America with the majority administered directly through anchor institutions (i.e. Princeton, Cornell, Williams, etc.) or non-profits representing a consortium of institutions (i.e. University Circle, Cleveland).

Defining Employer Assisted Housing Incentives

Employer Assisted Housing Incentives are demand-driven housing tools, through which employers offer a direct or indirect financial benefit towards the purchase or rental of a home/apartment for their employees. The most recurrent configurations of the tool include:

- *Forgivable Loan* – An upfront grant that can be used to pay for down payment, closing costs, or other costs associated with the purchase or improvement of a home; the amount of which the employer forgives on an annualized basis over a pre-determined length of residence

- *Mortgage Guarantee and Assistance* - An employer acts as a guarantor on the loan for an employer-affiliated home purchase up to a certain percent; this is often coupled with access to low-interest loans or reduced down-payment obligations.

- *Rental Subsidy* – A single or reoccurring payment direct to an employee or property manager for use in offsetting rental costs

Employer Assisted Housing Initiatives are typically administered through one of three structures: direct through employers; indirect through a non-profit or local entity; citywide or statewide through a public or quasi-public agency.

Benefits of Employer Assisted Housing Incentives

A number of EAHIs brand themselves as “Live Local” or “Live Where you Work,” and this clever piece of marketing acknowledges a near uniform goal that these initiatives share – to encourage employees to live closer to where they work and thus reduce their commutes. Employers may find these incentives valuable in recruiting top quality candidates, especially within competitive fields (i.e. nurses or faculty). Employers may also find these initiatives useful as bulwarks against employee turnover, as the correlation between employee satisfaction/retention and commute time has been established across several studies.[iii]

Complementary to an employer’s objectives for recruitment/retention, EAHIs are also useful in supporting local community development goals. Within weaker housing markets, EAHI’s play a role in stimulating demand for housing and priming the pipeline for new development; within stronger housing markets, they can bridge the affordability gap for employees who might not otherwise be able to rent or purchase locally. They can also be used as a creative tool to reduce automobile dependency, potentially decreasing demand for parking and opening space for development of infill housing or other uses.

Assessing the Impact of Institution-Driven Incentives

University and hospital-driven housing incentives can support the development of dense, sustainable, equitable and inclusive communities in American cities. This paper will utilize data from the Live Midtown Housing Incentive Program to demonstrate how incentive programs can effect these changes. This longitudinal dataset was collected between 2011 and 2015 by Midtown Detroit Inc. (MDI), a 501(c)3 neighborhood development entity that administers the Live Midtown Program on behalf of Wayne State University, Henry Ford Health System, and Detroit Medical Center.

The authors of this paper have elected to analyze the Live Midtown Program for several reasons. For one, the data is rich. Since 2011, MDI has tracked information on all 1,332 participants of the program including: employer, nature of their incentive, age, hire date, occupation, demographics, purchase or rental price, and other key indicators. Synthesized with data on real estate trends, retail growth and other market conditions, the participant data affords researchers sufficient coverage to empirically comment on how the Live Midtown program impacted the local housing market and supported the development of a livable, sustainable, and inclusive district. In a broader context, Live Midtown is representative of why EAHI's that are facilitated through universities and hospitals are uniquely positioned to achieve the goals incumbent upon these kinds of initiatives. It is no coincidence that of the 52 incentives mentioned above, 43 are implemented directly by or through a partnership with universities and hospitals.

There are likely several reasons why this is true. For one, healthcare and educational industries are well represented by the American workforce. Of the 1,333 Census Designated Places that have employable populations (over 16 years) of at least 25,000 people, 87% list Healthcare, Education and Social Assistance as the number one industry of employment, with an average market share of 23.5%.[iv] Universities and hospitals are often located within communities that possess the ideal market configurations to nest housing incentives. For example, Princeton University offers qualified faculty and staff shared control and mortgage guarantee programs to build the local academic community and offset the costs of living near campus (within an accessible two mile walk of Princeton's campus, the average home sold for $578,000 in 2015; within a 15 to 30 minute drive the price fell to $230,000.[v])

A different example would be the recently launched Live Local 901 Program administered by the Memphis Medical District Collaborative. Within the Medical District, high vacancy and poorly managed multi-family properties mar and mask the housing stock in the district that is actually in good condition.[vi] In both of these examples, employees find themselves forced to choose between two aspects of the same tradeoff: embrace longer commutes or endure unaffordable or less desirable housing conditions. Related to this point, universities and hospitals are also often the largest landholders in their communities. In the above example in Memphis, the nine institutions represented by the Memphis Medical District own approximately 23%[vii] of the land within the Medical District. Since these institutions do not pay taxes on this land, investing in housing and other local initiatives can help ameliorate some of these concerns that may arise with the community.

Finally, universities and hospitals benefit from EAHIs because of the high levels of turnover within these industries. This is especially true of hospitals. According to data referenced by NSI Nursing Solutions, the current national turnover rate for hospitals is

17.1% (with key positions such as Certified Nursing Assistants being as high as 24%).[viii] Given a decision between the direct and indirect costs of recruiting and retraining a new employee versus preempting turnover by subsidizing a better work/life balance, it is not illogical to assume an institution would favor the latter.

Case Study Analysis: Live Midtown's Role in Supporting a Liveable, Sustainable, and Inclusive Community within Midtown Detroit.[ix]

Midtown Detroit is a district of two square miles centered on Woodward Avenue Corridor, just north of Downtown Detroit. Three of region's largest employers and landholders are headquartered within the district: Wayne State University, Henry Ford Health System, and the Detroit Medical Center. In 2010, the Kresge Foundation and Hudson-Weber Foundation identified Midtown as one of Detroit's most strategic districts for growth, and embraced an Anchor Strategy through which the three institutions would leverage their collective demand to reactivate and redevelop the district.

A key component of this anchor work was the Live Midtown housing incentive program. In 2011, each of the three institutions committed $200,000 in funding to support a pilot year of incentives for their constituents. Kresge and Hudson Weber Foundations and the Michigan State Housing Development Authority (MSHDA) matched this funding with $600,000 that could be used by participants from any of the institutions. Participants could utilize the funds in the following ways:

- $20,000 forgivable loan for the purchase of a home within the incentive boundary
- $2,500 rental subsidy with the option for a one time renewal of $1,000 for apartments within the incentive boundary
- $5,000 matching one-to-one funds for exterior home improvements for existing homeowners within the incentive boundary

The program proved so successful that within several months each institution had wait lists of over 30 applicants. With the satisfaction of their constituents resolved, the institutions committed to funding the program for five years, resulting in a total investment of over $5,000,000 from the institutions, foundations and other partners.

Between 2011 and 2015 a total of 1,332 employees took advantage of this program. When adjusted for household size, the total impact was as high as 2,025 people. The direct impact to the local housing market was at least $21.6M and the program has likely generated at least $2.5 M in new revenue for the City and School district through income/property taxes.[x] Of the 1,332 participants, 740 (55%) were new residents to the district and city (1,125 when adjusted for household size).

Participation in Live Midtown: 2011 to 2015			
Incentive Type	Participants	Adjusted for Household Size	Minimum Impact on Housing Market
Purchase	101	181	$10.2 M
Rental	672	978	$6.4 M
Renewal	548	841	$5 M
Exterior	11	25	$55 K
Total	**1,332**	**2,025**	**$21.6M**

The numbers alone prove that Live Midtown was successful program that had a strong direct impact on the local economy and housing market. However, peeling back the first layer and synthesizing the data further supports the argument that Live Midtown played an integral role in supporting Midtown's growth as an equitable, sustainable, and livable community.

Livability: A Cycle of Density and Demand

This paper defines a livable community as a place in which people can live, work, shop and meet their basic needs for entertainment and human connection in an affordable and efficient manner, with limited reliance on automobiles. Given this definition, the impact of the Live Midtown Program's on livability in Midtown is best understood across three metrics.

<u>Qualitative Perceptions on The Cycle of Livability</u> – The most direct metric through which to assess Live Midtown's impact on livability is through survey data taken from participants in the program. At the conclusions of 2014, Midtown Detroit Inc. surveyed participants from the program, and received a response rate of over 320 (over 1/3 total participants at this time).[xi] Key findings from this survey include:

- Over 92% of participants found that living in Midtown exceeded their expectations
- Over 60% of renters indicated they would stay for at least 2.5 years; approximately 80% of people who purchased homes indicated they would stay for over 5 years.
- Approximately 60% of participants said they would now move to the district even absent the subsidy
- When surveyed about what made Midtown most enjoyable the top responses included: proximity, community, restaurants, access, and walking.

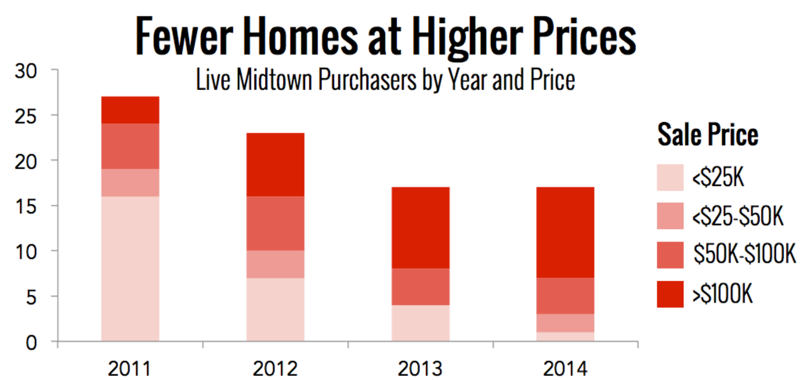
Quantitative metrics also support these findings. A study commissioned by Kresge in 2014 to assess the impacts of their investment in the anchor strategy found that over

80% of previous program participants who who still worked at DMC and WSU, but who had surpassed their rental allotment, were still living within the district. [xii]

Taken together these experiences paint a collective narrative in which the housing incentive program brought new people to the neighborhood who would not have otherwise considered living here and after living here for some time they realized the value of proximate, diverse and accessible communities, with many vowing to stay longer than they had initially intended.

Increased Demand for Housing Stimulates New Supply – According to data tracked by Midtown Detroit Inc., a total of 1,050 new rental units were added to Midtown between 2011 and 2015, and an additional 2,350 units were planned or in development as of end of 2015. Midtown's rental occupancy rate jumped from 91% before the program, to 99% in 2015. [xiii] It would be disingenuous and misleading to state that Live Midtown alone is responsible for to this growth. The housing incentive program was nested within a comprehensive portfolio of strategies that included coordinated cleaning and safety, retail recruitment and expansion, district programming, and planned development. However, the guaranteed consistency in demand of approximately 250 people looking to rent each year played an important role in helping some developers underwrite the construction of new rental units.

The program's direct impact on the For Sale Market is easier to gauge. As the graph to the right indicates, the number of homes purchased through the program diminished each year, yet the cost of those homes increased quickly. The limited stock of owner occupied housing in Midtown (9.7% in 2010) combined with the rush of concentrated demand ate up the available stock quickly. This was so apparent than in 2015 MDI extended the home purchase boundaries north to offer more affordable supply.



Multiplier Effect – Increased Demand for Food, Retail and Services – An important element of a livable community is the ability to access amenities in food, retail and personal services easily and with limited reliance on automobiles. The 740 participants who relocated to Midtown now work and live within the same geography, undoubtedly altering the manner in which they shop and access amenities. To fully appreciate why this is the case, consider the following observations on the psychology of how people spend their money.

1) Though people shop proximate to their work, it is likely that additional shopping occurs closer to home. [xiv].

2) People prefer not to travel too far to purchase basic goods, services and amenities. [xv]

3) People may be influenced to purchase unplanned goods and services if the opportunity is presented.

Considering these observations on our shopping behaviors, the relocation of over 740 participants to Midtown likely had (and continues to have) a profound effect on the local commerce for food, retail, entertainment, and basic services. Midtown Detroit has a density of 139 retail, food service and entertainment establishments per square mile.[xvi] People who live and work within the district would find ample opportunity meet their needs within walking distance of their homes and centers of employment.

This paper will utilize basic data from The Consumer Expenditures Survey (CPS) to estimate the impact of this demand. For sake of a conservative analysis, this calculation assumes that at least 75% of all offline commerce is spent within proximity to work or home (the other 25% would be traveling elsewhere for special opportunities) and also assumes the purchasing numbers for urban environments from the CPS:[xvii]

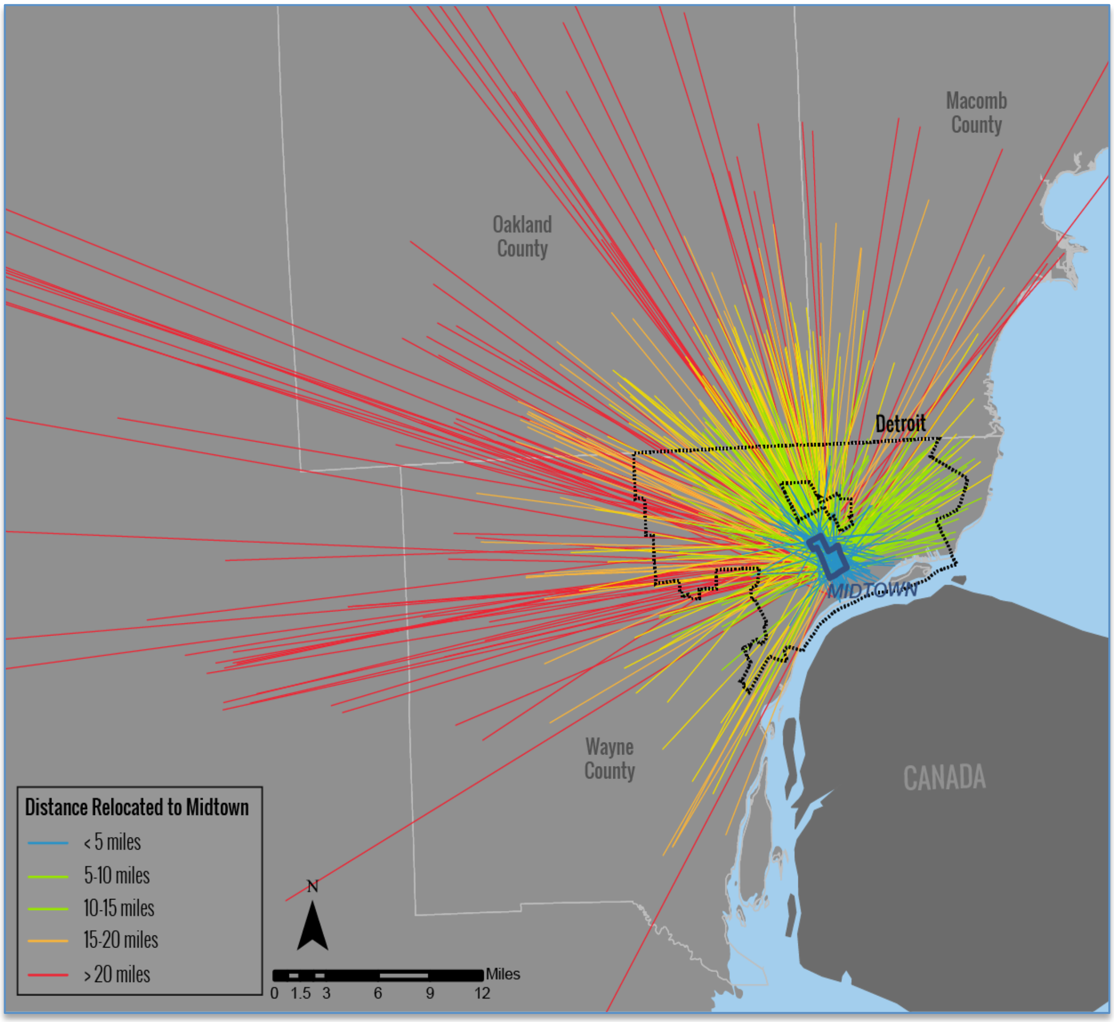
- Groceries (Food at Home) - $4,043
- Eating Out (Food Away form Home) - $3,095
- Entertainment - $2,850
- Personal Care - $705

Using these assumptions, just the program participants who relocated to the district since 2011 may have spent upwards of $13.2M on these goods and services within or immediately around the district. [xviii] Data collected by Midtown Detroit Inc. reflects how supply grew to meet this and other demand: between 2013 and 2014, MDI tracked a total of 75 new businesses that relocated to the area.

Sustainability: Reducing the Long Term Demand for Parking

The Live Midtown Program does not require that employees abandon their automobile to be eligible. However, the program seeks to promote a lifestyle in which an employee no longer needs (or at least can minimize their use of) an automobile to commute to work. Almost every participant who relocated to the district could now walk, bike, or take the light rail to work, with trip duration of no more than 15 minutes.

The magnitude of the impact is best considered in the aggregate. Of the 740 participants who relocated to the district, approximately 33% came from another area of Detroit; and 65% came from within the region or other parts of Michigan. The map depicted below visualizes the aggregate impact on commute times. The lines represent the distance between former and current addresses for all participants who relocated to Midtown, by 5-mile increments (Blue <5 miles to Red >20 Miles).



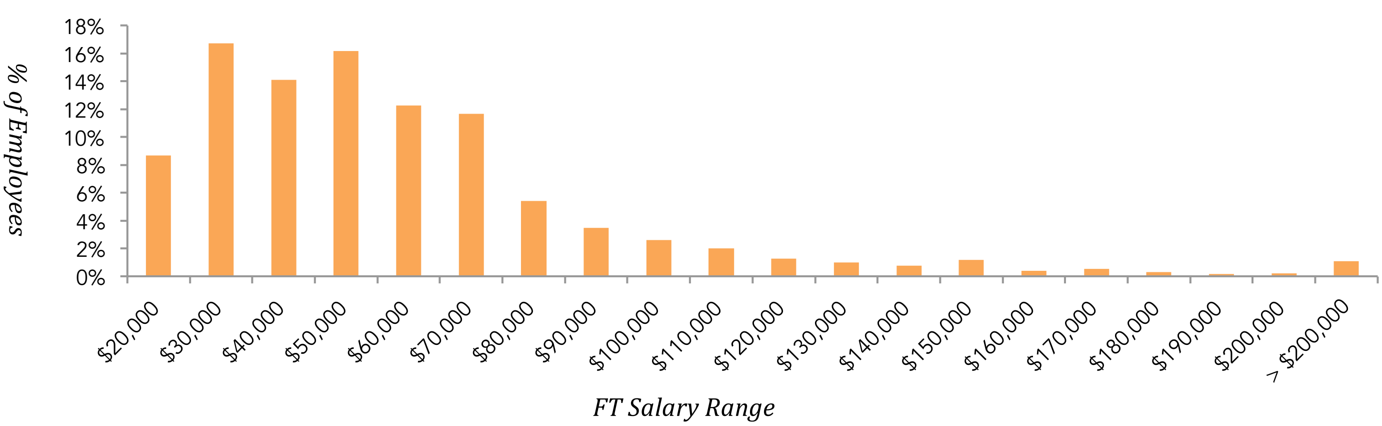
The average commute reduction for participants who relocated is 9.2 miles per trip, or 18 miles round-trip. This means that, on average, employees save a total of 4,400 miles of commuting distance every year. The graphic below depicts of how this translates into carbon offsets, on a per person basis. [xix]

Housing incentive programs managed by universities and hospitals can impact the demand for parking in the long term. In 2014, Henry Ford, Wayne State, and Detroit Medical Center owned a collective 100 acres and 26,000 spaces of parking within Midtown, with plans to continually grow this number. As the incentive program(s) continue to mature, institutions become more confident that measurable percentages of their employees and students can access campus without a car. As enhanced density continues to increase land values, institutions will become more comfortable in relinquishing control of strategically located lots for more productive uses. There is evidence to suggest that this trend is already underway, as Wayne State University recently sold a number of their parking lots to private developers for mixed-use projects.[xx]

Inclusivity and Equity: Shared and Diverse Program Participation

Market-driven development for housing often carries the risk of gentrification. Sometimes new properties are marketed to new residents who do not fully align with the income or social demographics of the neighborhood. The authors of this paper do not intend to discuss the pros or cons gentrification, other than to recognize the tensions that are inherent to any discussion of housing strategy and offer insight into how housing incentive strategies administered through universities and hospitals naturally default to a more neutral and balanced position within this space.

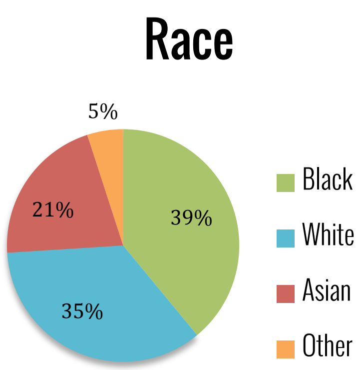
Live Midtown, for example, had no controls or mandates upon diversity or equity of participation; yet the very nature of the hospitals and universities feeding the demand produced diverse outcomes. One way to visualize this reality is by graphing the wage distribution for Wayne State, Henry Ford Health System, and Detroit Medical Center below.

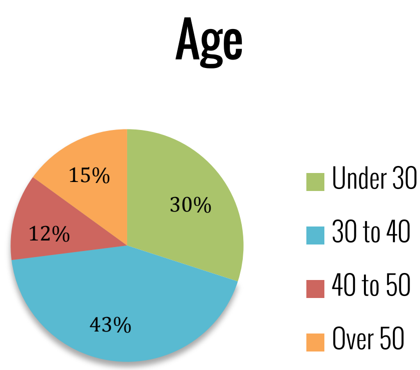


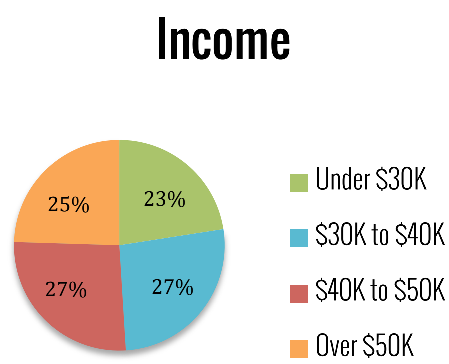
As this graph indicates, the institutions in Midtown hire employees balanced across multiple income types, with over 50% earning under $45,000 annually. National data on wage distribution at hospitals confirms this trend with a GINI Wage Coefficient of .425

(GINI Coefficient provides a means to assess equality (0) vs inequality (1) in a distribution) The coefficient of .425 is below the average for all other industries, indicating a greater balance across diverse income types at hospitals. [xxi]

Because of the inherent diversity within these institutions, a variety of people from different backgrounds, income levels, ages and demographics will be exposed to the housing incentive program as it is marketed throughout the institution. Demographic data from the Live Midtown Program confirms this. Below are three charts that depict the overall participation in Live Midtown by race, age, and income – all of which confirm a program that had diverse and balanced participation from across the institutions.







Conclusions: Enabling Success

The Live Midtown Program and the housing incentives provided by the University of Pennsylvania succeeded in attracting employees to live closer to where they work. This provided a direct benefit to the institutions and their employees and simultaneously supported the goals of creating livable, sustainable and inclusive districts around the campuses.

The authors of this paper are hesitant to draw broad conclusions about the impact and applicability of EAHI's from a review of only two institutions. The authors recognize the need for a more comprehensive study that pulls longitudinal participation data from at least 10 to 15 of the 50+ programs to help substantiate universal principals as well as differentiations based on market conditions.

However, the richness of the data available (especially in Midtown) can still be used to draw preliminary hypotheses about how to design these programs successfully. Based on research presented in this paper, the authors conclude that institutionally led EAHI programs should include the following four elements:

Robust or Co-Levered Funding - Major institutions like the University of Pennsylvania can afford to commit significant capital to make incentives actionable and impactful. Smaller institutions may not have the same resources. The Live Midtown program provides a successful model of how to expand fundraising in such instances. Each year, the Live Midtown program leveraged a total of $600,000 of additional funding from local foundations, which translates to 80 additional rentals and 10 additional homes purchased every year. Where possible, matching the contributions of participating institutions with foundation dollars can broaden the overall impact and can attract institutions that might not participate otherwise.

Scale Incentives to Market Conditions - The University of Pennsylvania addressed its challenges primarily through direct home ownership and improvement incentives. In Midtown, the share of owner-occupied homes was too small to achieve the same impact, thus the program included a rental incentive component to stimulate the excess housing demand and help catalyze the market. A thorough understanding of local housing supply, occupancy rates, rental/purchase prices, and property ownership is key before launching an initiative. The same applies for the creation of program boundaries, which should be uniform, easy to understand, and of an optimum size to balance proximity with inclusion of a diversity of housing supply.

Efficient and Co-Leveraged Management – Sufficient funding and leadership at the presidential level allowed The University of Pennsylvania to efficiently manage the incentive program internally. When pooling incentives across multiple institutions, a third-party entity can play an important role in coordinating and managing the effort. The facilitation of the Live Midtown program through Midtown Detroit Inc., for example, obviated the hassle of running overlapping programs at each institution. In addition, organizations like Midtown Detroit Inc. are well positioned to collect robust and uniform data on participation, monitor program performance, and understand the impacts to the local housing market.

Nest Housing Incentives within Broader Anchor Strategies – These initiatives are most effective (especially in weaker markets) when they are nested within comprehensive, place-based economic development initiatives – known as Anchor Strategies. The University of Pennsylvania nested its employee incentive housing program within the West Philadelphia Initiatives, which included the creation of a new University-assisted neighborhood public school and the formation of the University City District – a community development organization charged with public safety improvements and community and economic development in West Philadelphia. The Live Midtown program was implemented alongside a series of similar strategies in Midtown. Working in tandem, the strategies become cyclical and complimentary: housing incentives guarantee a regular demand that stabilizes the housing market and increases demand for security, public space improvements, schools, and local businesses development, which are in turn continually enhanced by other elements of the anchor strategy.

[i] Kerman, Lucy & Kromer, John. 2004. West Philadelphia Initiatives: A Case Study in Revitalization. *University of*

[ii] Compiled a list of housing incentive strategies through internet research at specific institutions and through web-resources that had compiled partial lists, including: http://www.kintera.org/site/c.lkIXLbMNJrE/b.7977773/k.7189/Employer_Assisted_Housing/apps/nl/newsletter2.asp; http://www.realtoractioncenter.com/for-associations/housing-opportunity/workforce-housing/eah-toolkit/General-GovtPrograms-StandAlone.pdf; https://www.cga.ct.gov/2013/rpt/2013-R-0379.htm)

[iii] Research by company Evolv found that having a short commute distance (0 to 5 miles) results in employees remaining over 20 percent longer [Sullivan, John. (2015, April) You Might Be Surprised How Much Commute Times Hurt Hiring and Retention. Retrieved from: https://www.eremedia.com/ere/you-might-be-surprised-how-much-commute-issues-hurt-hiring-and-retention/ ; Another study by the UK Office for National Statistics linked commutes under 15 minutes, on average, to greater happiness and satisfaction and less anxiety [(2014, February). Commuting and Personal Well-Being, 2014. Retrieved from: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171766_351954.pdf

[iv] U.S Census Bureau, 2011-2015 American Community Survey 5-Year Estimates; Table DP03

[v] Housing data for this calculation was collected over a nine-month period in 2015 using data manually pulled from Zillow for recently sold homes within Mercer County and surrounding counties within New Jersey and Pennsylvania. Princeton University is just one example of institutions pursuing "strong market strategies." Others include: Stanford, MIT, Harvard, and Columbia.

[vi] Program launched in December of 2016 and managed through the Medical District Collaborative. More information can be found at http://mdcollaborative.org/live/

[vii] Ownership percentages were calculated in ArcGIS using Parcel Shapefiles accessed from the Shelby County Assessor of Property, in Shelby County, Tennessee.

[viii] Colosi, Brian. 2016. 2016 National Healthcare Retention and RN Staffing Report. *Nursing Solutions, Inc.* Retrieved from: http://www.nsinursingsolutions.com/Files/assets/library/retention-institute/NationalHealthcareRNRetentionReport2016.pdf

[ix] Unless otherwise noted, all data from this point forward is taken from Live Midtown participant data tracked by staff at Midtown Detroit Inc. between 2011 and 2015. Information about the program can be accessed here http://www.livemidtown.org/

[x] This calculation factors in the rental amounts and mortgages leveraged through the program. It calculated only for the years in which employees/students used the program and does not consider the impact of employees who are still renting in the same apartment, after the subsidy as expired. For taxation estimates, the authors referenced the rates posted on the website of the Detroit Economic Growth Council (http://www.degc.org/site-selectors/tax-rates). The tax calculation includes only Income and Property taxes, and includes only employees who purchased homes or relocated to Midtown from areas outside of Detroit, thus brining completely new revenue. The overall tax impact was much higher.

[xi] Unless otherwise noted, all metrics below are taken from the following source: Fields, Al. 2014. Live Midtown 2014 Participant Survey. *Conducted on behalf of Midtown Detroit Inc.*

[xii] Research conducted by authors in 2014, analyzing the impacts of a series of anchor led economic development strategies in Midtown Detroit between 2009 and 2013.

[xiii] Rental supply and occupancy data tracked by Midtown Detroit Inc. between 2010 and 2015.

[xiv] In 2011, an ICIS survey of office workers found that in amply supplied urban markets, 58% of workers will purchase lunch nearby work; however only 32% will shop at a full-service restaurant; 28% at Grocery Stores; and 8.4% at personal care shops/services. One potential explanation for the low percentages (outside of lunch at delis) is that people may be more inclined to purchase these goods and services closer to home or en-route between work and home. Niemira, Michael P. & Connolly, John. 2011. Office-Worker Retail Spending in a Digital Age. *International Council of Shopping Centers, Research Department.* Retrieved from: https://www.downtowndevelopment.com/pdf/icsc-report_office-worker-spending.pdf

[xv] A study by BrightLocal in 2014, found that most people are not willing to travel more than 17 minutes to shop at a local business for basic goods, services and amenities. Marchant, Ross. (2014, May). Consumers Will Travel 17 Minutes to Reach a Local Business. Retrieved from: https://www.brightlocal.com/2014/05/01/local-business-travel-times/

[xvi] 2016, Infogroup, Inc. Businesses within Midtown Detroit Inc. obtained through Business Analyst Online through ESRI.

[xvii] Consumer Expenditures Survey, U.S Bureau of Labor Statistics, August 2016. Table 1702.

[xviii] This calculation assumes a 75% coefficient of local spending and the annualized spending volumes cited above from the Consumer Expenditures Survey. People who purchased homes are considered to have lived within the district for each year after they purchased the home. Renters were multiplied by a coefficient of 2.5 years for those who used the program in 2011 and 2012; and 1.75 years for those from 2013 and 2014, to reflect the average number of years people had planned to stay within the district. The calculation was performed only for the 740 participants who relocated to the district, and not for the members of their households they brought with them.

[xix] Assumptions are as follows. Average Trip Distance: Calculated in GIS using a participant's former and relocated address. Annual Trip Distance: Assumed an average of 5-day workweek for 48 weeks of the year. Gallons of Gas: Using an assumption of average 23 Miles Per Gallon taken from a Washington Post article retrieved from: https://www.washingtonpost.com/news/wonk/wp/2013/12/13/cars-in-the-u-s-are-more-fuel-efficient-than-ever-heres-how-it-happened/?utm_term=.66a67489cdde. Carbon Emissions: Assumed 19.64 lbs. of CO2 produced from a gallon of gasoline, taken from U.S Energy Information Administration, retrieved from: http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11. Trees: An assumption of 48lbs of CO2 per year, retrieved from: https://projects.ncsu.edu/project/treesofstrength/treefact.htm

[xx] Reindl, JC. (2016, December 2nd). Wayne State Inks Development Deal for 181 new Midtown Apartments, Condos. *Detroit Free Press, Retrieved from: http://www.freep.com/story/money/business/2016/12/02/181-new-midtown-apartments-condos-planned-wayne-state-development/94829954/*

[xxi] U.S Census Bureau, 2015, American Community Survey Public Use Microdata Set 1-Year Estimate. Retrieved from: https://datausa.io/about/glossary/#gini