



Recommendations on  
Reducing Human Capital Flight  
(Brain Drain) from  
Milwaukee and its City Government

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## Introduction

Brain drain, also known as human capital flight is the departure of educated or professional people from one country, economic sector, or field<sup>1</sup>. In Economics human capital is defined as the knowledge, skills, competencies and attributes of individuals that facilitate the creation of personal, social and economic well-being. Differences in human capital can be explained by various worker conditions such as education, health conditions, experience and training. Human capital has positive influences because well-trained individuals tend to spread their knowledge to others (Lucas, 1988).<sup>51</sup> These educated or professional individuals have post-secondary vocational education, apprenticeship training or college degrees which benefit their careers, families and

economies thereby making them valuable human capital. The City of Milwaukee is currently facing multiple challenges related to the brain drain. The first type of brain drain the city is combating is



within the boundaries of the city, where the population of young educated workers in Milwaukee is decreasing. Secondly Milwaukee City Government is challenged with attracting and retaining skilled young workers. The final drawback is not a brain drain per-say, but may have similar economic effects. Many City of Milwaukee employees are moving outside of the city causing a comparable loss in local spending and taxes.

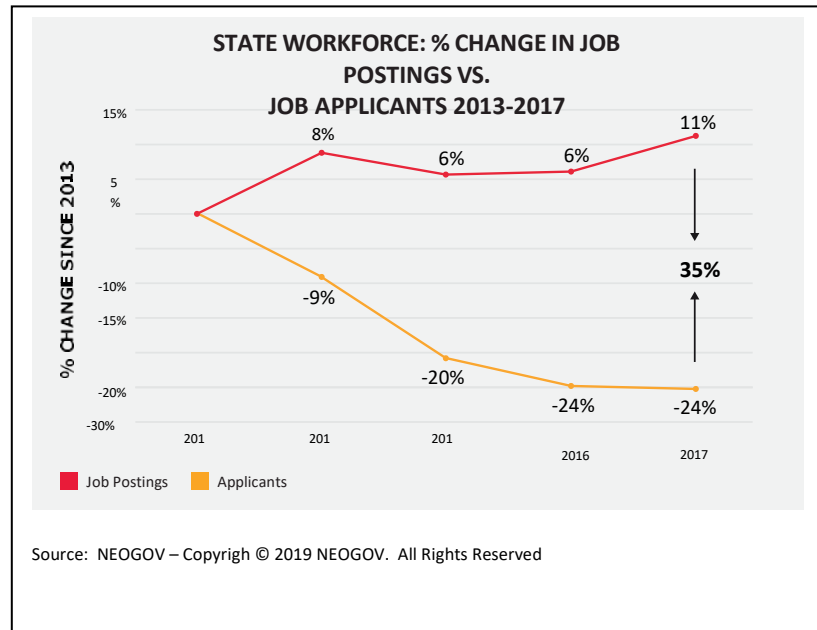
In order to continue building economic strength, the City of Milwaukee must work to stop Human Capital Loss in our neighborhoods and in our City Government. City economies grow faster when there is significant labor supply potential; usually sourced from skilled young adults who bring with them new knowledge and innovation. This labor supply essentially attracts and grows business. In summary, human capital is a driving force for economic growth. (Barro and Sala-i-Martin)<sup>51</sup>. Alderman Cavalier Johnson has proposed legislation that creates a Millennial Task Force aimed at providing the city with proposals on how best to alleviate this loss.

## Evidence of Brain Drain in the City of Milwaukee & the State of Wisconsin

Brain drain is a drawback for the State of Wisconsin and for the City of Milwaukee. In the Milwaukee municipal area alone there was a 1.8% decrease in individuals between ages 25 and 34 from 2010 to 2015 while there was a 3.8% increase in that age group nationally<sup>2</sup>. According to a United States Congressional Joint Economic Committee report, the State of Wisconsin has a 10.7% gap between highly educated people leaving and those entering the State, which is the 8<sup>th</sup> highest in the nation. Wisconsin also has the fourth highest gap between highly educated people leaving and those staying which is 20.4%<sup>3</sup>. About twenty eight percent (28.4%) of adults age 25 and older in Wisconsin had a Bachelor's degree or higher in 2014, which was below the national average of 32.5% and ranks 26<sup>th</sup> in the nation. According to a study conducted by University of Wisconsin Madison the state has a strong high school graduation rate and ranks 10<sup>th</sup> in the nation<sup>4</sup> but trails the national average for individuals with a college degree due to relatively low graduation rates and partially due to average college enrollment. Wisconsin also has a net negative migration of college graduates. This is caused by all age groups in-migrating at a lower rate than the national average. In addition 18 to 24 year olds and 25 to 29 year olds out-migrate at a higher rate than the national average<sup>4</sup>. This has created a challenge characterized more so by a lack of a "brain gain" rather than a "brain drain."<sup>4</sup> Wisconsin is historically low on the list of states that attract immigrants, who often fill workforce gaps. Milwaukee has a lower rate of foreign-born individuals standing at 9.8% compared to a national average of 13%. Overall whether we term the conditions above as "human capital flight", "brain drain" or "out-migration" the consequences create a negative ripple effect on our City's and State's economy.

## Brain Drain from the Milwaukee's City Government and Its Potential Causes

The City of Milwaukee's Department of Employee Relations has submitted numerous reports to the Finance and Personnel Committee related our city government's struggle with attracting, recruiting and retaining Millennials and Generation Zs. It is important to note however, that Milwaukee is not an isolated case. Many city governments across the country are facing similar struggles. Representative David Bowen reported that Wisconsin's infamous brain drain lost us college graduates to Minneapolis and Chicago; both of which had a far larger draw than Milwaukee in terms of jobs and city living<sup>48</sup>.



In a study conducted by the Wisconsin School of Business, it was reported that the state lost about 14,000 college graduates annually between 2009 and 2012. Milwaukee was hit particularly hard by this brain drain which consisted mainly of young adult graduates aged 21 to 29.

Nationwide, the lack of young workers is becoming more and more of an issue as an aging workforce comes closer to retirement. The average age for a government employee in the U.S. is 47 years old<sup>6</sup>, and data indicates 52% of public workers are 45 to 64 years compared to 42.4 % in the private sector<sup>7</sup>. State government job postings rose 11% from 2013 to 2017, while the number of people applying to state jobs dropped by 24%<sup>8</sup>.

In a survey by the National Association of State Chief Administrators, administrative officers were asked to rank the top three factors constituting the greatest barriers to attracting high quality talent in their state. Eighty five percent believed that states are unable to offer

competitive salaries comparable with the private sector. Fifty five percent of survey participants believed that there is a negative public perception about working for the government and 33% thought the lack of recruitment tools was a main contributing factor<sup>8</sup>.

Governments at all levels must figure out a way to attract millennials to their workforce or risk their workforce shrinking significantly in the face of retiring tenured skilled workers. Comparably, private sector peers are becoming more in tune with the needs of Millennials.

## **The City of Milwaukee's Migration of Government Employees**

In addition to struggling to attract Millennials in finding value in working as city employees, our local government also struggles with convincing its current employees to live within Milwaukee's municipal boundaries. As of 2018, twenty one percent (1,367) of City employees, excluding elected officials and temporary election workers, lived outside of Milwaukee, accounting for \$92,497,859.11 in salaries<sup>9</sup>.

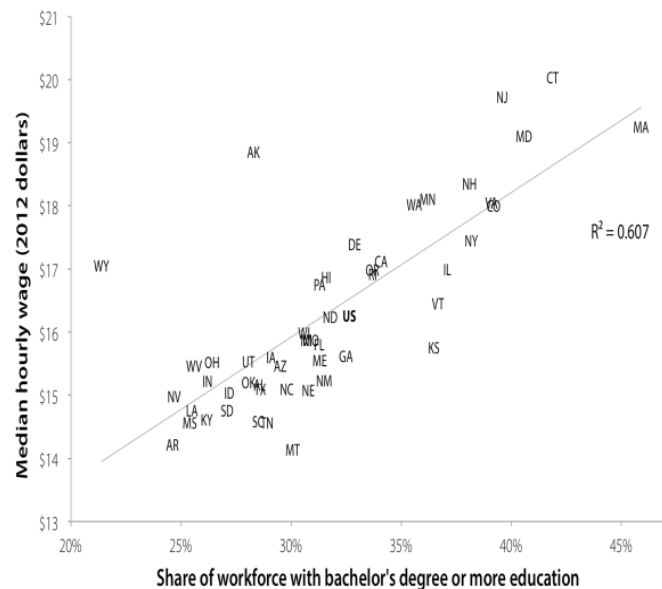
A 2013 report conducted for the city of Milwaukee by SB Friedman, estimated that an approximate total of 350 employees per year would become non-residents, with 250 existing employees moving out of Milwaukee and about 125 new employees choosing not to move in to Milwaukee. The report also predicted that about 4,070 employees would be non-residents by 2024. The economic effect of this out-migration is projected to reduce Milwaukee's tax base by approximately \$649 million and a reduction consumer spending on retail goods and services estimated at \$57 million annually.

In addition, it is estimated that this out-migration would create a reduction in housing construction activity with an estimated decline of 358 units per year<sup>10</sup>..



## Economic Effects of a City's Brain Drain and the Value of Human Capital

As noted previously in this paper, brain drain and human capital have a large effect on the economy. One UW-Steven's Point Associate Economics Professor estimated that the total net loss of human capital from brain drain in Wisconsin from 2000 to 2010 could be quantified at about \$309, 137,167<sup>11</sup>. According to a joint study out of Harvard University, NBER and the University of Pennsylvania, human capital accurately predicts population and productivity growth at the city level; as high skill areas have become populous, better paying and more expensive. The study also states that skill composition may be the most powerful predictor of urban growth<sup>12</sup>. Studies from the Economic Policy Institute also illustrate these correlations, showing productivity has grown more in states with greater growth in the educational attainment of their workforce. In addition median wages are substantially higher in states with more educated workers<sup>13</sup>.



## Education and Training Methods – How These Work to Boost a Region's Economy

### College Degree Attainment

Individuals who have attained a college degree at any level can improve a community's economy. A 2014 study by the Brookings Institute investigated the effect of education on local consumption and tax revenue and estimated that a high school graduate would spend \$18,806 locally and pay \$1,947 in state and local taxes annually, while a person with a bachelor's degree would spend \$31,568 locally and pay \$4,978 in state and local taxes.

The study also estimated the present value of a college graduate at \$278,314 in local spending; \$43,888 in state and local taxes, which is approximately \$190,000 and \$35,000 higher than that of someone with only some college. Those with associate’s degrees also benefit the economy, on average earning \$20,000 more, spending \$6,000 more locally, and paying \$1,000 more in state and local taxes annually than high school graduates<sup>14</sup>.

Table 2. Average annual income and spending by category, households by educational attainment of highest educated member, United States, 2014

	Before tax income	Total spending	Local spending	State and local taxes
High school graduate	\$40,260	\$36,286	\$18,806	\$1,947
High school graduate with some college	\$47,891	\$43,749	\$21,892	\$2,193
Associate's degree	\$60,671	\$50,300	\$25,141	\$2,816
Bachelor's degree	\$84,628	\$65,483	\$31,568	\$4,978
Master's, professional, or doctoral degree	\$123,654	\$85,434	\$41,115	\$7,847

Source: Brookings analysis of Bureau of Labor Statistics 2014 Consumer Expenditure Survey.

When a community experiences a brain drain, it no longer receives these economic benefits, which in turn hurts the incomes of both local businesses and government.

## Apprenticeships

Apprenticeships are another form of post-secondary education that not only help individuals, but help bolster the economy. Apprenticeships are training programs that combine on-the job training and related occupational-specific technical instruction to teach aspects of an occupation while working and earning money. In Wisconsin the application process for an apprenticeship depends on the industry. In the construction industry, applications are sent directly to the local apprenticeship committee. For industrial, manufacturing and service trades, the applications are sent directly to the organization sponsoring the apprenticeship. After applying, applicants wait for employment opportunities to arise in the industry in order to start their apprenticeship.<sup>15</sup>

Depending on the trade, an apprenticeship can take anywhere from two to five years to complete. Apprentices usually spend 90% of their time learning on the job, and spend the remaining 10% in the classroom. Apprentices begin earning money upon starting their apprenticeship and receive regularly scheduled raises as their skills increase. Apprentices earn a nationally recognized completion certificate, issued by the Bureau of Apprenticeship Standards, upon successful completion of their training program<sup>16</sup>.



In Wisconsin there are also pre-apprenticeship programs that focus on youth, where high school juniors and seniors are hired for apprenticeships while they work towards graduating high school. Milwaukee County had 219 students and 140 companies participating in these programs during the 2017-2018 school year. Regular apprenticeships are a more common occurrence in the



Milwaukee area with 3,715 active apprenticeships with an average age of 28<sup>17</sup>. Wisconsin also has pre-apprenticeship programs that give workers the general skills they will need heading into their apprenticeships and for jobs in general, helping workers become qualified for more job opportunities.

Apprenticeships bring substantial economic benefits to not apprentices and the industries and governments involved. **In the state of Wisconsin the average wage of a person with a college degree is equal to that of someone that has apprenticeship training<sup>16</sup>, giving equal benefits to the communities they work in.**

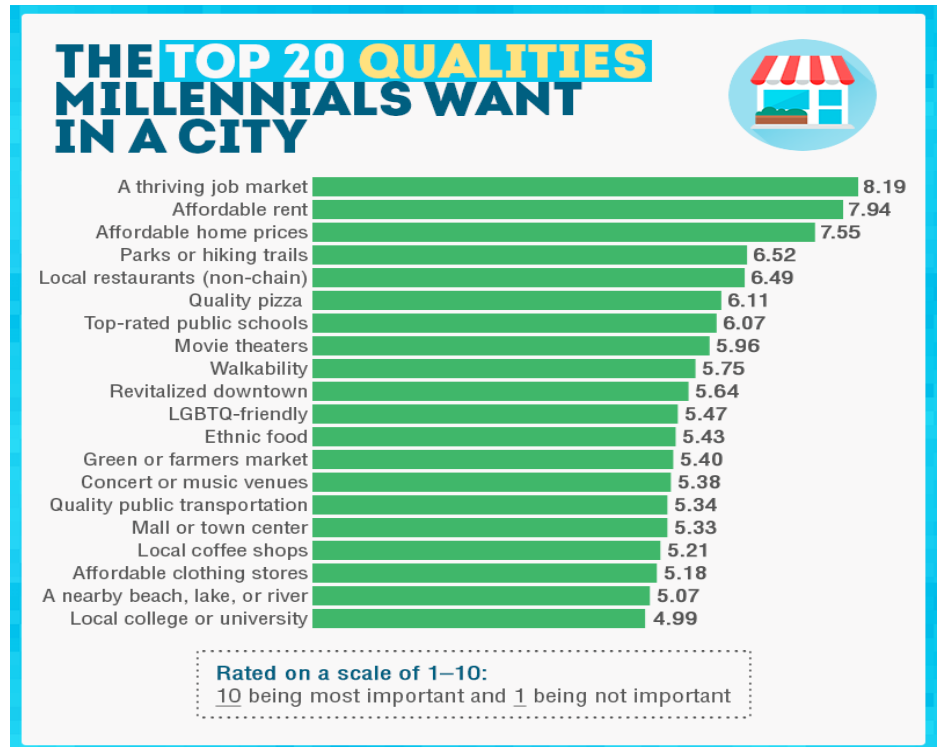
A University of Illinois study on registered apprenticeships in the Illinois construction industry found the program creates or saves nearly 5,000 jobs and increases the state economy by \$408.7 million a year. The programs also provides \$1.25 billion in long term economic benefits and 98.7 million in state and local tax revenue over participants' careers, leading to a \$9.14 per dollar return on investment<sup>18</sup>. Apprenticeships are an effective way to train young workers, whether in or out of school, giving them the skills they need to obtain a family supporting career that contributes directly to the community's economy.

### City Characteristics Young Workers Value the Most

Preventing a brain drain starts with keeping and attracting college graduates, and other skilled workers, to Milwaukee. The state of Wisconsin has negative net migration of college

graduates which is primarily due to low levels of in-migration from other states rather than high rates of out-migration from Wisconsin<sup>4</sup>. This can also be seen in the fact that 60.1% of college graduates in Wisconsin, are from Wisconsin which is the 8<sup>th</sup> highest in the nation<sup>4</sup>. To keep and attract college graduates at a higher rate one must identify what Millennials and Generation Z value the most when deciding where to live.

A survey, of two thousand Americans born between 1982 and 1998, had respondents rate factors they considered when moving to a city on a scale of one to ten, with one being lowest and ten being highest. The survey



found that the highest valued characteristics were a thriving job market, at 8.19 out of 10; affordable rent at 7.94 out of 10; and affordable housing at 7.55 out of 10<sup>20</sup>.

American University also did a study on the matter, focusing on millennials and education level, to determine which factors they valued when deciding where to live. The study found that those with a Bachelor’s degree valued jobs at about 42%, followed by affordability at approximately 22%, career and education opportunities at about 19%, people at approximately 10% and amenities at about 7%. For respondents with graduate, professional and doctoral degrees; jobs were rated at about 52%; with affordability at about 11%; education and career options at about 25% and people and amenities each at about 6%<sup>21</sup>. These studies illustrate that the main factor in attracting young educated workers is a strong job market with room for them to grow.

## Job Characteristics Millennials Find Most Appealing

If government employers are to start successfully attracting Millennial workers to replace their aging workforce they must understand what Millennials want and adapt to their needs in the workplace. Research shows that Millennials want flexibility in their work schedules and want to work for an employer that gives them a sense of purpose and makes a societal impact. . A Business Insider survey found that:

- ⌚ Eighty one percent of Millennials believe they should set their own work schedules
- ⌚ Seventy five percent of millennials would like to have mentors
- ⌚ Eighty eight percent want a fun and social work environment compared to only 60% of baby boomers<sup>22</sup>.

A study from 2017 conducted by an assurance, advisory and tax service corporation, found that 68 % of U.S. workers view societal impact of employers as important – a significant jump from 53 % in 2014<sup>23</sup>. While varying opinions on the matter exist the most common beliefs are that Millennials want flexibility in their work schedules and want to work for an employer that gives them a sense of purpose and makes a societal impact.

## How Businesses are Adapting to Attract Young Workers

Businesses in the private sector have made grandiose steps to adapt to the needs of Millennials in order to attract and retain young employees. Top rated companies reputed for maintaining and recruiting Millennials have begun to give their employees unique perks. *Salesforce, rated #2 on Fortune's 100 Best Companies to Work For in 2019*, consulted Monks



when constructing areas for mindfulness in its offices. Westpac Group stopped assigning desks and allowed their employees to work in whichever space suited them best. Suncorp Group

allows employees to permanently work from home. Google offers post-mortem financial support to the spouses and families of employees<sup>24</sup>.

Companies are responding to the wishes of Millennials with flexible schedules and workplaces, as well as giving benefits that show they value their employees.

## Solutions Created by Other City Governments to Combat Brain Drain

### Incentives

**Vermont** has begun a program that either allows relocating residents to work remotely or to be reimbursed for some of their relocating expenses.<sup>25</sup> In **Maine**, The Opportunity Maine Tax Credit motivated individuals to work and live in the state by reimbursing student loan payments<sup>26</sup>.<sup>26</sup> In 2003, the **City of Niagara Falls** started a program, from their Department of Community Development that paid 20 graduates to live in a specific neighborhood costing their city \$200,000<sup>27</sup>. **Montreal**, whose brain drain mirrors Milwaukee's, has made significant efforts to attract and retain Millennials. For example, they created financial aid programs for students in which the money they receive is contingent on them staying in the city for a set period of time. Montreal also begun specializing in artificial intelligence and video game industries. In doing so, they have slowed negative net migration of college graduates. Montreal's proportion of STEM graduates who work in science and technology fields are the highest in Canada<sup>28</sup>.

### Marketing

Chicago has begun a program called **Think Chicago** that invites 200 top college students from across the country to take a behind-the-scenes tour of Chicago and attend the Lollapalooza Music Festival to convince them to live in Chicago after graduation<sup>29</sup>.

Dayton started **Learn to Earn Dayton** a program working towards the goal that by 2025, 60% of working-age adults will have at least a 2-year college degree or a high quality post-secondary credential. The program also helps connect students with internships in the area<sup>30</sup>.

**Rebranding** is a tool cities have used to position themselves in a new direction. An iconic example is the "**I Heart New York**" campaign. In 1970 New York's net negative brain drain was -16.5. In the mid-1970's



New York was viewed as a place no one would want to visit, let alone live - but then the city increased their tourism budget by 1000% and invested in the “I Heart New York” campaign. The campaign was credited for more than tripling the state’s visitor spending revenue and changing the way people viewed New York<sup>31</sup>.

A 2004 rebranding campaign by Amsterdam aptly named: “**I Amsterdam**”; aimed to change Amsterdam’s perception as a place to work and live, as well as reclaim its spot as a top tourist destination. “I Amsterdam” rebranded by creating a Website, a Twitter account, Facebook page, an App, and three sets of giant letters spelling I Amsterdam across the city. The campaign successfully changed perceptions and reclaimed Amsterdam’s position as a top tier European tourist destination<sup>32</sup>.



**Colorado’s** branding campaign symbolized the City as place for an adventurous lifestyle, believing that happiness is out there, just waiting to be discovered. The program was run by a Colorado-based marketing team Karsh Hagan that successfully created a ripple-effect of \$898 million in spending, which doubled the return on investment from previous ad campaigns<sup>33</sup>.

While most of these branding campaigns were primarily focused on tourism they changed how the cities or states were viewed, and caused people to have a desired need to travel, work and live in these Cities.

## Internships

Governments have begun to adapt to stop the brain drain from their workforce by creating work experience opportunities for students or workers. **Maine** has begun an intern-mentor program that partners with local universities and community colleges to identify potential hires and pairs them with a veteran worker to train them. Since the program started in 2013, 70% of the interns have become full-time employees<sup>34</sup>.

**Pennsylvania** has begun a six month internship program for college students which, upon completion, guarantees them a job.<sup>35</sup>

**The United Kingdom** has a competitive program called Fast Stream where graduates work and learn about government work for three years and upon completion candidates are moved into permanent positions<sup>36</sup>. This program is one of the reasons why the United Kingdom has a comparably younger government workforce (aged under 30) in at 13.1% whereas the United States trails at 7.2%<sup>37</sup>. Other governments have focused on modernizing their hiring process.

**The State of Maine** has focused on modernizing their hiring process by launching an App that allows applicants to apply for jobs. , Since the App was launched Maine has seen a 35% increase in application<sup>34</sup>.

**The City of Denver** has started a new branding campaign that emphasizes the variety in city and county jobs and the idea that working for the city or county exposes people to a variety of different careers. Denver's government recruiters can use LinkedIn to recruit candidates<sup>38</sup>.

## **Milwaukee Has Similar Employee Migration Challenges as other Municipalities**

In 2011, **Detroit** created Project 14 which minimally motivated their Police Officers to live in the city, but was lauded as a move in a positive direction as the program was aimed at repopulating city owned vacant homes, improving public safety and land use. The rationale for the program was to strengthen neighborhoods. Project 14 offered incentives for purchasing homes, in specific communities, costing between \$1,000 to \$10,000 and offered up to \$150,000 for renovation projects. Only six Police Officers, (11%) who lived outside of the city, participated in its first year<sup>40</sup>. However, progress was made in the second year when a dozen Police Officers signed up for the program.





In 2015 the **St. Paul, Minnesota's** Common Council passed a resolution that (was vetoed by the Mayor) to incentivize Police Officers to buy or rent homes in the city. The Mayor disagreed with incentivizing one group of city employees over another<sup>41</sup>.

The City of **St. Louis** has required residency for city employees but is currently discussing legislation that would end the requirement<sup>42</sup>.

With the passage in Wisconsin of State Law that no longer permitted residency restriction for employees, **Madison** begun to looking at alternative incentives. Already in place is a monetary incentive tied to employee longevity which will be expanded to 12% of employee's base pay depending on their length of service with the city. Madison is also contemplating housing and monetary incentive legislation ranging from lump sum payouts for sick leave balances in excess of 150 days, to expanding the aforementioned longevity incentive to include contracted workers.<sup>43</sup>

### **City of Milwaukee's Solution for Employee Migration**

After the State of Wisconsin lifted the residency restriction in 2013, the City of Milwaukee passed a 1.5% pay increase effective June 23<sup>rd</sup> 2013 (14<sup>th</sup> pay period). Employees living outside of the city or those that moved out of the city after the 14<sup>th</sup> pay-period were not eligible for this incentive<sup>43</sup>.

Recently, the City of Milwaukee Common Council passed legislation that would build on previous monetary incentives for employees residing in the city. While most cities are attempting to incentivize residency through housing, Milwaukee is planning to incentivize residency through wages. The City of Milwaukee is intending to implement a 3% wage increase for general city employees who reside in the city effective Pay Period 13 which begins on June 16<sup>th</sup> 2019. It is anticipated that the adjustment will be reflected on the July 11<sup>th</sup> payroll check<sup>44</sup>.



## Research Based Recommendations

The City of Milwaukee could implement specific strategies to stem its brain drain. An empirical study conducted at Harvard University titled *“The Rise of the Skilled City”* found that education levels have a positive impact on future wage and housing price growth at the metropolitan level; while High school dropouts predict urban decline at city level<sup>12</sup>. Consequently the first recommended strategy



would be to focus on motivating Milwaukee residents to receive a post-secondary education. This could be done by expanding scholarships and funding for students to go to college that obligates them to live and work in Milwaukee after they graduate. Montreal has a similar strategy.<sup>28</sup>

Alleviating brain drain could be achieved by expanding existing pre-apprenticeship and apprenticeship opportunities that obligate young adults to *“pay forward”* by working and living in the city for a prescribed period of time while mentoring others on a similar career path. This expansion could be branded in a similar manner as Dayton and their Learn to Earn Dayton initiative<sup>30</sup>.



Programs that raise awareness and participation in apprenticeships could be expanded to reach additional Public Schools in Milwaukee’s low income neighborhoods. Based on the research outlined in this paper, it is recommended that Milwaukee focuses on branding its job market in a manner that attracts Millennials.

As it can be seen from the surveys of young workers the most important factor is jobs and career opportunities when deciding where to live. Wisconsin ranked amongst the highest states with jobs that only require high school diploma.<sup>46</sup> To attract young talent, Milwaukee needs to consider having a job market that requires post-secondary education and an environment that gives young workers opportunities to grow, rather than a job market based on jobs that they are overqualified for. This could be done by starting programs that foster the innovation of startups, and new tech business. By taking these actions Milwaukee can create a job market capable of attracting young workers hopefully preventing its negative net migration.

Additionally it is recommended that the City of Milwaukee create a well-funded internship program, similar to the programs in Pennsylvania<sup>35</sup> and Maine<sup>34</sup> which draw students to these respective cities to work under the tutelage of tenured city workers.

Lastly, using tourism as an anchor in re-branding Milwaukee could attract an in-migration of visitors who will have a renewed perception of the city. By embarking on a marketing campaign, similar to those found in New York<sup>31</sup>, Colorado<sup>33</sup> and Amsterdam,<sup>32</sup> Milwaukee can become a desired tourist destination, which in turn will attract skilled labor willing to live and work here.

Adding a *'societal impact'* and *"sense of purpose"* to the branding message; would likely draw young potential city workers to our Michigan shores as these are the qualities Millennials are look for in an employer<sup>23</sup>.

## Research Sources

1. <https://www.merriam-webster.com/dictionary/brain%20drain>
2. <http://time.com/4748763/suburbs-millennials-moving-cities/?xid=homepage>
3. <https://www.jec.senate.gov/public/index.cfm/republicans/2019/4/losing-our-minds-brain-drain-across-the-united-states>
4. [https://trinity.aae.wisc.edu/thewisconsineconomy/wp-content/uploads/sites/11/2016/10/Education\\_Report.pdf](https://trinity.aae.wisc.edu/thewisconsineconomy/wp-content/uploads/sites/11/2016/10/Education_Report.pdf)
5. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
6. <https://www.govloop.com/resources/future-of-government-hiring-dealing-with-the-governments-brain-drain/>
7. <https://www.workforce.com/2019/01/14/public-sector-employers-facing-people-problems/>
8. <https://www.nasca.org/research/ArtMID/9272/ArticleID/2284>
9. <https://www.wpr.org/sites/default/files/170799%20Memo%5B4%5D.pdf>
10. <https://www.wpr.org/sites/default/files/SB%20Friedman%20Report%20on%20Employee%20Residency.pdf>
11. <https://www.uwsp.edu/busecon/Economic%20Indicator%20Reports/2010-2013/2014/2014Q1BrainDraininWisconsin.pdf>
12. <http://realestate.wharton.upenn.edu/wp-content/uploads/2017/03/446.pdf>
13. <https://www.epi.org/publication/states-education-productivity-growth-foundations/>
14. <https://www.brookings.edu/research/what-colleges-do-for-local-economies-a-direct-measure-based-on-consumption/>
15. <https://dwd.wisconsin.gov/apprenticeship/individuals.htm#learnmore>
16. <https://dwd.wisconsin.gov/apprenticeship/pdf/BuildTheFuture-Apprenticeship-Web.pdf>
17. [https://dwd.wisconsin.gov/apprenticeship/appr\\_stats/active\\_appr\\_characteristics\\_bycommittee\\_milwaukee.pdf](https://dwd.wisconsin.gov/apprenticeship/appr_stats/active_appr_characteristics_bycommittee_milwaukee.pdf)
18. [https://ler.illinois.edu/wp-content/uploads/2015/12/PCMR-ILEPI-ImpactofApprenticeshipPrograms\\_NewCover.pdf](https://ler.illinois.edu/wp-content/uploads/2015/12/PCMR-ILEPI-ImpactofApprenticeshipPrograms_NewCover.pdf)
19. <https://www.centreforcities.org/wp-content/uploads/2016/11/16-11-18-The-Great-British-Brain-Drain.pdf>
20. <https://www.abodo.com/blog/living-millennial-dream/>
21. <https://www.american.edu/kogod/research/publications/millennials-2017.cfm>
22. <https://www.businessinsider.com/millennials-want-to-be-connected-to-their-coworkers-2013-6>
23. <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-future-appendix.pdf>
24. <https://www.linkedin.com/pulse/behind-top-attractors-how-we-discovered-worlds-best-hirers-roth>
25. <https://www.thinkvermont.com/2018/06/01/preliminary-information-background-on-s94-the-remote-worker-bill/>
26. <https://www.liveandworkinmaine.com/opportunity-maine/>

27. [https://www.niagara-gazette.com/news/local\\_news/city-selects-first-of-student-loan-payback-recipients/article\\_97570d4f-dc99-5411-9d67-196e9bcbcd9c.html](https://www.niagara-gazette.com/news/local_news/city-selects-first-of-student-loan-payback-recipients/article_97570d4f-dc99-5411-9d67-196e9bcbcd9c.html)
28. <https://hechingerreport.org/how-one-city-has-been-tackling-the-swelling-scourge-of-brain-drain/>
29. <http://www.thinkchicago.net/lollapalooza>
30. <https://learntoearn.dayton.org/>
31. <https://www.artsy.net/article/artsy-editorial-logo-made-love-new-york>
32. <https://www.smithsonianmag.com/arts-culture/rebranding-amsterdam-and-what-it-means-to-rebrand-a-city-19539392/>
33. <https://karshhagan.com/work/colorado-cometolife>
34. <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/05/11/beating-the-brain-drain-states-focus-on-retaining-older-workers>
35. <https://www.pa.gov/guides/commonwealth-careers/#ForStudents>
36. <https://www.faststream.gov.uk/>
37. [https://apolitical.co/solution\\_article/government-is-getting-old/](https://apolitical.co/solution_article/government-is-getting-old/)
38. <https://www.governing.com/topics/mgmt/gov-government-hiring-best-practices.html>
39. [https://jobcenterofwisconsin.com/wisconomy/wits\\_info/downloads/CP/milwaukee\\_profile.pdf](https://jobcenterofwisconsin.com/wisconomy/wits_info/downloads/CP/milwaukee_profile.pdf)
40. <https://www.abell.org/sites/default/files/publications/arn912.pdf>
41. <https://stpaul.legistar.com/LegislationDetail.aspx?ID=2143773&GUID=15796010-0A4B-4591-8D0D-C88FF2632FFF&Options=ID%7cText%7c&Search=RES+15-193>
42. <https://www.stlouis-mo.gov/government/city-laws/board-bills/boardbill.cfm?bbDetail=true&BBId=13311>
43. <https://madison.legistar.com/LegislationDetail.aspx?ID=1524765&GUID=92952A55-18A3-4DA1-BC56-106AA581516E&Options=ID|Text|&Search=residency+incentives>
44. <https://city.milwaukee.gov/ImageLibrary/User/jkamme/News/2019ResidencyIncentiveFAQ.pdf>
45. [https://uwm.edu/facts/?fwp\\_facts\\_category=enrollment&fwp\\_facts\\_campus=milwaukee](https://uwm.edu/facts/?fwp_facts_category=enrollment&fwp_facts_campus=milwaukee)
46. <https://www.bls.gov/careeroutlook/2014/article/education-level-and-jobs.htm>
47. <https://www.bls.gov/oes/current/oessrcma.htm>
48. <https://www.tmrotary.org/stories/milwaukee-brain-drain>
49. <https://marquettewire.org/3941427/opinion/brain-drain-milwaukee/>
50. <https://www.jsonline.com/story/money/columnists/tom-still/2017/01/07/still-demographics-pose-problems-wisconsins-workforce/96263992/>
51. Central Wisconsin Economic Research Bureau:  
<https://www.uwsp.edu/busecon/Economic%20Indicator%20Reports/2010-2013/2014/2014Q1BrainDraininWisconsin.pdf>