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Letter from Dean Michael S. Barr

As dean, I take great pride in the Michigan Journal of Public Affairs, a wholly student-run and peer-reviewed journal that showcases outstanding student research and offers students opportunities for leadership.

This publication, now in its 16th volume, embodies the Gerald R. Ford School of Public Policy's mission: to inspire and prepare leaders grounded in service, conduct transformational research, and collaborate on evidence-based policymaking.

With hard work, creativity, and professionalism, our students have produced a volume that showcases first-rate work from new voices, just entering the field of public policy. I thank and congratulate our students for illuminating critical public policy issues facing our country and world, and offering substantive solutions to meet these challenges.

Sincerely,

Michael S. Barr
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Articles

Mixed Incomes and Mixed Outcomes: Public Housing Redevelopment Policy in the U.S.

by Alexander Abramowitz

Introduction

Economists have thoroughly documented the relationship between space and intergenerational income mobility, educational attainment, health, and other important indicators.[1] Where children grow up has profound implications for their socioeconomic futures.[2] Mixed-income housing is one strategy to influence the relationship between place and outcomes. Though mixed-income housing can mean many different things, here it constitutes a "deliberate effort to construct and/or own a multifamily development that has the mixing of income groups as a fundamental part of its financial and operating plans."[3] Revitalizing neighborhoods to serve households with a range of incomes intuitively seems like it could lead to positive outcomes. However, this paper will review several studies showing that many of the people-based rationales behind mixed-income redevelopment are not reflected in the empirical data. While many of these projects appear to offer place-based benefits, they do relatively little to improve the lives of low-income households. This paper reviews the rationale for mixed-income housing redevelopment policies, examines examples of implementations and outcomes, considers practical and theoretical critiques, and makes recommendations for improvement.

Concentrated Poverty as a Rationale for Mixed-Income Housing Developments

Mixed-income housing programs in the U.S. came from the idea that concentrated poverty was the principle issue facing urban neighborhoods. Concentrated poverty describes areas that have poverty rates at or above 40 percent.[4] By the early 1990s, policymakers and politicians agreed that the spatial concentration of poverty both caused and exacerbated an array of social problems including crime, poverty, and unemployment.[5] Prominent sociologist William Julius Wilson claimed that these outcomes emerged though a social pathology, one that can self-perpetuate and spread, especially in the absence of middle-class role models.[6] Wilson claimed that the urban poor's spatial isolation led them to develop norms and behaviors different from mainstream values, thereby entrenching their already limited prospects. Claiming that its consequences were "far greater than the sum of its parts," researchers focused on ways to reduce concentrated poverty and mitigate its effects.[7] Countless studies documented that, all else held equal, poor people who lived in concentrated poverty were far more likely to become social deviants, whether by dropping out of high school, becoming pregnant at a young age, or suffering long-term unemployment.[8] Concentrated poverty also spurs neighborhood disinvestment, laying the groundwork for a vicious cycle of decline.[9] The popular press presented inner-city public housing as places that were young, black, and riddled with drug abuse, violent crime, and other social dysfunctions.[10]

Public housing projects struggled against many structural issues including financial failures, undesirable design, and high maintenance costs. As these projects became less attractive to live in and more stigmatized, public housing became "the last stop short of homelessness for the least advantaged of US households."[11] With less demand,

housing authorities lowered vetting standards such that more "problem tenants" moved into public housing.[12] Late twentieth century municipal fragmentation and middle-class outmigration exacerbated inner-city public housing problems, making policy intervention all the more compelling; President Clinton's welfare reform agenda brought ample political will to do so.

Given that concentrated poverty was considered cause for other social problems, policymakers sought to deconcentrate poverty.[13] Neighborhood effects framing suggests that the difficulties that impoverished households face can either be exacerbated or mitigated depending on their specific living environment.[14] Moving low-income households into communities with a mix of different socioeconomic statuses is one way to do that. Mixed-income communities can take many forms in terms of tenure types, incomes, and other characteristics. Proponents attribute the following benefits to mixed-income development:

1. Improving social networks, social capital, and economic opportunities of the poor.
2. Increasing social organization and social control of their communities.
3. Improving the behavior of the poor through the influence of middle-class and wealthy neighbors as role models.
4. Improving the quality and availability of goods and services that their poor residents can access.[15]

In practice however, mixed-income developments fail to achieve these goals and often bring with them unintended, negative consequences, which this paper seeks to outline.

HOPE VI: Poverty Deconcentration and Dispersal

HOPE VI was the federal mixed-income housing policy solution to the problem of concentrated poverty and included building new housing units as well as providing vouchers to residents. From 1993 to 2010, the program demolished more than 150,000 public housing units that were in disrepair.[16] HOPE VI replaced these projects with developments that sought to attract residents with wider income ranges. To create communities desirable to higher income households, HOPE VI's per unit development costs were greater than those of prior public housing programs, generally, due to higher-quality construction materials and amenities.[17] Resulting projects combined conventional public housing units with other types, including shallow-subsidy units, market-rate rentals, and owner-occupied units.[18] HOPE VI also embraced the design principles of New Urbanism, a movement characterized by low-rise, densely arranged, walkable, and public transit-connected developments.[19] As a result, HOPE VI converted communities of concentrated poverty into mixed-income ones, attracting higher-income households with the hope of alleviating problems related to concentrated poverty.

Because of the lower density design and the inclusion of market-rate units, fewer low-income households were able to live in HOPE VI facilities than the ones that they replaced.[20] One driver of this was that HOPE VI projects generally had far fewer units of public housing than the projects that they replaced.[21] Furthermore, many public housing residents were not eligible to live in HOPE VI's new redevelopments because local housing authorities tightened eligibility criteria.[22] In fact, public housing authorities that developed HOPE VI projects expected that the majority of original public housing residents would not return to the newly redeveloped sites.[23] With projects coming online in the late 1990s and early 2000s, by 2008, less than a quarter of original residents had returned to the redeveloped sites.[24] To account for the loss of low-income units in the former HOPE

VI sites, displaced residents were provided with rental assistance vouchers. This two-part poverty deconcentration strategy demonstrated that the philosophy of HOPE VI was about creating mixed-income communities as well as moving former public housing residents into lower-poverty communities with better economic opportunities and public amenities.

Mixed Income Housing Successes

HOPE VI drove successful place-based outcomes, but only mildly successful people-based ones. Place-based outcomes include the change in the area's crime rates, vacancy rates, and property values. People-based outcomes examine how the original low-income residents in these projects fared over time, such as unemployment rates, feelings of safety, and household incomes.

The typical HOPE VI mixed-income development dramatically lowered vacancy rates, substantially reduced crime, and improved physical conditions.[25] Furthermore, crime and poverty rates in surrounding neighborhoods fell while their property values and tax revenues rose.[26] The implications of replacing blighted public housing with attractive new developments are significant. These benefits reshaped neighborhoods and public perceptions, enough to spur private investment and development.[27] In short, HOPE VI physically improved many marginalized neighborhoods.

HOPE VI's impact on original residents is perhaps more important than its ability to accomplish physical changes. Those who returned to HOPE VI mixed-income housing on average felt safer and more satisfied with their new housing conditions. This was shown by the HOPE VI tracking study. The study surveyed original residents at eight different HOPE VI sites,[28] finding that 33 percent of households used vouchers for private market rental units, 29 percent moved to other public housing facilities, and 18 percent rented or owned private market units without a voucher. Just 19 percent of households returned to a revitalized HOPE VI development, substantially below the majority of residents who said they desired to return.[29] Though some residents were unable to return due to stricter eligibility criteria and fewer replacement public housing units, it is important to note that others were likely satisfied with their new community.[30] For example, residents with vouchers moved from Census tracts with a 61 percent average poverty rate to tracts with a 27 percent average poverty rate.[31] On average, households that moved from distressed public housing to either mixed-income redevelopments or that used vouchers to rent on the private market felt safer and more satisfied with their new housing conditions.[32]

Moving to Opportunity

The US Department of Housing and Urban Development's (HUD) Moving to Opportunity (MTO) experiment also illustrates the potential benefits of poverty dispersal and "vouchering-out." This describes households' transition from living in a public housing unit to receiving a HUD voucher that subsidizes private-market rentals. MTO assigned 4,604 households living in high-poverty public housing into one of three groups.[33] The first group ("Group 1") was offered an experimental housing-assistance voucher that could only be used in Census tracts with poverty rates below 10 percent, the second group ("Group 2") was offered a standard voucher that could be used anywhere, and a third control group ("Group 3") remained in their same public housing unit. Studies found that Group 1 individuals saw improved health outcomes and felt safer in their new communities. However, these studies also concluded that these families did not experience significant household income or employment rate changes, suggesting far less benefit than

many MTO proponents had hoped.[34]

MTO's mixed results were widely accepted until 2015, when Raj Chetty, Nathaniel Hendren, and Lawrence Katz released their longitudinal analysis of MTO participants and their children, which ultimately differed across treatment groups. Children under the age of 13 when their families were assigned to Group 1 earned 31 percent higher incomes later in life compared with the control group on average.[35] These children were also more likely to attend college and live in better neighborhoods as adults, significantly improving their socioeconomic prospects and those of their future children.[36] The study authors estimated that moving to a low-poverty neighborhood at a young age boosted this group's pre-tax lifetime earnings by over $300,000.[37] While HOPE VI vouchers did not have any geographic-specific requirements, these MTO findings yield significant policy implications for future programs. Guiding voucher recipients into low-poverty neighborhoods, and perhaps prioritizing voucher allocation to households with young children, are important foci for any future poverty dispersal initiatives.

Mixed-Income Redevelopment Critiques: Conceptual Flaws with Mixed-Income Housing Policy

Critics of mixed-income housing policy offer both conceptual and technical flaws. Urban scholars James DeFillippis and Jim Fraser acknowledge the widespread appeal of mixed-income housing, but note that even with perfect implementation, mixed-income policies fall short because communities treat low-income people as the problem—in need of external, benevolent support to spur them into a higher socioeconomic position.[38] As such, housing development management and its higher-income residents often subject subsidized households to increased surveillance, scrutiny, and discipline.[39] This manifests through rental eligibility criteria (drug tests, employment requirements, etc.), as well as in less formal understandings of acceptable behavior. Market-rate residents in these communities often consider young black men to be threatening when they simply gather in public spaces.[40] Rather than encourage cross-class socialization, higher-income residents often "other" their low-income neighbors in mixed-income communities, creating social distance between them.[41]

Critics also attack mixed-income projects for attempting to gentrify disinvested neighborhoods, relying on trickle-down effects to benefit the worst off.[42] These critics see mixed-income policies as a failure because they ignore "preexisting and unequal opportunity structures" while relying on the unrealistic idea that mixing socioeconomic classes can eliminate these inequalities.[43] While the problem of concentrated poverty is fairly clear, straightforward solutions are elusive, as mixed-income housing programs often lack an organized intervention model, thereby limiting solutions.[44]

A foundational element of mixed-income initiatives is that the poor will be better off if they live among wealthier people, and that higher-income families serve as role models for lower-income ones.[45] However, empirical data does not support this hypothesis.[46] Even if sufficient social interactions occurred, such theories are deeply problematic. This hypothesis assumes that higher-income residents invariably exhibit good behavior, and that their presence will drive behavioral improvements and self-efficacy among low-income residents.[47] To posit that the poor are poor because of behavioral deviance and lack of motivation is not only offensive, it ignores critical structural inequities.

Some supporters of mixed-income housing suggest that these developments help

create strong social networks and opportunity sharing between low and higher-income households.[48] Studies show that such networks can be a valuable path to finding employment opportunities.[49] As with the role model hypothesis, though, evidence does not support this claim.[50] Both of these mechanisms rely on significant social interaction among residents of different socioeconomic classes, which is rare in these redevelopments. While more mixed socio-economic social interaction could increase low-income residents' awareness of employment opportunities, low-income residents may not be qualified for such employment. Socialization and information sharing alone will not close that gap.

Other hypothesized benefits of mixed-income housing include enhancement of residents' social control and political economy. The social control hypothesis states that higher-income households are more interested than low-income ones in enforcing rules and holding property management accountable.[51] Mixed-income housing proponents posit that this is especially true if some residents are homeowners, as they have direct investment in neighborhood upkeep and safety.[52] Additionally, higher income households may have more time and "clout" to effectively lobby property managers.[53]

The political economy hypothesis contends that an influx of higher-income households generates market demand and political capital, leading to greater availability of public and private goods and services for low-income households. Though data do support these hypotheses—mixed-income developments often spur investment and improve safety— the benefits largely do not serve low-income residents.[54] In fact, rising property values and new private commercial development may serve homeowners and higher-income renters the most. While some new businesses, such as a new grocery store, would certainly benefit everyone, others, such as a high-end restaurant, likely would not.[55] Consequently, mixed-income housing policies achieve mixed results. While mixed-income housing an effective strategy for place-based enhancements, it is at best mediocre in promoting socio-economic mobility for low-income households.[56]

For example, rent prices of new townhouses in the former Cabrini-Green footprint area are fetching rents well beyond those found in some of Chicago's up-and-coming neighborhoods such as Logan Square. New retail such as upscale grocery stores, and commercial investment, such Groupon's corporate headquarters, are near the site. Such interventions can spur activity. However, the problem lies in the fact that, at least in the case of HOPE VI, these place-based effects seem to have taken priority over people-based ones. University of Minnesota planning professor Edward Goetz criticized HOPE VI, arguing that it "dramatically reduced the number of public housing units, [while] displacing thousands of very-low-income households, and subsidizing the gentrification of their old neighborhoods."[57]

Practical Shortcomings of Mixed-Income Housing Policy

Empirical results illustrate several issues with mixed-income interventions. Resources to help residents are limited, and only a fraction of displaced HOPE VI residents even received vouchers to assist with relocation. Many of these households struggled to meet other basic needs -- about 50 percent of these households reported difficulty affording groceries and 40 percent reported challenges paying rent or utilities.[58] Additionally, HOPE VI-imposed relocation disrupted low-income families' lives. Despite well-documented problems with dilapidated public housing, residents had supportive social networks, such as sharing job opportunities or just a cup of sugar.[59] Relocation

disrupted these social networks, even in instances where relocation included public amenity improvements. This left many low-income households vulnerable, lonely, and isolated, unsure of where to turn when they encountered problems.[60] Short-run disruption costs may outweigh the benefits of moving into higher-income communities.

Low-income households that returned to redeveloped HOPE VI sites did not enjoy many of mixed-income housing's theoretical benefits.[61] While they did see safer neighborhoods with lower levels of poverty, the benefits did not extend much further. Policymakers expected low-income households to make economic gains through strong social connections to higher-income households. However, studies found that cross-class socialization was rare in HOPE VI sites.[62] HOPE VI residents tended to interact with their neighbors based on perceived common characteristics.[63] Even the new developments' physical design limited social interaction.[64] A subsidized homeowner in a newly-opened HOPE VI facility in Chicago described this shortcoming, saying that "you don't see anybody interacting with anybody. Everybody just goes in their unit. It's not like we have a space where, you know, people kind of like hang out at."[65] Management companies sometimes exacerbated this by directing market-rate and subsidized residents to keep their distance from one another.[66] This sort of social stratification presents an enormous roadblock to the theorized benefits of mixed-income housing. For low-income households to benefit from living in mixed-income communities, proximity to wealthier households is clearly not enough.

Recommendations

HOPE VI sought to alleviate class-based segregation and concentrated poverty with mixed-income style interventions. Evidence suggests that addressing spatial inequities could improve access to education, healthcare, employment, and social services.[67] Policymakers must address HOPE VI-style redevelopment failures to achieve these goals for future mixed-income housing policies to succeed. Specifically, policymakers need to reorient the priorities of mixed-income initiatives: low-income public housing tenants should not take a backseat to place-based goals, and policymakers should begin with an acknowledgement that mixed-income communities do not exist outside of our raced, gendered, and classed reality. Further, based on MTO program analysis, for voucher recipients forced to relocate away from public housing, nudging them into low-poverty neighborhoods, and even prioritizing vouchers for households with young children, are important considerations for future poverty dispersal policies.

In 2010, the Choice Neighborhoods Initiative (CNI) succeeded HOPE VI as HUD's program to address distressed public housing projects and promote mixed-income redevelopment. Key changes include a one-for-one affordable unit replacement requirement, as well as a guaranteed right to return to the new development. Additionally, CNI takes a more flexible approach to revitalization than HOPE VI by broadening the use of federal funds, including social services, public services, and infrastructure improvements. In this way, CNI uses mixed-income redevelopment to benefit both people and place.[68] CNI seems to have effectively addressed HOPE VI's most glaring shortcomings. However, the outcomes of low-income residents remain to be seen, and like HOPE VI, CNI may still function as a kind of state-sponsored gentrification.

Low-income families stand to benefit the most from effective mixed-income community structures and therefore need to be empowered to participate in shaping norms, rules, and regulations of their communities.

Homeowners should not have more influence over communities than renters. Housing authorities and developers must work with low-income residents as partners and not adversaries.[69] A pre-HOPE VI public housing redevelopment in 1980s Boston, the Commonwealth, provides an excellent example. Residents collaborated with project architects and developers throughout the development process to create physical designs and management plans that aligned with their priorities. The Commonwealth is still considered some of the best public housing in Boston.[70]

Since so many of the theoretical benefits of mixed-income housing are predicated upon the interaction between lower- and higher-income families, it is also important to promote communication and socialization across income groups within these developments. Evidence from HOPE VI redevelopments illustrates that proximity is not enough to ensure the formation of strong social ties than span class divisions.[71] One HOPE VI development, the John Henry Hale project in Nashville, found success using community gardens to promote social interaction among different-income residents.[72] Providing residents with such amenities promotes socialization and increases the likelihood that they will form valuable social networks. Other mixed income communities could see success by providing similar public amenities.

Another way to improve mixed-income community success could be to promote low-income homeownership or introduce alternative models of ownership and tenure. For example, one HOPE VI project in Chicago, The Jazz, sold about 20 percent of its units at a significant discount to qualified low-income buyers.[73] Local housing authorities could promote subsidized mortgages to low-income households, or implement rent-to-own programs.[74] Measures like these would allow low-income households to derive value from public housing developments' place-based benefits by building wealth from rising property values associated with their neighborhood's revitalization. Promoting homeownership among low-income households could also push back against the harmful notion that these households do not care as much about their neighborhoods because they do not have a financial stake in them. Other forms of ownership, such as community land trusts and limited-equity cooperatives, could achieve similar ends, ultimately allowing these communities to become affordable in the long-term.

Conclusion

Concentrated poverty is an obvious, visible challenge, but dispersing the poor into lower-poverty areas does not necessarily solve those problems. Mixed-income developments and low-income housing vouchers have not met policymakers' lofty expectations. While residents tend to feel safer in these improved developments, other hypothesized benefits remain unsubstantiated. That said, mixed-income redevelopment can do more to provide both people and place-based benefits with heavier subsidies, more social design, and better management. However, it is important to recognize that these sorts of solutions can only do so much. For low-income households, living in a safe and vibrant mixed-income community corrects just one of many issues standing between them and socioeconomic wellbeing. Policymakers must not ignore the importance of providing these same households with access to high-quality education, job training, healthcare, and gainful employment. While there are spatial components to these enormous social problems, physical solutions alone cannot solve them, and we should not expect them to. Improving mixed-income redevelopments and voucher programs are but one piece of this complex problem.

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Child Care in Detroit: Overcoming Gaps in the Formal Market

by Anna Zinkel

Executive Summary

The cost of child care is prohibitively high across the country, and Detroit, Michigan exemplifies this trend. The problem of affordability is amplified in a city like Detroit, where child care subsidies are often insufficient for low- and moderate-income families, many residents are burdened by transportation insecurity, some communities prefer informal care to center-based care, and there is a workforce shortage in the early education industry. Last year, the State of Michigan was awarded an additional $63 million in federal child care funds to be used at the discretion of state public officials.[1] Detroit Mayor Mike Duggan has identified this money as a way to fund universal pre-K for four-year-old's in Detroit, which is an exciting prospect.[2] The introduction of additional, comprehensive policy interventions at the state and local level would enhance the potential positive outcomes associated with universal pre-K. Through increased state-level child care subsidies, supporting additional training opportunities, making use of public transit data, and community engagement, the City of Detroit and the State of Michigan can work together to increase access to high-quality child care in Detroit, producing positive outcomes for Detroit residents and beyond for years to come.

Background

Detroit is a city where the cost of living exceeds the median household income. The median household income in Detroit is $30,334, while the true cost of living in Detroit is about $43,000, factoring in costs like housing, utilities, groceries, transportation, and modest savings.[3] Furthermore, Detroit's population has shrunk from about 1.8 million in the 1950s to just over 677,000 today, making the city's population density 4,900 people per square mile, compared with Chicago's density of 11,900 people per square mile.[4] On top of this, limited public transportation options often render travel between neighborhoods inconvenient, meaning that Detroiters without regular access to a car may have trouble traveling to the amenities that they need.

Detroit has made exciting progress in its economic recovery, but it is still a city in transition. While wealthier neighborhoods such as Midtown and Downtown are growing and attracting new investment, other neighborhoods, particularly on the far east and west sides of the city, have yet to reap the benefits of the city's overall growth. Uneven growth and investment have left some neighborhoods and populations in Detroit at a disadvantage when it comes to accessing expensive resources like child care.

The gaps in the child care market are correlated with these overarching economic trends. Approximately 44,000 children from birth to age five in Detroit are likely to need early childhood care and education. However, there is only capacity to serve roughly 21,000 children in licensed programs, leaving a service gap of approximately 23,000 slots.[5] The majority of this service gap, around 51 percent, is concentrated in neighborhoods on the northeast and southwest regions of the city (see Appendix 1 for a map of the service gap in the child care industry in Detroit).[6] Home-based family

care and unlicensed child care providers make up a small portion of the child care market in Detroit, but it is difficult to assess the quality of care in such environments, and therefore they are not counted among the child care providers with available slots.

Child care provides a benefit both to the children receiving the care, and to parents whose time is freed for work or other activities. Unequal access to child care perpetuates the cycle of poverty for low-income communities by preventing children from reaping the developmental benefits associated with high quality care and preventing parents—in particular secondary earners—from entering the workforce. Providing free or low-cost child care has been shown to increase labor participation rates in other parts of the country. For example, in 2009, Washington, D.C. rolled out a program offering two years of pre-K during which time the city's maternal labor force participation rate increased by about 12 percentage points, of which 10 percentage points were attributed to preschool expansion among both low- and high-income earners.[7] Before looking at possible mechanisms by which to bring cost effective child care to the Detroit, let us first look at specific barriers preventing all residents from accessing this resource equitably.

High-quality child care has been shown to have a lifelong positive impact on participating children. Participation in a high-quality early childhood education and care program has been linked with higher education levels, lower crime rates, and positive health outcomes for low-income families.[8] Making high-quality child care more accessible to low- and moderate-income families would not only benefit those families, but these positive spillover effects would benefit Detroit and Michigan more broadly.

Barriers

There is no single underlying cause for the gaps in the child care market in Detroit. Barriers such as the high cost of child care, transportation insecurity, a preference for informal child care, and workforce shortages in the child care industry affect families differently. It is valuable to consider these barriers individually, keeping in mind that families may be affected by multiple barriers, and other barriers not elaborated below.

Insufficient State-Level Child Care Subsidies

Michigan's child care subsidy reimbursement rates to child care recipients and providers are the among the lowest in the country. The Child Care and Development Block Grant (CCDBG), the largest federal child care assistance program, allows states the flexibility to set parameters and eligibility requirements for child care subsidies, so long as they remain within federal guidelines. In Michigan, the Child Development and Care (CDC) program offers payment assistance for child care services to families who are unable to afford care due to employment, high school completion, family preservation, and a select list of other approved activities.[9] In 2017, the State of Michigan raised its CDC income eligibility requirement from 125 percent of the federal poverty line (FPL) to 130 percent, which was a step in the right direction, but still leaves Michigan among the bottom five states nationally in terms of child care subsidy income requirements.[10] Even under this expanded eligibility requirement in Michigan, a single parent would have to spend 48.8 percent of her or his income to pay for access to center-based child care for an infant. Nationally, 15 states provide subsidies to families making 200 percent or more of the FPL, while Michigan is among the 15 states where a family with an income above 150 percent of the FPL does not qualify for child care assistance.[11]

Michigan recently took a positive step in allowing child care centers to bill additional fees, such as membership fees, fieldtrip

costs, and other incidental expenses to the CDC Program, which helps low- and moderate-income families afford center-based care. This policy does not offset affordability problems overall, but it is a positive change.

Transportation Insecurity

The systemic lack of accessible and reliable transportation is a barrier that affects many Detroit families. Detroit's public transit system is notoriously underfunded.[12] Detroit offers several options including buses, limited light rail, and bike-sharing, though the bus system is by far the most utilized option. Since Mayor Duggan took office, significant improvements have been made to the reliability and safety of the bus system, but the process has been understandably slow.[13] At the same time, car ownership in Detroit is also expensive and often out of reach even for moderate-income residents.[14] Further, car insurance in Detroit is incredibly expensive, sometimes exceeding $5,000 a year to insure a single driver.[15] Car payments, gas, maintenance, and registration fees all make owning a car unattainable for many Detroiters.

Without reliable transportation, working families can face incredible difficulty in accessing available child care options. Only 16 percent of licensed child care centers in Michigan provide care after 6:00 p.m., eight percent provide weekend care, and a mere seven percent provide overnight care.[16] Thus, not only do parents have to find reliable transportation, but also transportation that can reach the facility during normal business hours. The high cost of child care in Detroit is exacerbated by parents' long and inconvenient commute times to and from the child care facility, which CDC funds typically do not cover.

Preference Toward Friends and Family Providers

In Detroit, as in many regions across the country, low- and moderate-income families, immigrant families, and families from communities of color may prefer informal child care to formal, center-based care. These communities are often very close-knit, private, and in some cases distrustful of service providers who are not viewed as part of their own communities.[17] A 2017 survey of Detroit-based parents and informal caregivers found that families choose informal caregivers, called "friends and family providers" (FAF providers) because of formal child care network gaps, a lack of trust in the formal network, and the affordability and flexibility provided by the informal child care network.[18] While some FAF providers are excellent child care providers, this is not always the case. Children left in the care of inexperienced FAF providers often miss out on the educational and social benefits of high-quality, center-based care.

Low Wages Lead to Workforce Shortage in the Child Care Industry

There is currently a shortage of child care workers in Detroit, which may be due to the industry's low wages. In the Detroit-Warren-Dearborn metropolitan statistical area, the nearest approximation for Detroit for which industry specific wage data is available, the median hourly wage is $10.31 per hour.[19] This means that an entry level child care worker's annual wage sits only slightly above the FPL of $20,780 for a family of three.[20]

In Michigan, the CDC Program reimburses licensed child care centers between $4.25 and $5.50 per hour per subsidized child. A license-exempt FAF provider receives only $2.60 to $2.95 per child.[21] These rates are not nearly high enough to cover staffing costs associated with running a successful child care center, and therefore do little to incentivize child care centers to pass these subsidies on to their employees in the form of higher wages, particularly at the lower end of the subsidy. These tiered rates were

established by the State of Michigan to incentivize child care providers to become licensed and to strive for quality, but an unintended consequence is that unlicensed child care providers—regardless of the quality of their programs—miss out on government subsidies that could allow them to pay their employees a higher wage.

It is important to consider these low wages in the context of the relatively high cost of educational attainment in the early childhood education sector. The typical entry-level credential in the child care and early childhood education field is called the National Child Development Credential (CDA). The cost of applying for a CDA certification in Michigan is $425, and the cost of training and course materials varies, but typically starts at $400 for online classes.[22] On the most advanced end of the education spectrum, a Masters in Early Childhood Education or Child Development from a Michigan-based university will cost a student a minimum of about $20,000, on top of whatever he or she paid for the preceding Bachelor's degree.[23] Costs and benefits associated with each training level vary, as do the time commitments associated with education level. However, on average, it is true that the financial costs—in particular in the short run—outweigh the financial benefits in the child care industry. Child care workers earning the industry average of $10.31 are likely to be income-eligible for child care subsidies themselves, meaning that these employees cannot afford the very service that they provide without public assistance. Providers and customers would both benefit if the work was more lucrative, as the work would become more financially attractive, which would in turn help to attract more talent to the industry.

Policy Recommendations

Last year, the State of Michigan was awarded an additional $63 million in federal funds through the CCDBG to address existing child care needs across the state. Mayor Duggan has identified this money as a way to fund universal pre-K for four-year-old's in Detroit, which is an exciting prospect.[24] However, this policy intervention alone would not close the child care gap. Several complementary interventions could increase the effectiveness of universal pre-K in Detroit. By increasing state-level funding, supporting additional training opportunities, aligning public transit routes with child care centers hours of operation, and engaging with the community, the City of Detroit and the State of Michigan can work together to increase access to high-quality child care in Detroit, producing positive outcomes for Detroit residents for years to come.

Expanded State-Level Subsidies for Low- and Moderate-Income Families

Given that the current eligibility threshold still requires many families to spend a large portion of their income on child care, expanding income eligibility for the CDC subsidy in Michigan would be the single most effective policy that state government officials could enact to support low- and moderate-income families with young children in Detroit and across the state.

Michigan should raise the income eligibility maximum to 185 percent of the FPL. States with large concentrations of wealth, such as New York and California, have eligibility thresholds at 200 percent of the FPL or greater. Other states with more modest median household incomes, like South Dakota and Montana, have set theirs at 150 percent.[25] Given that Michigan is actively recovering from recession, raising the eligibility cutoff for CDC assistance to 185 percent would encourage more people—in particular mothers and secondary earners—to enter or reenter the workforce, and move Michigan forward economically. Recently, leaders from the business community and the Republican Party have joined longtime education advocates in calling on Governor

Whitmer to allocate more public dollars to child care subsidies for low- and moderate-income Michigan families.[26] Given this political window of bipartisan support, now is the time to make changes at the state level, and to capitalize on this bipartisan political will.

Additional Subsidized Training

Mayor Duggan and the Detroit Mayor's Workforce Development Board (also known as Detroit at Work) are working toward their goal to create jobs for 40,000 to 100,000 Detroiters by 2020.[27] The City has an opportunity to expedite reaching this goal by helping to create jobs in the child care industry. The City could work with existing education-focused organizations like the Michigan Association for the Education of Young Children to facilitate child care and early education certification trainings for Detroit residents. Three likely audiences for this training are (1) current child care providers who are not participating in the formal network; (2) under- and unemployed individuals who enjoy working with children and families; and (3) people looking to build experience for a career in education or healthcare. The Mayor's proposed universal pre-K program would create a new workforce need. The Detroit Mayor's Office of Workforce Development, the Detroit Employment Solutions Corporation, and leading education stakeholders like Great Start to Quality, a program of the Early Childhood Investment Corporation of Michigan, could help more Detroit residents become certified child care and early childhood education providers. This would help establish the workforce required by the Mayor's universal pre-K program by building on the existing workforce development ecosystem and partnering with existing early education training ecosystem.

Additional workforce training could help reduce the formal child care gap, but it would not solve the problem of the industry's low wages. State and local policymakers could subsidize training costs by supporting and expanding programs like the T.E.A.C.H. Early Childhood Michigan Program, seek philanthropic support, or use CCDBG dollars to increase subsidies paid to child care centers that work with low- and moderate-income families.

Transportation Data

While some information is available on transportation insecurity in Detroit, policymakers still do not fully understand the problem because they do not have complete data. Detroit's public transportation providers, municipal staff, and nonprofit organizations such as Data Driven Detroit have been developing online and hardcopy public transit route maps and making them accessible to Detroit residents.[28] Poverty Solutions, an initiative of the University of Michigan, is currently developing a Transportation Security Index to better understand how transportation insecurity impacts poverty and socioeconomic mobility in Detroit.[29] The information from this index may inform public policy proposals soon.

Even without this additional information, overlaying existing public transit maps with maps of Detroit child care centers would help residents select the most practical child care locations based on geography. Workforce development service providers and other interested parties could use such a tool to help families select the best child care centers based on proximity. It would also help public transit authorities curate routes for working parents.

Community Engagement

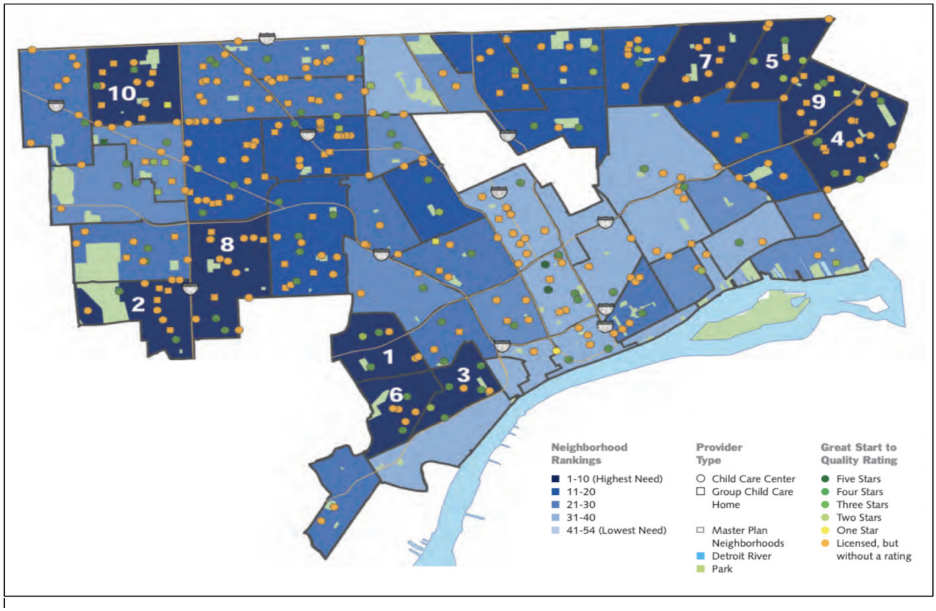
Community ambassadors, particularly faith leaders, community activists, and workforce development professionals, could work with families in communities that are resistant to formal care to help build trust. Such leaders could accompany families on child care cen-

ter tours to help reduce any communication and information barriers. Trust is an important criterion in parents' child care decisions, and providing complete information from trusted sources could help to facilitate this trust.[30] Furthermore, city officials could work with nonprofit leaders and child care sector stakeholders to disseminate useful information about the local child care network through government channels as well. Great Start to Quality has created a comprehensive set of publicly available tools to aid families in their search for child care, including an extensive database of providers with licensing information and quality ratings, information about the different categories of child care, and a list of best practices that guide parents through the child care provider selection process.[31] The information is out there; what is lacking is trust, which is why additional communication and outreach is so important.

Conclusion

The lack of affordable, high-quality care is a problem that has plagued Detroit families for too long. City and state officials have an opportunity to alleviate this problem. By capitalizing on available federal funds and statewide bipartisan political will, municipal and state policymakers can make high-quality child care available to all Detroiters, regardless of socioeconomic status. Now is the time to act.

Appendix 1: Map of the Child Care Service Gap in Detroit, 2015. Kresge Foundation. 2015. "The System We Need: A Neighborhood Snapshot of Early Childhood Education in Detroit."



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Public Views on Autonomous Vehicles: A Consensus Conference Case Study

by Anna Lenhart & Alana Podolsky

Consensus Conference Background & History

Consensus conferences are a form of participatory planning used to engage lay citizens in science and technology policy discourse. The participants, referred to as *citizen panelists*,[1] act as "value consultants," offering a broad range of life experiences that experts exclude in the technology's development and that are often less subject to interest group politics.[2]

First pioneered in Denmark in the mid-1980's, consensus conferences bring a diverse group of 12 to 15 citizens together over three or more days to discuss a high-profile technical matter and to compose a consensus report.[3] The steering committee begins by selecting a diverse group of citizens from a set of interested applicants who are not topic experts. Initial background preparation is followed by three formal meetings, each often lasting a day or more.[4] The participants initially gather to discuss questions generated by the background material and their initial excitement and concerns regarding the technology. At the second session, citizen panelists deliberate with a group of experts to gain insight into their questions.[5] During the final session, the citizen panel meets to draft a report on their findings and recommendations.[6] Generally, a press conference is held where the report is released to reporters and governmental officials.[7]

Three groups traditionally frame science and technology policy in the United States: business, military, and academia. These groups testify at congressional hearings, serve on advisory boards, and prepare reports that influence policy.[8] With the exception of under-publicized public comment periods, participatory mechanisms are not built into most governmental policy-making processes.[9] Compounded with this, the technical nature of science and technology discourse makes it harder for citizens to engage in the sector's policy debate.[10] Evidence, however, suggests that citizen panelists are capable of distilling what they have heard and arriving at a set of shared values.[11] Well-executed consensus conferences add the voices of everyday citizens to policy discourses that are typically monopolized by experts, their powerful sponsors, and the filtering process of the mass media.

Objectives Used in Our Consensus Conference on Autonomous Vehicles

The organizing team identified four criteria for success: quality of the deliberative process, participant diversity, citizen empowerment, and impacts on the public policy debate. These objectives were measured using a series of anonymous questionnaires which included qualitative feedback and Likert scales, included in Appendix A.

Conference Timeline

Conference planning began in September 2017 and the resulting Official Statement was presented to policy makers in July 2018. The 11-month period is outlined in Table 1. Due to resource constraints, we were not able to follow the traditional Danish consensus conference model and therefore prepared an abbreviated format. Our conference included three participant meetings spaced out over three Saturday mornings.

We chose to spread the three weekends out to allow time for the organizing committee to integrate the participants' suggestions.

Phase 1: Planning

Leadership (Organizing Committee)

In the Danish consensus conference model, once a topic is selected, the sponsoring organization selects a well-balanced steering committee to oversee the conference's organization. A typical committee may include an academic expert, an industry researcher, a trade unionist, and a public-interest group representative.[12] Our consensus conference was organized by three students who were introduced to the model in a Science and Technology Policy Course. In lieu of assembling a well-balanced team of experts, we researched the existing literature and worked with experienced pro bono consultants.

Non-biased and effective facilitation is a crucial element of a consensus conference. Facilitators play a key role in ensuring that the citizen panelists reach a fair outcome and that participants feel empowered.[13] To assist with participant meeting curriculum, we enlisted two pro bono consultants—Andrew Rockway (Jefferson Center) and Brianna Besch (Community Development Expert)—with experience organizing consensus conferences on environmental issues. The students comprising the organizing committee brought experience that prepared them to facilitate the conference, including prior roles as workshop facilitators and teachers as well as expertise in negotiations and peacebuilding.

Topic Selection

The organizing committee's first task was to determine the event topic and "charge." It was important that the topic be intermediate in scope; for example, we wanted a topic broader than "job loss from autonomous trucks," but narrower than a "comprehensive review of artificial intelligence."[14] We also wanted a topic that was timely and of interest to local policy makers. In December 2016, Michigan passed the most permissive AV laws in the country, allowing cars on public roads without safety drivers or even steering wheels.[15]

Our charge was inspired by the Jefferson Center's 2002 Citizen Jury on Global Climate Change.[16] Our final charge guided every participant meeting and served as the focal point for the citizen panel's *Official Statement*:

What potential challenges or opportunities associated with AVs are most notable or of most concern? In your opinion, what steps, if any, should be taken to prepare the community for AV use?

Funding

European consensus conferences typically cost between $100,000 and $200,000. The conferences are nationwide, requiring organizers to pay for participant transportation and lodging.[17] The 1997 Loka Institute Citizen Panel on *Telecommunications and the Future of Democracy* in Boston (citywide scope) cost $60,000.[18]

Our pilot project was volunteer-led and countywide, drawing on resources available to graduate students. The expenses totaled $1,563 as seen in Table 2. The initial round of funding was a $1,000 mini grant from the University of Michigan Library. The remaining funding came from Engaging Scientists in Policy and Advocacy (ESPA), a science and technology policy student group on campus.

As a result of the budget limitations, participants received a mere $15 stipend each meeting in addition to meals. Organizations such as the Jefferson Center suggest $100/day with the intention of defraying costs and incentivizing participation.[19] Our stipend limited how much time we could request from participants: only three Sat-

Table 1: Timeline

Date	Description
Phase 1: Planning	
September 1, 2017	Begin Assembling Organizing Committee
November 10, 2017	Sign Contract with Venue (Ann Arbor Downtown Library)
December 20, 2018	Citizen Panelist Application Deadline
January 5, 2018	Decisions Delivered to Citizen Panelists
Phase 2: Background Meeting	
January 30, 2018	Background Report Disseminated, and All Participants Received Onboarding Phone Call/ Email.
February 17, 2018	Meeting One: Background Discussion
Phase 3: Expert Panel	
March 24, 2018	Meeting Two: Public Expert Panel
Phase 4: Report Writing	
April 7, 2018	Meeting Three: Report Writing
Phase 5: Dissemination	
April 25, 2018	Press Release with Official Statement Sent to Local Media
June 2018	Official Statement Sent to Local Policy Makers and Meetings Scheduled
July 2018	Meetings with Policy Makers

Table 2: Final Budget

Item	Expense
Facebook Ads (Citizen Panelists Recruitment & Event)	**$60.00**
Stipend [1]	**$390.00**
Meeting One: 11 Attendees	$165.00
Meeting Two: 9 Attendees	$135.00
Meeting Three: 6 Attendees	$90.00
Catering	**$812.76**
Meeting One: Coffee and Quiche	$155.00
Meeting One: Juice, Snacks, and Yogurt	$46.78
Meeting Two: Continental Breakfast for Public Attendees	$182.20
Meeting Two: Lunch for Citizen Panelists	$266.76
Meeting Three: Continental Breakfast for Panelists	$92.00
Meeting Three: Coffee Boxes	$27.54
Napkins, Cups, Plates, and Utensils	$42.48
Venue	**$300.00**
Meeting One: Conference Room A and Food Surcharge	$100.00
Meeting Two: Multi-Purpose Room and Food Surcharge	$200.00
Printing [2]	**$-**
Office Supplies	**$60.00**
Post-It® Self-Stick Easel Pad, 25" X 30", Plain White Paper, 30 Sheets	$33.00
Note Cards	$5.00
Sharpie® Flip Chart™ Markers, Assorted, Pack Of 8	$8.00
Office Depot® Brand Hello Name Badge Labels, Pack Of 100	$6.00
Office Depot® Brand Removable Round Color-Coding Labels, Assorted Colors, Pack Of 1,000	$8.00
TOTAL	**$1,562.76**

[1] If all participants had attended each meeting, the total stipend expenditure would have been $495.00. [2] Because our event was organized by students, we had access to free printing for worksheets and event posters.

urday mornings. Also, this compensation could not encourage community members with hourly or weekend jobs to participate, possibly contributing to a panel that skewed toward higher levels of academic attainment then the county at large. Offering larger stipends at the end of the final day can also decrease absenteeism, which was a challenge at our conference.[20]

Our budget also did not include funds for expert panelists' travel costs. Though most AV experts reside in the automotive hub of Southeast Michigan, travel funds would have increased the pool of potential panelists, especially for female and ethnically diverse professionals.

Location

When selecting venues for each meeting, we tried to balance several requirements: cost, audio-visual equipment, parking, transit, and handicap accessibility. Our affiliation with the University of Michigan offered access to free, well-equipped meeting spaces. It was important, however, to distinguish our democratic conversation from the numerous AV presentations on campus, which are often framed by researchers and industry. The University of Michigan also has a reputation for cutting-edge science and technology research and therefore is likely incapable of providing an impartial venue for a critical discussion on technology.[21] Lastly, the University's "elite" status and architecture can be intimidating.[22] We chose to host the first two meetings at the Ann Arbor Public Library (AAPL). The library is located next to a mass transit center and multiple parking garages, making it accessible to people throughout the community.

The first meeting was held in a conference room which comfortably held all panelists. The conference table was, however, an oblong oval shape which made it hard for citizens to connect with their fellow panelists at the opposite end of the table. Feedback suggested that a circular table would have been better.

The second meeting, the public expert panel, was held in a large multi-purpose room in the basement level of the AAPL. The stage had tables and chairs for the expert panelists. In front of the stage were rows of chairs for up to 100 attendees. The first row was reserved for the citizen panelists. This setup was less conducive for bridging experts and the citizen panelists. The experts were on a raised stage, above the citizen panelists as opposed to being on the same level. Also, the citizen panelists were not seated at a table; while we did provide clipboards for note taking, we received feedback that tables would have been better.

We hosted the third meeting in a conference room on campus. We wanted the option to use the computer lab and sought out a conference room that also had a projector to enable real-time viewing of report changes. Unfortunately, the date of the report-writing meeting corresponded with a community festival that was not listed on any community calendars. This led to a delayed and frustrated start as people struggled to find parking. This incident may have been avoided if a longtime community resident had been on the organizing committee.

Citizen Panelist Recruitment

We designed an application that would inform the steering committee's selection of a diverse and representative panel. As seen in Appendix B, questions covered demographic background, occupational history, interest in AVs, and attitudes toward civic engagement. During onboarding we also asked participants if they required childcare, transportation, or had dietary restrictions. The online application was built in Qualtrics' survey tool and the link was on the event website. In an effort to include participants who were not comfortable entering private information online, we in-

cluded a paper application which could be printed and mailed to a P.O. Box.

We encouraged community members to apply via Facebook ads and posts in Washtenaw County Facebook groups. We also used the GuideStar database to create a list of local nonprofit organization leaders and requested that the leaders share the solicitation with their communities. A few local Facebook groups posted the application link and one community organization sent the application to their roughly 2,000 community members. We also reached out to local newspapers and radio stations but did not receive any coverage.

By the end of December, we had received 40 applications. The organizing committee selected 15 panelists to best represent the community. We started by disqualifying anyone with expertise in AVs.[23] Next, we used census data to calculate the ideal number of participants in each demographic category (Table 3). The categories include age, gender, geographic location, race, and educational attainment. We also wanted the participants' attitudes toward AVs to represent Washtenaw County's. However, prior to our event there was no published study on Washtenaw County residents' views toward AVs. We therefore aimed for a panel composed predominantly of individuals with neutral views and an equal share of individuals with positive or negative views.

The organizing committee's first objective was to meet the demographic targets outlined in Table 3. In the case that multiple applicants overlapped in a given category, we looked at the applicant's occupation and interest in the topic. When possible, we chose community members who may be disproportionately impacted by the technology.[24] This included the physically disabled and people whose occupations depended on vehicles, such as paramedics. We originally selected 15 applicants and met our initial targets. Unfortunately, four of the selected participants withdrew during onboarding, leaving a final panel that over represented educated Ann Arbor residents, as seen in Table 3. Future events should include a formal process for alternates in the case that participants withdraw.[25]

It is important to note that a voluntary application process will always lead to a panel that believes citizens' voices belong in technology policy conversations, a belief that is not necessarily shared by everyone.[26]

Once we selected the final group of participants, the steering committee spoke with the citizen panelists, providing an explanation of the commitment and transparency regarding the funding and final report.

Due to the low stipends, we did not ask participants to sign a commitment agreement. We instead simply insisted they mark their calendars and verbally commit. Attendance was an issue: 11 participants attended the first meeting, nine attended the second meeting, and only six attended the third session.

Phase 2: First Meeting Background Discussion

Preparation of Background Materials

In the Danish model, the organizers commission an expert background paper, followed by the steering committee screening the backgrounder to ensure that it maps the political terrain surrounding the chosen topic.[27] We did not have the resources to commission a report; instead, the organizing committee collectively researched the topic. Two weeks prior to the citizen panelists' first meeting, participants received an 11-page packet of readings and four media links that covered AV classification, history, technology, safety, mobility, traffic, land use, energy and emissions, liability, and privacy concerns. These topics were derived from an overview of the current literature on the

Table 3: Demographic Targets

Demographic	Washtenaw County Percentage (Census Bureau QuickFacts, 2015)	Ideal # of Participants	Actual # of Participants
Gender			
Female	50.5%	6	6
Male	49.5%	5	5
Race/Ethnicity			
Caucasian/White	71.7%	7	7
Persons of Color/Multiracial	18.3%	4	4
Age			
18-34	34.7%	4	1
35-54	26.2%	3	6
55 & Over	39.0%	4	4
Ann Arbor / Greater Washtenaw			
Ann Arbor	32.3%	4	6
Greater Washtenaw	67.7%	7	5
Educational Attainment*			
Less than High School	6.3%	1	0
High School or GED	17.8%	2	0
Some College	22.2%	2	2
College Degree	54.7%	6	9
Attitude on AVs			
Positive	unknown	3	7
Neutral	unknown	5	1
Negative	unknown	3	3

*Educational attainment percentages based on number of county residents above the age of five years old, not enrolled in school

topic.

Structuring the Background Discussion
The background discussion was designed to give participants an opportunity to engage with the background material while also providing the organizing committee with the salient topics and questions which would determine the Phase 3 panel topics.[28]

We opened with an orientation to the consensus conference timeline. We insisted that the participants were at the center of the process and encouraged them to challenge the facilitators if they sensed bias or disliked the process. We also reached agreement on conversation guidelines. Given the limited timeline and politically unpolarized nature of AVs, we suggested that the participants use majority rule to select the topics to be addressed in Phase 3.

Following the orientation to the process, we asked the citizens to introduce themselves. In addition to basic information, they answered an introductory question: *How has transportation played a role in your life?* The goal of the introduction question was to get people to share their personal experiences without introducing their point of view on the topic. This technique encouraged panelists to think of themselves not only as individuals but also members of the same community.[29] Following introductions, we had a refreshment break which allowed for continuing conversation and connections.

To establish a common knowledge before moving into discussion, we spent 20 minutes reviewing the background material. Specifically, we focused on ensuring that all participants had a high-level understanding of how AVs "see" and the Society of Automation Engineers (SAE) levels of automation (0-5). The SAE levels are ubiquitous in the AV policy discourse and the opportunities and challenges surrounding AVs vary based on the level of automation. When participants had questions regarding the technical material that the facilitators could not answer, we wrote the questions down on an easel pad labeled *"technical questions for experts."*

Once everyone felt comfortable with the background material, we began an exploration of the opportunities and challenges presented by AVs. We wanted to facilitate an opportunity for citizens to begin working beyond their individual points of view and to express biases early.[30] We asked citizens to spend six minutes individually journaling on the following questions: *What excites you about a future with AV? What concerns you about a future with AVs?* We then split the panelists into three groups of 3-4 and asked them to share what they uncovered in their reflections, answering the following: *What were the similarities and differences in your responses? And why do those differences exist?* We then gave them 20 minutes to prepare 3-5 opportunities and challenges to report back to the group.

All of the suggested opportunities and challenges were written on easel pads. As citizens shared, the facilitators listened for themes and asked clarifying questions when issues needed to be broken down further. The final list of opportunities and challenges had ten major topics with multiple sub-topics and specific questions listed under each one. To select the expert panel topics, we gave each citizen five sticky dots to put next to the topics they thought demanded attention during the expert panel.

Phase 3: Second Meeting Expert Panel
The final topic list was broken down into two panel topics: Safety, Liability, & Security and Labor, Equity, & Environment.

Recruiting Experts
When assembling the panel, our first priority was to find experts who could speak intelligently to the topics of most concern

to the citizen panelists. The second priority was to seek diversity in gender, ethnicity and perspectives, industries, and views towards AVs.[31]

We reached out to lawyers, insurance companies, automobile companies, technology companies (cyber security, data collection and use, AV software development), urban planners, policy experts, stakeholder groups, researchers, and unions. We started by reaching out to experts who, through research or other publications, appeared able to address the citizens' questions. We asked women and people of color first whenever possible. The facilitation team reached out to over 70 experts in the region.

The final *Safety, Liability, & Security* panel included a law professor, the CEO of a security start-up, an automotive engineer, an AV safety researcher, and a robotics professor. The range of sectors on the panel was adequate and there were only two Caucasian males. Despite great efforts, the facilitation team was unable to find someone who could speak critically about the potential cyber risks associated with AVs. The facilitation team had spoken with experts who believe that the cyber risks associated with AVs were too great and likely never to be overcome; however, none of them were willing or available to speak on the panel. Another issue was the experts' generally uniform disposition towards AVs. All panel members recognized that the technology had a ways to go, but were optimistic about the promises it held.

The final *Labor, Equity, & Environment* panel included a bureaucrat, policy analyst, economics student, and community development director. Again, the perspectives in sector and expertise were varied; unfortunately, every panelist was a Caucasian male. This panel was more critical of the disruption AVs could cause in society, but none of them were staunchly opposed to the technology.

United States media and policy discourse often relies on scientific and technical expertise and consequently over-represents perspectives that are white and male.[32] These factors are likely to add to the alienation of minorities, low-income citizens, and women in their relationships to science and technology experts and policy makers.[33] Conversely, it may be difficult for experts in science and technology to understand and relate to the perspectives of minorities, low-income citizens, and women. The facilitation team took for granted how hard it would be to find experts that broke from the white male perspective.

Structuring the Panel

In the Danish model, experts give brief presentations and devote at least half the scheduled time to citizen panelists' questions.[34] Given our time constraints, we decided to have two one-hour panel discussions in which each of the panelists gave a brief introduction with the remaining time available for questions. It was important to the facilitation team that the questions came from the citizens, but we also wanted to get as much content from the experts as possible in the limited time. A week before the event, we asked the participants to vote over email if they would prefer for the lead conference organizer to moderate the panel with pre-written questions, or if the citizens would prefer to ask questions themselves in real time. The citizens voted to have the lead conference organizer moderate the panel and suggested that note cards be available to the citizen panelists to ask follow-up questions.

In the week leading up to the expert panel, the citizens received a draft list of questions based on the discussion during the first meeting.[35] The citizen panelists were provided briefing materials that clarified the experts' stakes in the topic and gave fore-

warning that the panel lacked the desired level of diversity. Citizens responded to the email with additional questions and edits to the drafted questions.

To assist with the need to quickly digest large amounts of information, we provided the citizens with a worksheet to record their thoughts during and immediately after each panel. There was a break between the two panels to allow for informal discussions among the citizen panelists and for them to ask clarifying questions to the experts.[36] After both panels, the citizen panelists ate lunch and debriefed on which of their questions were still outstanding and which perspectives were missing.

Overall, the citizen panelists learned from the experts but were frustrated by the lack of diversity and felt they needed more time to ask questions. They suggested that it would have been helpful if each panelist gave prepared remarks rather than simple introductions.

The Public

In the consensus conference process, the interaction between the lay panel and the expert panel takes place in public. Press, politicians, central stakeholders, and community members are invited to attend.[37] We created a public EventBrite and promoted the event on Facebook and through community email distribution lists. The local media and politicians received personal email invites. Every invite explained what a consensus conference was and the objectives of the process.[38] 40 members of the public attended. At the onset, we emphasized that the focus of the event was on citizen panelists' questions, but we accepted notecards from the audience which were addressed when time allowed.

Phase 4: Third Meeting Report-Writing

During the final meeting, the participants drafted a report, which answered the charge, summarized points of agreement, and identified remaining points of disagreement.[39] We designed a process for the report-writing session that aimed to include a diversity of perspectives and produce a complete, high-quality report. The final *Official Statement* is important because consensus conference reports can broaden the range of issues included in the evaluation of new technologies, assuming they are considered by policy makers and in public debate.[40]

Prior to the report writing session, the organizing committee compiled notes from the first two participant meetings and drafted a list of opportunities and challenges to get the report started. Each list took up less than a page. We began the report-writing session by splitting the participants up into two groups to start: one to focus on the *opportunities* draft and one to focus on the *challenges* draft. The citizen panelists began by spending 15 minutes individually editing their own copies. The participants then worked with their group to consolidate their edits into one revised draft; we allotted 45 minutes for this task. Once completed, the panelists were given a 15-minute break during which the facilitation team quickly typed the revisions in a live Google Doc projected on the screen, with the scribes asking for clarification as needed. After the break, the panelists looked at the new version of the report and made comments.

Once the *opportunities* and *challenges* sections were complete, we facilitated a conversation around specific suggestions for policy makers. We started with a group brainstorm where facilitators wrote all suggestions on the chalkboard. For the most part, there was consensus on what actions policy makers should take. There were two issues of contention that arose. The first was about how AVs are introduced into the community: whether they are implemented via mass transit, ride-sharing, or family ownership changes the opportunities and challenges

significantly. The panel did not feel like they had the time to flesh out and agree on the best implementation strategy for the region, so they decided instead to make the following suggestion:

Continuously incorporate citizen voices in the planning process. Consultation with stakeholder groups such as Center for Automotive Research (CAR) yield valuable insights but is not sufficient for assessing the public's desires and concerns. The benefits from AVs vary greatly based on how the technology is introduced to our community (example: rideshare versus ownership versus mass transit). The public wants a say in how AVs are implemented, and this requires ongoing conversation with public representatives.

The other point of contention centered on the idea that most of the suggestions rested on the premise that AVs are coming and cannot or should not be stopped. Two of the panelists agreed with all of the suggestions but were not comfortable saying they full-heartedly supported moving forward with AV development in society. To account for this, these two participants wrote statements expressing their mixed views, which were published on the event website. We also included this caveat in the report:

Given the ambiguity of Level 5 vehicle safety performance, the citizens were not able to reach a consensus on whether Level 5 vehicles should be fully embraced. For this reason, you will notice no mention of stopping or increasing development support for Level 5 vehicles.

After the policy suggestion conversation, there was another break and facilitators typed up the suggestions from the board. We then went through each line and asked participants to raise their hand if they were happy with the line as written. Once we had the draft approved, the facilitation team spent two weeks editing, formatting, and adding a summary of the process. We then emailed the panelists for approval before publishing.

Most of the citizens expressed liking the process and the way all the ideas were synthesized. Some expressed that they would have liked to work on Google Docs prior to the meeting to leave more time for discussion.

Phase 5: Dissemination

The traditional Danish model includes a press event. Given the organizing committee's lack of press experience and the overall under-awareness of consensus conference models, we decided to instead prepare a press release and direct outreach to policy makers. Our dissemination efforts intended to present the citizens' findings to the public and policy makers in a way that sparked a conversation about AVs in the community while also introducing the consensus conference mechanism.

The final *Official Statement* was made available for download on the event website and a press release including a summary of the process and findings and a link to the *Official Statement* was distributed. We sent the report to every policy maker in Washtenaw County at all levels, including city council members, county commissioners, state legislators, and federal representatives. We invited representatives to meet with our facilitation team and available citizen panelists to discuss the consensus conference findings.

Three policy makers agreed to in-person meetings. Overall, policy makers were grateful for our work and acknowledged they are mostly hearing from experts within the automotive industry regarding AV regulation. After reviewing the citizen panel's *Official Statement*, they were drawn to the suggestion for a formal way to engage the public on AV development either through a citizen's committee or continued use of the consensus conference model.

Evaluation

Our process set out to include a diverse group of participants, facilitate a quality deliberative discussion, empower citizens, and influence the AV policy debate with limited resources.

Diversity of Participants

As seen in Table 3, participants came from diverse backgrounds. Most participants expressed being impressed with the diverse perspectives that arose during conversation. A few commented on the lack of participants under the age of thirty.[41] There was also some frustration with the over-representation of people from Ann Arbor, layered with a sentiment that Ann Arbor inherently has a louder voice in Washtenaw County.

Quality of Deliberative Discussion

Feedback regarding the quality of the deliberative discussion among participants was overwhelmingly positive, with the first and third meeting receiving positive comments on the process and discussion. At the end of every meeting, nearly every participant marked "agree" or "strongly agree" to the following statements: *I am confident enough in my understanding of autonomous vehicles to participate in civil discourse on the topic, and I have gained insights from my fellow panelists.*

The quality of deliberative discussion between the citizen participants and the experts was weaker. During the second meeting, citizens were split regarding the insights they gained from the expert panelists. About half "disagreed" or were "neutral" to the statement *I have gained insights from the expert panelists*, while half marked "agree" or "strongly agree." During the post-expert panel debrief, we learned that frustration had less to do with the knowledge the experts shared and more on the citizens' unanswered questions and the speculative nature of the topic.

Power differentials (real or perceived) between scientists and citizens contribute to the lack of citizen engagement on technology issues.[42] By structuring the expert panel as two presentations, we failed to facilitate a meaningful two-way dialogue between experts and citizens. Our event came off as more of a one-way presentation of expert knowledge to citizens, which is unfortunate because the citizens' perspectives would have been useful for the experts.[43] Consensus conferences allow the expert community to achieve a better understanding of the concerns of "ordinary people" in relation to their fields of expertise, which is important for the democratic governance of technology.[44] In future conferences, the expert portion of the conference should be structured as a forum for interaction between expert communities and lay people in which the learning process is mutual and there are specific ways for citizens to challenge the experts.[45]

Citizen Empowerment

In the first meeting, every panelist "strongly agreed" with the statement *I feel like my voice was heard*. During the final report-writing meeting, everyone recorded "agree" or "strongly agree." These scores, along with positive comments, suggest that the facilitation of the citizen panel discussions was empowering. Yet at the second meeting with the expert panel, over half of participants recorded "neutral" or "disagree" to this statement. This is likely a result of the abbreviated expert panel structure mentioned above.

At the conclusion of the third meeting, participants expressed being happy with the final report and that they were excited to hear what policy makers thought. They also expressed a willingness to follow up with local policy makers if they had questions. Overall, we feel like we made progress in empowering citizens to get involved in the science and technology policy making process.

Influence on Policy Debate

The influence of the consensus conference on the AV policy debate is still to be seen. Feedback from policy makers who received the report has been positive. Furthermore, the final report provided interesting insights and priorities not contained in the *Greater Ann Arbor Region Releases Planning for Connected and Automated Vehicles Report* (an expert stakeholder report), suggesting that statements from the public can add additional insights to a policy discourse.[46]

Conclusions

The *Washtenaw County Consensus Conference on Autonomous Vehicles* successfully engaged community members in AV policy discourse. The process included a recorded, public-facing event that, despite challenges, was successfully framed by the citizen panel's initial questions. Through citizen input, we were able to focus the expert conversation on a number of key community issues in a region where most technology conversations are driven by countrywide research topics.

Feedback from the citizen panelists and policy makers demonstrated the power of engaging in dialogue with fellow members of the public. A number of citizen panelists expressed that their views had changed due to comments and ideas from other participants. Our conversations with city, county, and state politicians also demonstrated the value of public engagement.

Additionally, several participants expressed that they enjoyed the process and found the topic interesting, but most agreed that there was not enough time to learn from experts and that the final report was limited because they had outstanding questions. There is also the issue that attendance dwindled throughout the process, leaving important perspectives out of the conversation.

The facilitation team is left with the question: *If resources limit your ability to lead a multi-day conversation between a diverse group of experts and citizen panelists, is the process worth pursuing?* It is hard to say how the final report would have turned out had the expert panel been more balanced in views and backgrounds and had more time to engage with the citizen panelists in a two-way dialogue. Despite these caveats, we hope that future policymakers take the lessons learned in this report to improve participatory processes for policy engagement.

Acknowledgements

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- Anna Lenhart, MPP Candidate 2018, Ford School of Public Policy, University of Michigan
- Joseph Paki, Ph. D. Candidate, Physics, Scientific Computing, Public Policy, University of Michigan
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Consultants:

- Andrew Rockway, Jefferson Center
- Brianna Besch, Returned Peace Corps Volunteer & Community Development Expert
- Joy Rohde, Assistant Professor, Ford School of Public Policy, University of Michigan

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Municipalities Continued Suffering: A Fresh Look at Michigan's Emergency Financial Manager Law and Phillips v. Snyder

by David McGee

I. Introduction

The United States economy collapsed in 2008, leaving economic turmoil and uncertainty not seen since the Great Depression.[1] Not only did the recession hurt individuals, it also damaged the fiscal health of cities and municipalities, leading to cuts to city services and reductions in city staffing.[2] Despite officials' best efforts, local governments across the country faced serious financial problems, and in some cases, filed for bankruptcy.[3]

Municipalities in Michigan faired no differently than their counterparts across the country.[4] To address the financial problems facing its municipalities, Michigan passed Public Act 4 in 2011.[5] Public Act 4 allowed the state to appoint emergency managers in cities deemed to be in fiscal crisis, but the law was unpopular with Michigan residents who collected more than the 200,000 signatures necessary to bring a referendum vote on the law.[6] The referendum vote succeeded, but in response, the government passed Public Act 436.[7] Public Act 436 is similar to Public Act 4 as it gives the state the ability to appoint an emergency manager; unlike Public Act 4, it gives city governments three options in addition to the option of an emergency manager appointed by the state.[8]

Since Michigan passed Public Act 436, the state has appointed emergency managers in seven Michigan municipalities and appointed emergency managers to three school boards.[9] Additionally, since its passage, Detroit went through Chapter 9 bankruptcy, which is the largest municipal bankruptcy in the history of the United States.[10] Despite the intentions of the government to create a process to help these failing cities, a litany of different groups brought suit in federal district court alleging nine separate counts against the state on constitutional grounds.[11]

In *Phillips v. Snyder*, plaintiffs argued specifically that Public Act 436 violates the Fourteenth Amendment's guarantees of Due Process and Equal Protection; Article IV Section 4 of the Constitution, which provides for a Republican form of government; the Voting Rights Act; the First Amendment; and the Thirteenth Amendment.[12] The district court dismissed all but the Equal Protection Clause claim, which articulated that the law impermissibly targets municipalities where African Americans are the majority of the citizens.[13] After the initial ruling, plaintiffs filed an appeal to the Sixth Circuit to reinstate their claims in whole.[14] The plaintiffs fared no better at the appellate court, which went even further than the lower court and dismissed all of the petitioners' claims.[15] Petitioners next requested an en banc[16] rehearing of the case, which the court denied on November 1, 2016.[17]

This comment argues that the appellate court erred in its ruling on the First Amendment, Due Process Clause, and Equal Protection claims raised by the plaintiffs, and concludes that Public Act 436 is unconstitutional.[18] Part II demonstrates how Public Act 436 violates: the First Amendment's guarantees of freedom of association through the

political process, the Due Process Clause, and the Equal Protection Clause.[19] Part II will also address the standard of review the court used and explain how it improperly influenced the court's ruling.[20] Part III will provide the legal arguments refuting the court's analysis in Part II including the Sixth Circuit's rulings on the First Amendment, Due Process Clause, Equal Protection Clause, and the level of scrutiny.[21] Part IV asserts that the best way to fix the constitutional issues found in Public Act 436 is for the Michigan state legislature to amend the law to strike the emergency manager provisions and instead rely solely on the consent agreement provision to provide municipalities with more freedom to fix their financial conditions.[22] Part IV concludes by reiterating that the Sixth Circuit wrongly decided *Phillips*, and that there are fundamental constitutional violations in Public Act 436.[23]

II. Background

A. The Appellate Court's rationale for dismissing the claims

1. First Amendment Claims

In dismissing the plaintiffs' First Amendment claims, the Sixth Circuit considered whether Public Act 436 was a form of viewpoint discrimination and whether the law restricted freedom of speech or freedom of association.[24] In response to the claim of viewpoint discrimination, the court ruled that since Public Act 436 was substantially different from Public Act 4, the government was not discriminating against those citizens that voted to overturn Public Act 4.[25] The court went on to reject the claims of restrictions on speech and association by arguing that restraints on government power can hardly be equated to abridgments of free speech or association.[26] The court further argued that even if the law was abridging freedom of speech, it would pass higher scrutiny because of a municipality's ability to challenge the appointment of an emergency manager, i.e. remedy.[27]

2. Due Process Claims

The court dismissed the plaintiffs' Due Process claims by relying on three separate arguments related to the fact that municipal governments are created and imbued with power from the state government.[28] First, the court relied on the fact that Supreme Court precedent indicated that the plaintiffs' claim would conflict with existing Supreme Court precedent.[29] Second, the court said that the right to officials elected through the popular vote is not guaranteed since states can use innovative and creative solutions to cure the problems of individual municipalities.[30] Finally, the court argued that the plaintiffs had conflated the ability to vote for municipal officials with a guarantee that the electoral process would always be used for the selection of such officials.[31]

3. Equal Protection Claims

The plaintiffs in *Phillips* argued that Public Act 436 violated the Equal Protection Clause by discriminating against different voting groups based on each group's socio-economic status.[32] The court dismissed the discrimination claim of disparate access to voting on the basis that Public Act 436 should only receive rational basis review.[33] Rational basis requires only that the government demonstrate that it has a legitimate purpose to justify a discriminatory effect of a law.[34] Since the Act has a stated purpose of appointing emergency managers to assist struggling municipalities, the court found this was a sufficient government interest under the standard of review.[35] Further, the court only uses strict scrutiny review for Equal Protection violations when citizens' ability to vote for officials is different or limited when compared to those in other jurisdictions.[36]

4. Rational Basis Review

Although all the claims which the plaintiffs asserted were constitutional challenges, the court ultimately concluded that none of the claims triggered a strict scrutiny re-

view.[37] The court quickly dismissed the First Amendment and Due Process claims, thus making it unnecessary for the court to address the standard of review question in relation to those claims.[38] Rather, the court only addressed the question of the appropriate level of scrutiny in its Equal Protection analysis.[39] In applying rational basis review, the court found that Michigan's state government had a rational basis for the law.[40] Under this lower standard of review, the appellate court found the district court properly dismissed all of the claims.[41]

B. Legal Issue in the Appellate Court's Ruling

1. The First Amendment

The First Amendment says, in part, that Congress shall make no law abridging freedom of speech, the right of the people to peaceably assemble, or to petition the government for a redress of grievances.[42] Fundamental to First Amendment protections is the right of citizens to freely associate.[43] The right to freedom of association is implicated in voting when either the right of individuals to associate for the advancement of political ideas is overburdened, or the right of qualified citizens to vote effectively for their representatives is effectively taken away by a state regulation.[44] Elected officials trigger First Amendment concerns when they are not able to meaningfully represent the voters that elected them to office.[45] When a law possibly restricts an officeholder from meaningfully representing his/her constituents, the correct inquiry is to see whether the law passes strict scrutiny.[46] The United States Supreme Court's advice to courts deciding political freedom of association claims is to weigh the infringement of the First Amendment right against the interests the state puts forward in justifying the law.[47]

2. The Due Process Clause

The Fourteenth Amendment to the Constitution provides, in part, that "no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law."[48] When raised in voting cases, appellate courts use the Due Process Clause to invalidate laws which render a state's voting system fundamentally unfair.[49] The Sixth Circuit clarifies that fundamental unfairness can occur when a state employs non-uniform rules, standards, and procedures in the voting process.[50] The proper remedy for addressing Due Process claims that amount to fundamentally unfair elections is to declare a judgment which finds Due Process violations and grants the plaintiff the relief they seek.[51]

3. The Equal Protection Clause

The Equal Protection Clause of the Fourteenth Amendment guarantees equal protection under the law to all citizens.[52] The legal doctrine concerning the Equal Protection Clause is vast, and the court traditionally employs the Equal Protection Clause to protect citizens of suspect classes against laws which treat them differently than other citizens.[53] In the context of voting rights, the court has extended the Equal Protection Clause to include the right of citizens to vote equally in elections.[54] The court additionally cited specific situations in which voting rights are infringed under Equal Protection analysis.[55] The court has also used the Equal Protection Clause to protect voters in different geographic areas within the same jurisdiction from unequal treatment in voting.[56]

III. Analysis

A. The Sixth Circuit erred in applying First Amendment Principles to Public Act 436

The Sixth Circuit erred when it dismissed the plaintiffs' First Amendment challenges to Public Act 436, ruling that Public Act 436 did not infringe the plaintiff's First Amendment freedom of association rights.[57] The court first stated that if it held that any change in government structure amounted to a First Amendment claim, this would be

an anomalous and unprecedented result.[58] The court went on to reason that even if the plaintiffs' argument was correct and the government officials had less power in jurisdictions with emergency managers, Public Act 436 did not impermissibly infringe on their First Amendment rights.[59]

Although the court quickly dismissed the plaintiffs' freedom of association claims, the court did not apply the correct legal framework in analyzing the plaintiffs' claims.[60] The Supreme Court provided the correct framework in *Anderson*.[61] The Anderson case arose out of the challenge of a 3rd party presidential candidate to a Ohio state law which governed when candidates must file to run for president.[62] Given the complex nature of freedom of association claims in election law, the court issued guidance in *Anderson* on how to properly determine freedom of association claims.[63] Courts need to first consider the magnitude of the injury to the First Amendment claims and then balance those claims against the interests the state puts forward in passing the legislation.[64] The Supreme Court articulated a test which provides that a court may only rule on underlying Constitutional claims after it has gone through the necessary analysis.[65]

Although the Sixth Circuit did not apply the framework laid out in *Anderson*, it concluded that there is no need for the Supreme Court's framework since none of the plaintiffs' claims amounted to an impermissible infringement of First Amendment protections.[66] However, despite the court's dismissal of the underlying First Amendment issues, its decision not to recognize the infringement of the plaintiffs' freedom of association claim does not comport with previous precedent.[67]

In *Burdick v. Takushi*, the United States Supreme Court again reiterated the proposition that laws which burden voters, candidates, or the voting process have the effect of burdening individuals' right to vote and freely associate for political ends.[68] Michigan Public Act 436 imposes restrictions both on the association rights of candidates and the association rights of the voters in municipal elections where there is an emergency manager.[69] Additionally, if elected officials do not comply with any of the orders of the emergency manager, the emergency manager has the power to further limit the officials' ability to participate in the municipal government.[70]

The court reviews the restrictions placed on elected officials and on candidates in the same manner.[71] In *Peeper*, the court examined restrictions that the other members placed on Peeper after her election to the Callaway County Ambulance District Board of Directors.[72] Although the court ultimately found no rational state interest in the restrictions on Peeper, the court also issued important guidance in dealing with restrictions on candidates.[73] Specifically, the court advised that restrictions on officeholders not only affect the officeholders themselves, but also their constituents since any restrictions on an officeholder leave no alternative representation for the constituents.[74]

Despite the court's holding in *Phillips*, Michigan Public Act 436 restricts the association rights of constituents both in part one and part two of section 141.1550.[75] The ability of an emergency manager to compel elected officials to comply with their orders clearly constrains the ability of elected officials to meaningfully represent their constituents.[76]

Given these restrictions on the association rights of candidates and their constituents, the Sixth Circuit improperly ignored the framework utilized in *Anderson*.[77] If the Sixth Circuit had used the framework properly, the court would have recognized that an emergency manager's power fundamen-

tally effects the nature of elections in municipalities under control of an emergency manager.[78] Additionally, under this framework, the fact that emergency managers both subsume municipal government and have the power to further punish municipal officials into compliance is an extreme infringement on the freedom of association rights of both the candidates and constituents.[79]

Furthermore, regardless of the clear burden Public Act 436 places on First Amendment freedoms, the court is required to weigh this burden against the state's interest in passing Public Act 436.[80] In its arguments to the Sixth Circuit, the state clearly has legitimate interests in making sure its municipalities are fiscally healthy, including being able to raise revenue from municipalities and ensuring that more cities do not enter municipal bankruptcy.[81] However, despite these interests, precedent is very clear in demonstrating that although the state may be novel and creative in fixing the problems of municipalities, a law cannot unduly burden constitutional protections.[82] Specifically, when states regulate officials' participation in government, the limitations must be *de minimus* in restricting that participation.[83] Public Act 436's restrictions on candidates' participation are neither *de minimus* nor reasonably necessary to accomplish the state's objectives.[84] Furthermore, the court in *Phillips* has recognized that Michigan has other options available to cure the problems of struggling municipalities, including a consent agreement with the state and/or filing for bankruptcy.[85] While the *Phillips* court did not consider these options in detail, they fit squarely into the *Anderson* framework since a court could see the other options written into the law and conclude that emergency managers are not necessary to achieve the state's objective.[86]

Although the court argues that distressed municipal governments have other alternatives, this does not change the fundamental problem that when the state appoints an emergency manager pursuant to Public Act 436, both candidates and their constituents' freedom of association rights are seriously denigrated.[87] The Sixth Circuit failed to apply the framework in *Anderson* which provides that a court needs to balance the infringement of Constitutional freedoms with the interests of the state.[88] The court also failed to recognize the guidance in *Peeper*, which states that if the restrictions rise to the level that elected officials can no longer meaningfully represent their constituents then the court should subject the provisions to strict scrutiny.[89] Clearly, the ability of an emergency manager to displace elected officials and give orders that the elected officials need to comply with severely burdens both the officeholders' and constituents' First Amendment rights.[90] As one of the tenants of the *Anderson* analysis, the *Phillips* court must determine if the provision is reasonably necessary. By the court's own admission, emergency managers are not necessary in achieving the state's objectives.[91]

B. The court erred in applying Due Process Clause principles to Public Act 436

The Sixth Circuit held in *Phillips* that there were no substantive Due Process violations in Public Act 436 because no fundamental right exists to vote in municipal elections, thus the Act did not implicate issues of fundamental fairness.[92] The court primarily relied on *Sailors* and *Hadley* to determine that there is no fundamental right to vote in municipal elections.[93] Although this is the logical conclusion to the holdings of both these cases, the court failed to recognize the difference the cases themselves draw between officials who are *appointed* to perform some legislative functions and government officials who are popularly elected to perform legislative functions.[94]

Turning first to the court's reliance on *Sailors*, the *Phillips* court failed to recognize that

the opinion differentiated between non-legislative officials and legislative officials.[95] Although non-legislative officials may be appointed, the Sailors court held that when a state permits voters to elect officials, additional constitutional safeguards apply.[96] The court in *Phillips* acknowledged this contention between *Sailors* and *Hadley* and proceeded to point to *Hadley* for further guidance in interpreting the question of different types of officials.[97] However, the Sixth Circuit incorrectly interpreted the choice states have in either appointing or electing officials to mean that states can materially change the process once it is in place.[98] In both *Sailors* and *Hadley*, the court articulated that the constitutional protection of "one man one vote" applies to municipalities where the state government uses popular elections as the mechanism for appointing municipal officials.[99] The holdings of *Sailors* and *Hadley* establish that states do have the ability to choose at the outset whether or not a given municipality will have either appointed or elected officials, but once the state decides on popular elections, it cannot shift to an appointment process without implicating Constitutional rights.[100] Instead of acknowledging the nuances in the holdings of these cases, the 6th Circuit applied an inaccurate simplification: that states have the authority to either have officials appointed or elected.[101]

The United States Supreme Court precedent is in direct conflict with the Sixth Circuit's interpretation.[102] Since Public Act 436 essentially renders election results moot in municipalities with emergency managers, a Due Process violation may arise when a state officials' actions create fundamental unfairness in a municipality's election processes.[103] The question considered by the court should not have been whether there is a fundamental right to vote in municipal elections, but rather, whether a switch from popular elections to undemocratic appointments nullifies the right to "one man one vote."[104]

The most analogous situation in which the court found fundamental unfairness is when a segment of the population is in effect denied the right to vote.[105] The purpose of emergency managers is to subsume the power of elected officials and run the municipality, thereby curing the municipality's financial woes.[106] Emergency managers not only exercise administrative functions for local governments, they also perform legislative functions.[107] By creating a scenario where elected officials cannot govern, either administratively or in a legislative capacity, the state is creating an election which is patently unfair and erodes the rights of the voters.[108] Municipal residents who are casting ballots for elected officials in municipalities with emergency managers are essentially voting for candidates who become puppets of the emergency manager, who possesses the real power to legislate and administer a municipal government.[109]

Although cases in which voters are deceived at the ballot box are rare, one such case, *Smith*, provides guidance on how the court may respond to election practices which create fundamentally unfair elections and due process violations.[110] The court in *Smith* ultimately ruled that in executing this conspiracy, voters could not meaningfully cast votes and the conspiracy denied voters the opportunity to vote in a fair election.[111] Despite the insidious nature of the conspiracy in *Smith*, Public Act 436 is not so dissimilar in creating a situation in which voters are voting for a candidate that by law will not be able to represent their interests.[112] Additionally, the problems stemming from Public Act 436 are not garden-variety election disputes. Public Act 436 infringes on the Constitutional rights noted which the Sixth Circuit was remiss to overlook.[113]

C. Public Act 436 violates the Equal Protection Clause's guarantee of voter equality

In rejecting the plaintiffs' Equal Protection argument, the Sixth Circuit focused solely on the fact that there is not a per se right to have an electoral vote in municipal elections.[114] However, as previously discussed, this argument misses the key distinction that the act of conferring a municipality with the ability to hold popular elections for its elected officials creates a Constitutional right to equality in voting power once the geographic boundaries are set and the state defines a class of voters.[115] By not understanding this distinction, the Sixth Circuit proceeded to erode one of the most important rights as an American citizen: the right to vote.[116]

Although the court argues that municipalities without emergency managers are not relevant to Equal Protection analysis and the "one man one vote" theory, the court fails to consider the theory in its various applications, as well as the significance of the state's determination at the very outset whether municipal governments had appointment structures or popular elections.[117] The court is correct that no constitutionally protected right to vote in municipal elections exists because states can choose to create municipalities with appointed rather than elected municipal officials.[118] However, once the state makes the initial decision between elected and appointed municipal officials and decides to hold popular elections for municipal officials, it must comply with the "one many one vote" theory.[119] Although *Reynolds* conferred this right to citizens in statewide elections, the same basic principles apply to elections in municipalities.[120] Furthermore, the court recognizes the theory exists, but fails to apply it to its own analysis, focusing instead on the idea that no fundamental right to vote exists in municipal elections.[121]

The court is also overly-reliant on the fact that traditional issues of voting discrimination were not raised, such as disparate access to the electoral process, and thus overlooks how appointment severs the ability of elected officials to meaningfully represent their constituents.[122] The court argues that the tenant of "one man, one vote" is not implicated by emergency manager appointment because when looking solely at each jurisdiction, each voter exercises the right to vote and his or her vote is counted.[123] Although the court is correct that people are able to vote, their votes are essentially meaningless, which violates both Due Process and the First Amendment rights of voters.[124]

Even though courts traditionally analyze "one man, one vote" claims in the jurisdiction in which the state unequally treats voters, Public Act 436 creates a unique situation in which voters retain the *ability* to vote, but the *value* of the vote is essentially meaningless within the jurisdiction.[125] The Supreme Court has previously examined the "one man, one vote" theory in the context of apportioning legislative state districts and evaluated equal access to voting between two different voting districts.[126] For instance, in *Gray*, a decision predating *Reynolds*, the court analyzed the question of unequal voting power in the context of primary elections.[127] The district court's opinion focused on whether each vote was counted with equal weight to all other voters.[128] Although *Gray* raised this question in state legislative elections and *Reynolds* in the context of Congressional elections, the reasoning in the municipal context is almost exactly the same.[129] While states clearly have the discretion to decide whether municipal officials are selected through elections or through appointment, the "one man, one vote" theory must hold true once the state decides the method and scope of the jurisdiction.[130]

Thus, despite the Sixth Circuit's insistence otherwise, it is necessary to compare districts in which there are emergency managers and districts where citizens can continue

to exercise their voting rights unencumbered.[131] Since Public Act 436 instills the power of local government in the manager, those in emergency manager districts face severe fundamental restrictions under the "one man, one vote" theory, while those in districts without a manager face no such challenges.[132] In other words, voters in districts with an emergency manager are treated differently than those with elected officials.[133]

D. The Sixth Circuit should have applied strict scrutiny

In its First Amendment, Due Process, and Equal Protection analysis, the Sixth Circuit failed to apply anything more than a rational basis review despite previous precedent indicating that a more stringent form of review is appropriate.[134] The Sixth Circuit failed to recognize the burden on the plaintiffs' freedom of association rights and held instead that recognizing the right would be an anomalous and unprecedented result.[135] The court also failed to recognize that even if it declined to apply strict scrutiny, it could have used the framework found in *Anderson*.[136] The *Anderson* framework essentially boils down to a burden-shifting test in which the court has to weigh the interests of the state against the infringement of the First Amendment right and determine whether the provision is reasonably necessary to accomplish the state's interest.[137]

Additionally, the court could have elected to use strict scrutiny in its analysis if it had applied the guidance from *Peeper*.[138] Since Public Act 436 places significant burdens on the rights of officeholders to participate in municipal government, the court could have appropriately applied strict scrutiny to analyze the plaintiffs' First Amendment claims.[139] Regardless of whether a court would choose to apply the *Anderson* framework or the guidance from *Peeper* in analyzing these claims, it is clear that the Sixth Circuit did not properly analyze the plaintiffs' First Amendment claims.[140]

In determining if there were Due Process violations, the *Phillips* court only determined whether there was a fundamental right to vote in municipal elections and failed to acknowledge or deliberate upon the "one man, one vote" theory in the due process context and did not even explore the question of whether Public Act 436 created fundamentally unfair elections.[141] Although there may not be a fundamental right to vote in municipal elections, the court did not consider the fact that violating the "one man, one vote" theory by going from popular election to appointment would create a Due Process violation.[142] Additionally, the court failed to meaningfully analyze the question of fundamental unfairness in municipal elections as a result of Public Act 436.[143] Although the nature of the unfairness is of a different caliber then found in *Smith*, the issue of fundamental fairness is likewise raised in municipalities because there is almost no correlation between the votes constituents cast and the representative constituents receive.[144]

Finally, the court reviewed the Equal Protection claims under rational basis review and found Public Act 436 passed rational basis scrutiny.[145] However, there are fundamental concerns as to whether Public Act 436 violates the "one man, one vote" theory since Public Act 436 erodes the right of voters and treats those voters in jurisdictions with emergency managers differently than those without.[146] Although the "one man, one vote" theory is traditionally used to invalidate laws which treat voters differently within individual districts, in this case, the court should have used a higher level of scrutiny then rational basis in deciding whether the law impermissibly restricts voting rights in jurisdictions with emergency managers.[147]

IV. Social Policy

Although the fiscal difficulties Michigan cities face are concerning both to the individual municipalities and the state government, Michigan Public Act 436 should not contain the emergency manager provision. Instead, the Michigan Legislature should pass an amendment to the law striking the emergency manager provisions and the state should rely solely on the consent agreement provision found in Michigan Public Act 436 to cure the financial problems of distressed municipalities.

One of the most sacred rights and duties we have as citizens of the United States is to vote in elections whether they be at the federal level or at the municipal level. Our founding fathers built this country around a representative form of government and the idea that our votes can fundamentally change how our government functions. Public Act 436, and particularly the emergency manager provision, erodes voters' right to determine how their municipality is going to function. Local policies are important and have the most day-to-day impact on the lives of an average citizens. The use of consent agreements will respect the value of voters in municipal policy and empower those officials to fix the problems of the communities they work for and care about.

Even though the emergency manager provision provides the state and municipalities with the freedom to unilaterally fix the problems of a municipality by appointing an emergency manager, Public Act 436 grants almost identical powers to municipal officials through a consent agreement.[148] Essentially, the state can turn elected municipal officials into emergency financial managers through a consent agreement.

This overlooked part of the law is important because not only did the Sixth Circuit fail to consider this section of the law except in passing, but this would also cure the constitutional violations inherent in the emergency manager language and application. For instance, if the state merely empowered elected officials, there would no longer be violations to voters' First Amendment, Due Process Clause, and Equal Protection Clause rights. Using consent agreements would cure the First Amendment violations because granting emergency manager powers to elected officials empowers the officials with more freedom to cure the problems of the municipality. Not only would the official still participate in municipal government, he or she would have more freedom to help the municipality recover more swiftly. Utilizing consent agreements would also not change the electoral structure of the municipality and would cure both the fundamental unfairness of appointments and empower voters to elect those they believe will cure the fiscal crises that their communities face.

Throughout its opinion, the Sixth Circuit reiterated that emergency managers do not seem to be necessary, since Michigan Public Act 436 offers other ways besides emergency managers to accomplish the objectives of the state and the municipality. That is the secret to Public Act 436: while emergency managers may be convenient, and even possibly the most efficient way to cure the financial problems of a municipality, the state and municipalities have a way to accomplish the same objectives without violating the Constitution.

V. Conclusion

Although Public Act 436 provides remedies for the state of Michigan, the emergency manager provision violates the constitutional rights of both voters and candidates.[149] Michigan Public Act 436 violates First Amendment rights of association by placing impermissible restrictions on public officials.[150] Michigan Public Act 436 violates Due Process rights by taking away meaningful and fair elections from multiple municipalities, rendering the elections

fundamentally unfair.[151] Michigan Public Act 436 violates Equal Protection principles by treating voters in cities under emergency managers differently than any other municipality in Michigan.[152] Finally, by not recognizing any of these rights, the *Phillips* court did not give the appropriate level of review to Public Act 436.[153] Although it is impossible to say if the analysis in this paper would have changed the court's opinion, it raises significant issues in the court's ruling in *Phillips* and offers a policy change which would accomplish the same objectives of the state without violating the constitutionally protected rights of the citizens in Michigan.

References

1. See Kimberly Amadeo, *The 2008 Financial Crisis: A look at the Causes, Costs, and Weighing the Chances of it Happening Again*, THE BALANCE, Jan. 19, 2018, https://www.thebalance.com/2008-financial-crisis-3305679 (discussing the root causes and continuing issues of the financial crisis).
2. See Ben S. Bernanke, *Challenges for State and Local Governments*, The Federal Reserve (Mar. 2, 2011) https://www.federalreserve.gov/newsevents/speech/bernanke20110302a.htm (speaking generally on the problems state and local governments faced because of the decline in state and local revenues).
3. See Governing, Bankrupt Cities, Municipalities List and Map, Governing, (Sept. 14 2017) http://www.governing.com/gov-data/municipal-cities-counties-bankruptcies-and-defaults.html (exploring the causes of municipal bankruptcies since 2010).
4. See Mitch Bean, Starving Michigan Cities and the Coming Storm, MLive Blog (June 1, 2016), http://www.mlive.com/opinion/index.ssf/2016/06/mitch_bean_starving_michigan_c.html (explaining that the 2008 economic crisis lowered the values of homes and therefore cut into municipalities' revenues).
5. See *Phillips v. Snyder*, 836 F. 3d. 707, 711 (6th Cir. 2016) (examining the background of emergency managers and their necessity).
6. See id. at 711 (describing the history of the passage of the 2011 law and its ultimate referendum vote in 2012).
7. See id. at 711. (stating the course of events of passing Public Act 436).
8. See id. at 711-12 (explaining the criteria used to assess whether municipalities are in financial distress).
9. See id. at 712 (listing the municipalities under control of emergency managers).
10. See Nathan Bomey, Brent Snavely, and Alisa Priddle, *Detroit becomes Largest U.S. City to enter Bankruptcy*, DETROIT FREE PRESS (Dec. 3, 2013), https://www.usatoday.com/story/news/nation/2013/12/03/detroit-bankruptcy-eligibility/3849833/ (discussing Detroit's bankruptcy and the immense scale of the problems Detroit faced going into bankruptcy).
11. See *Phillips v. Snyder*, No. 2:13–CV–11370, 2014 WL 6474344 at *1-3 (E.D. Mich. 2014) (examining the diverse groups of plaintiffs including school administrators, public officials, and

individuals).
12. Id. at 1 (explaining the First Amendment freedom of association claim, the due process claim, the equal protection claim of voting discrimination, and claims that Public Act 436 is akin to slavery).
13. See id. at 10-12 (providing the court's rationale in not dismissing the equal protection claim).
14. See Phillips v. Snyder, 836, F. 3d. 707 (6th Cir. 2016).
15. See id. at 722.
16. "En Banc" in this context refers to a full hearing of all the judges on the Court of Appeals in that circuit. In this case, it would be all the judges that make up the Court of Appeals in the 6th Circuit. A case is usually heard before a three-judge panel at the Court of Appeals.
17. See id. at 707.
18. See generally U.S. Const. amend. I. (stating that no law may abridge the free speech rights of U.S. citizens); U.S. Const. amend. XIV. (stating that there is a fundamental right to due process); U.S. Const. amend. XIV. (stating that all laws must protect citizens equally and without discrimination).
19. See infra Part II (refuting the court's ruling and establishing grounds for First Amendment violations).
20. See infra Part II (explaining rational basis review and why the court erred in applying it to this case).
21. See infra Part III (examining the associated freedom of association claims, fundamental unfairness, uneven voting distribution, and an improper level of scrutiny).
22. See infra Part IV (arguing that using consent agreements grants more power to elected officials and would make any constitutional challenges moot).
23. See infra Part VI (concluding that the appellate court used the wrong standard of review and erred in not adequately addressing the First Amendment, due process, and equal protection Claims).
24. See Phillips v. Snyder, 836 F. 3d. 707, 721 (6th Cir. 2016) (holding that Public Act 436 did not violate the Constitution on any of these First Amendment challenges).
25. Id. at 721 (stating that when a legislature passes a bill similar in import to one that citizens vetoed by referendum it does not engage in viewpoint discrimination).
26. See id. (arguing that a modification on the power of a political subdivision would trigger a heightened level of scrutiny and an unprecedented anomalous result).
27. See id. at 721 (stating that since local officials can challenge the appointment with a two-thirds vote and remove a manager after eighteen months with a two-thirds vote this law would pass higher scrutiny).
28. See id. at 715-16 (stating that since the state government essentially created these municipal governments and allow them to function, they are subject to ultimate state control).
29. See *Phillips*, 836 F. 3d. 707, 715 (noting that the Supreme Court ruled that municipal governments are merely convenient agencies for the state to administer its laws).
30. See id. at 715 (arguing that there is no guarantee for elected officials in municipal government).
31. See id. at 715 (stating that there is no fundamental right to have municipal officials elected by popular vote).
32. See id. at 718-20 (exploring the plaintiffs' claims that Public Act 436 restricts the equal right to vote as citizens in municipalities without emergency managers and Public Act 436 discriminate against the plaintiffs because of wealth).
33. See id. at 719 (arguing that citizens voting in jurisdictions without a financial manager are irrelevant and therefore the law does not need a higher level of scrutiny).
34. See generally Heller v. Doe by Doe, 509 U.S. 312, 319-20 (1993) (discussing when rational basis scrutiny is appropriate).
35. See Phillips, 836 F. 3d. 707, 718 (stating that the legitimate government purpose is to ensure the financial health of distressed cities which the court argues not only affects those individual cities but the health of the entire state as well).
36. See id. at 719 (stating that the situation created by Public Act 436 is fundamentally different than unequal treatment in situations like residency requirements); "Strict Scrutiny" is a legal term of art which essentially means that the law in question needs to be both narrowly tailored to the government's purpose and further a compelling government interest. Laws that receive such treatment from the court are usually deemed unconstitutional.
37. See id. at 718-19 (examining the basis for rational basis review in the equal protection con-

text).
38. See id. at 715, 721 (ignoring the question of scrutiny and arguing that the plaintiffs had misapplied their legal analysis).
39. See id. at 718-19 (stating that since the law did not discriminate against different classes of voters the government only needed a rational basis for the law).
40. See id. at 718 (finding that the state's wish to cure numerous fiscal deficiencies in distressed municipalities was a rational basis for Public Act 436).
41. See id. at 713 (discussing the rationale of the district court in dismissing the claims).
42. See U.S. Const. amend. I (citing the language of the First Amendment and the concerns that Michigan Public Act 436).
43. See Williams v. Rhodes, 393 U.S. 23, 30 (1968) (arguing that the rights to associate and effectively vote are precious freedoms).
44. See id. at 30 (stating that the relevant inquiry is that if the state severely restricts one of these First Amendment freedoms then the state must have a compelling interest for doing so).
45. See Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619, 622 (stating that restrictions on officeholders are subject to the same constitutional test as restrictions on candidates).
46. See id. at 623 footnote 5 (writing that laws which impede officeholders from governing must be assessed under strict scrutiny).
47. See Anderson v. Celebrezze, 460 U.S. 780, 789 (1983) (explaining a court needs to weigh the specific interests the state is offering against the magnitude of the harm the law imposes on First Amendment freedoms).
48. See U.S. Const. amend. XIV (containing the exact language of the Due Process Clause and Equal Protection Clause and using that language to determine due process and equal protection violations inherent in Michigan Public Act 436).
49. See Warf v. Board of Elections of Green County, Ky., 619 F. 3d. 553, 559 (6th Cir. 2010) (establishing when state laws amount to due process violations in state voting procedures).
50. See id. (further clarifying that when the entire election process fails on its face to provide fundamental fairness, that failure amounts to a due process violation).
51. See Williams v. Rhodes, 393 U.S. 23, 34-5 (1968) (finding violations of due process, granting plaintiffs relief, and allowing third parties on the ballot).
52. See U.S. Const. amend. XIV (containing the Fourteenth Amendment and the Equal Protection Clause and examining those amendments in the context of Michigan Public Act 436).
53. See Harper v. Virginia State Bd. of Elections, 383 U.S. 663, 668 (stating that court uses the Equal Protection Clause to strike down laws which make discriminatory distinctions).
54. See id. at 670 (stating that Reynolds affirmed the right of voters to participate equally in state elections).
55. See Reynolds v. Simms, 377 U.S. 533, 554-55 (1964) (stating that the court has found equal protection violations when the state has denied the right to vote outright, destroyed or altered the ballots, or stuffed the ballot box).
56. See Gray v. Sanders, 372 U.S. 368, 378 (arguing that the court found geographic distinctions permissible only if they are not larger than the disparity in the electoral college).
57. See Phillips v. Snyder 836 F.3d. 707, 721 (stating that there were no First Amendment infringements which would justify a higher level of scrutiny).
58. See id. at 721 (holding that nothing in Public Act 436 violates freedom of association or speech rights).
59. See id. at 721 (arguing that officials still had power to potentially remove the emergency manager).
60. See id. at 721 (stating just the arguments and not using any analytic framework).
61. See Anderson v. Celebrezze 460 U.S. 780, 789 (stating that the court cannot decide freedom of association claims on a litmus test basis).
62. See id. at 783.
63. See id. at 789 (guiding that courts needs to analyze these claims similarly to regular litigation).
64. See id. at 789 (stating that the court should not only weigh the claims but must also analyze the extent to which the infringements are necessary for the state's interests).
65. See id. at 789 (stating that these decisions will not always be automatic and that hard decisions will have to be made).
66. See Phillips v. Snyder 836 F.3d. 707, 722 (stating that the statute did not abridge the plaintiff's First Amendment rights).
67. See generally Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619 (8th Cir. 1997) (exploring the freedom of association claims in placing restrictions on candidates while in

office); see also Bullock v. Carter, 405 U.S. 134 (1972) (examining a Texas candidate filing requirement which had the candidates paying a maximum of $1,000 to run for federal office).
68. See Burdick v. Takushi, 504 U.S. 428, 433 (1992) (stating that although restrictions on the voting process are necessary for the state to impose, they cannot overly burden the First Amendment rights of citizens subject to those laws).
69. See MICH. COMP. LAWS § 141.1550 (2013) (stating that the emergency manager has the power to issue any order necessary to accomplish the purpose of the act).
70. See MICH. COMP. LAWS § 141.1550 (2013) (allowing for the emergency manager to restrict the ability of elected officials, employees, or contractors to access government buildings, electronic mail, and intranet systems if they do not comply with his orders).
71. See Peeper v. Callaway County Ambulance Dist., 122 F.3d. 619, 622 (8th Cir. 1997) (explaining that the fundamental First and Fourteenth Amendment rights apply to infringements on both candidates and officeholders).
72. See generally id. (discussing the board resolution and the restrictions the board placed on Peeper after her election)
73. See id. at 623 (stating that restrictions on officeholders can infringe on voters' rights to representation which are even more serious then restrictions on candidates).
74. See id. at footnote 5 (stating that if the restrictions prevent the officeholder from meaningfully representing their constituents then the court needs to analyze the restrictions under strict scrutiny).
75. See MICH. COMP. LAWS § 141.1550 (2013) (stating the manager may issue orders to elected officials and listing the sanctions the emergency manager may use to force elected officials to comply with any order).
76. See Bullock v. Carter, 405 U.S. 134, 144 (1972) (stating that since the filling system affected both the candidates and the resources of the voters in supporting those candidates it needed to pass heightened scrutiny).
77. See Anderson v. Celebrezze 460 U.S. 780, 789 (1983) (explaining the framework for analyzing First Amendment claims).
78. See Williams v. Rhodes 393 U.S. 23, 30 (1968) (stating that the First Amendment protects the right of qualified voters to effectively cast their votes).
79. See Peeper v. Callaway County Ambulance Dist., 122 F. 3 d. 619, footnote 5 (8th Cir. 1997) (saying that candidate restrictions which would prevent meaningful representation are subject to strict scrutiny).
80. See Anderson, 460 U.S. 780, 789 (1983) (stating that the court needs to both identify the state interests and then weigh the interests against the necessity of burdening fundamental rights).
81. See Phillips, 836 F.3d. 707, 711 (explaining the history of municipal health in Michigan and identifying the necessity of emergency managers).
82. See Williams v. Rhodes 393 U.S. 23, 29 (exploring the ability of states to regulate and pass laws if they do not impermissibly burden constitutional freedoms).
83. See Peeper, 122 F.3d. 619, 623 (stating that although states can regulate officeholders they cannot abridge fundamental the Constitutional rights of officeholders).
84. See MICH. COMP. LAWS § 141.1550 (2013) (stating exactly the vast powers of the emergency manager and their ability to further restrict elected official's participation in government).
85. See Phillips, 836 F.3d. 707, 721 (arguing that Public Act 436 provides struggling municipalities with four distinct remedies to cure financial problems).
86. See Anderson v. Celebrezze 460 U.S. 780, 789 (1983) (stating that the court must weigh the given statute against the state's interest and whether the offending provision is reasonably necessary in completing the state's objectives).
87. See Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619, footnote 5 (8th Cir. 1997) (recognizing that states may not violate constitutional rights when passing laws).
88. See generally Anderson, 460 U.S. 780, 789 (1983) (describing the framework courts should use in analyzing First Amendment claims and further stating that courts also need to consider if a restriction is reasonably necessary).
89. See Peeper, 122 F.3d. 619, footnote 5 (stating that restrictions on elected officials effect both constituents and officeholders because without meaningful representation constituents have no other avenue for representation).
90. See MICH. COMP. LAWS § 141.1550 (2013) (providing the powers of emergency managers, including the authority to order municipal officials to comply with their authority).

91. See Phillips, 836 F. 3d. 707, 721 (articulating the multiple options the state government has in curing financial woes of municipalities).
92. See id. at 715-16 (discussing the plaintiff's due process claims and citing precedent for the determination that there is no fundamental right to vote in municipal elections).
93. See id. at 715 (examining the relevant sections of both cases and concluding there is no fundamental right to vote in state elections).
94. See id. at 716 (stating that since states have a fair amount of leeway in determining how state manages municipal governments, there is no right to elected representatives).
95. See Sailors v. Board of Ed. of Kent County, 387 U.S. 105, 111 (1967) (noting that states can chose to appoint non-legislative officials).
96. See id. at 111 (stating that although no such question arose if the state chose to elect officials rather than appointed them then the state must adhere to the principles found in Reynolds and Gray).
97. See Phillips, 836 F. 3d. 707, 715 (stating that Hadley expresses the idea that since states have the power to either appoint or elect local officials there is no fundamental right to elect municipal representatives).
98. See Hadley v. Junior College Dist. of Metropolitan Kansas City, Mo., 397 U.S. 50, 59 (1970) (discussing that states can experiment in local governments, but once states decide to hold elections they cannot avoid constitutional protections).
99. See Hadley, 397 U.S. 50, 56 (stating that the Equal Protection Clause of the Fourteenth Amendment applies in elections where the state chose to allow elected municipal officials instead of appointed officials); Sailors, 387 U.S. 105, 109 (stating that if the state chose to have popular elections for municipal officials then the protections of Reynolds and Gray must apply).
100. See Hadley, 397 U.S. 50, 56 (stating that popularly elected officials who perform legislative functions receive protection under the Equal Protection Clause).
101. See generally Phillips, 836 F. 3d. 707, 715 (lacking any analysis that correctly applies the rationale from either Sailors, Reynolds, or Hadley).
102. See Gray v. Sanders, 372 U.S. 368, 381 (1963) (stating that once the state creates a class of voters and their qualifications specified, there is no way to evade the equality of voting power).
103. See Duncan v. Poythress, 657 F. 2d. 691, 700 (stating that if state officials act to make elections fundamentally unfair then those actions violate due process protections).
104. See Sailors v. Board of Ed. of Kent County, 387 U.S. 105, 111 (stating in argument that if this is the case then the state must meet the protections in Gray and Reynolds).
105. See Griffin v. Burns, 570, F. 2d. 1065, 1078-79 (5th Cir. 1978) (writing that by not counting absentee ballots the Secretary of State effectively took away the vote of ten percent of the population).
106. See MICH. COMP. LAWS § 141.1550 (2013) (enumerating the emergency managers' powers and their purpose).
107. See Phillips v. Snyder, No. 2:13–CV–11370, 2014 WL 6474344, at *8 (E.D. Mich. Nov. 19, 2014) (stating that Public Act 436 grants emergency managers the power to not only perform administrative functions, but also have the power to make legislative decisions).
108. See Duncan v. Poythress, 657 F. 2d. 691, 703 (1981) (stating that Due Process Clause claims arise when conditions become patently unfair and a state-sponsored election practice is fundamentally flawed).
109. See Smith v. Cherry, 489 F. 2d 1098, 1102 (7th Cir. 1973) (stating that in that election voters were not actually voting for their candidate but instead were voting for a candidate which would later be selected).
110. See generally id. at 1100 (exploring the factual situation in which Democrats put a candidate on ballot in the primary knowing the candidate would resign after the primary to allow another candidate on the ballot).
111. See id. at 1103 (describing the various groups of voters who could not cast their ballot for their true preference and how this amounted to a sham election).
112. See id. at 1102 (arguing that by favoring one candidate over others and deceiving voters, the election became fundamentally unfair).
113. See Duncan, 657 F. 2d. 691, 704 (holding that previous cases did not rise to the level of constitutional violations and were merely garden-variety election disputes).
114. See Phillips v. Snyder, 836 F. 3d. 707, 719 (arguing that there is no per se right to vote in municipal elections and that even if there were citizens are still able to cast a vote).
115. See Hadley v. Junior College Dist. of Metropolitan Kansas City, Mo., 397 U.S. 50, 58 (holding

that once the state determines a class of voters and their qualifications specified, there cannot be unequal voting power between different classes).
116. See Reynolds v. Sims, 377 U.S. 533, 567 (1964) (stating that to the extent a law debases a voter's right to vote he is that much less a citizen).
117. See Sailors v. Board of Ed. of Kent County, 387 U.S. 105, 108 (1967) (stating that if states do not infringe on a fundamental constitutional right then they have almost absolute discretion in determining whether municipalities either elect officials by popular vote or the state appoints officials).
118. See id. at 107 (stating that municipalities are convenient agencies for the state and the state has the ultimate discretion over municipalities).
119. See Reynolds, 377 U.S. 533, 557-8 (holding that once geographic units are set, and the state sets voters' qualifications then voters receive equal protection when voting).
120. See Gray v. Sanders, 372 U.S. 368, 379-80 (1963) (holding that once qualifications and geographic designations are set then the state must comply with the "one man one vote theory").
121. See Phillips v. Snyder, 836 F. 3d 707, 718 (6th Cir. 2016) (stating that the court did not recognize a fundamental right to vote in municipal elections and therefore equal protection does not apply).
122. See id. at 718-19 (stating that those in municipalities without an emergency manager are not relevant to the discussion and that voters could still exercise their ability to vote in the election).
123. See id. at 718-19 (arguing that since voters could still vote in the election in their geographic units that there is no violation of equal protection and the "one man, one vote" theory).
124. See generally Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619, footnote 5 (8th Cir. 1997) (stating that when there are candidate restrictions then the court should apply strict scrutiny); Smith v. Cherry, 489 F. 2d 1098, 1102 (7th Cir. 1973) (holding that the use of a sham candidate who was merely a placeholder amounts to a due process violation).
125. See Smith v. Cherry, 489 F. 2d 1098, 1102 (7th Cir. 1973) (holding that voters who voted for a sham candidate did not actually have their votes counted).
126. See generally Reynolds v. Sims, 377 U.S. 533, 586-7 (1964) (holding that the court could reapportion the districts which violated equal protection protections).
127. See Gray v. Sanders, 372 U.S. 368, 381 (1963) (examining the different districts and how the state's apportionment of voters created unfair voting districts).
128. See Gray v. Sanders, 372 U.S. 368, 381 (1963) (examining both whether the district court properly analyzed the question and holding that the state must preserve equal voting power between different classes of voters in elections).
129. See Reynolds v. Sims 377 U.S. 533, 586-7 (1964) (holding that equal protection and the "one man, one vote" theory applied in the congressional elections since once the state determines qualifications of voters and geographic areas then the state cannot violate equal protection principles); Gray v. Sanders, 372 U.S. 368, 380 (stating that voting rights are fundamental to citizens and that once the state determines the qualifications of voters and the geographic districts then the state cannot violate equal protection principles).
130. See id. at 380 (concluding that once the state defines these qualifications and geography then the state cannot dilute the vote by geographic location and the state cannot violate the "one man, one vote" theory).
131. See Phillips v. Snyder, 836 F. 3d 707, 718 (6th Cir. 2016) (stating that voters who do not have emergency managers are not relevant to the protected right).
132. See MICH. COMP. LAWS § 141.1550 (2013) (describing the powers of an emergency manager and their role in subsuming elected municipal officials' legislative and administrative powers).
133. Accord Reynolds v. Sims, 377 U.S. 533, 576 (1964) (explaining that the ability to have citizens' votes count equally would be meaningless if states could simply ignore the idea of equal voting strength between different districts).
134. See id. at 715, 718, 721 (rationalizing that since nothing in Public Act 436 presents a constitutional challenge, only a rational basis review of the law is necessary).
135. See id. at 721 (stating that Pubic Act 436 has no freedom of association implications and that saying otherwise would be an unprecedented and anomalous result).
136. See Anderson v. Celebrezze, 460 U.S. 780, 789 (1983) (stating that for election laws there is a preestablished framework which the court should use in determining if the law is an impermissible violation of First Amendment rights).

137. See id. at 789 (providing the framework in which the court weighs the state's interest against the First Amendment right and including the provision that the court needs to test the interest as reasonably necessary to accomplish the state's objectives).
138. See Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619, footnote 5 (8th Cir. 1997) (stating that the court should have applied strict scrutiny to restrictions on officeholders that rise to the level of more than incidental restrictions on the officeholders' ability to participate in municipal government).
139. See id. at footnote 5 (8th Cir. 1997) (stating that strict scrutiny is appropriate when officeholders First Amendment rights are unduly burdened).
140. See Phillips v. Snyder, 836 F. 3d. 707, 721 (failing to apply anything beyond a cursory review of the plaintiffs' claims).
141. See id. at 715-16 (stating that the previous precedent does not indicate a fundamental right to vote in municipal elections and that there is no question of fundamental fairness in 6th Circuit precedent).
142. See Reynolds v. Sims, 377 U.S. 533, 557-58 (1964) (holding that once geographic units are set, and the state sets the qualifications for voters then the state cannot create laws which abridge the fundamental right to equal voting).
143. See Phillips, 836 F. 3d. 707, 716 (stating that there is no fundamental right to vote in municipal elections and therefore no question of fundamental fairness apparent in Pubic Act 436).
144. See Smith v. Cherry, 489 F. 2d 1098, 1102 (7th Cir. 1973) (holding that voting for a sham candidate created a due process violation).
145. See Phillips v. Snyder, 836 F. 3d. 707, 718 (stating that Public Act 436 passes rational basis review since the state proffered a rational interest).
146. See Reynolds v. Sims, 377 U.S. 533, 557-58 (1964) (stating that in an analogous situation, once the voters' qualifications were set and the geographic areas defined then a state law cannot violate the "one man, one vote" theory).
147. See generally Gray v. Sanders, 372 U.S. 368, 381 (1963) (holding that any restriction on voting must examine the fundamental weight of that vote and use a stringent review in determining if the law impermissibly violated the rights of voters).
148. See MICH. COMP. LAWS § 141.1548 (2013) (providing in section 10 that the State Treasurer can grant many of the emergency manager powers to municipal officials).
149. See Phillips v. Snyder, 836 F.3d. 707, 721 (6th Cir. 2016) (stating that municipalities in Michigan have four possible ways to cure the problems of cities facing financial difficulties).
150. See Peeper v. Callaway County Ambulance Dist., 122 F. 3d. 619, footnote 5 (8th Cir. 1997) (stating that when the state places more than di minimus restrictions on officeholders the court should analyze the law under strict scrutiny analysis).
151. See Smith v. Cherry, 489 F. 2d 1098, 1102 (7th Cir. 1973) (holding that voting for a sham candidate created a due process violation and implicated elements of fundamental unfairness).
152. See Reynolds v. Sims, 377 U.S. 533, 557-58 (1964) (holding that once voters' qualifications are set and geographic areas defined then the voters are entitled to "one man, one vote" protections).
153. See generally Gray v. Sanders, 372 U.S. 368, 381 (1963) (holding that any restriction on voting must examine the fundamental weight of that vote and using a stringent review in determining if the law impermissibly violated the rights of voters).

A Cost Comparison of MDOT vs. Private Consultant Engineers

by Dr. Roland Zullo

Background

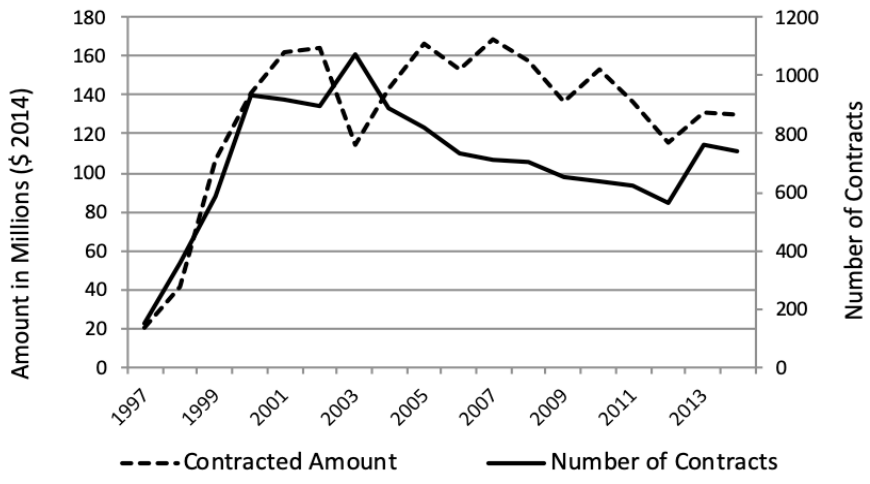
The Michigan Department of Transportation (MDOT) is responsible for the design, construction and maintenance of Michigan's major roads, highways and bridges.[1] In 2010, the MDOT set a goal to have 90 percent of major roads and highways in fair or better condition and 95 percent of freeway bridges in good or fair condition.[2] Yet by 2017, poor road conditions remained the primary source of public dissatisfaction with the MDOT.[3] In 2019, the MDOT's newly appointed director testified that his agency would need $1.5 billion to repair state trunklines.[4]

Raising funds through higher taxes does not seem politically feasible. A May, 2015 ballot initiative to raise the sales tax from six to seven percent and to increase gas taxes to make up for transportation funding shortfalls failed by wide margins.[5]

Consequently, the MDOT will have to find efficiencies within the existing operations in order to divert more resources to road repair and maintenance. The purpose of this study is to examine one potential source of improving system efficiency: reversing the practice of outsourcing design and engineering work to private consultants. Figure 1 below provides the consultant contract trends from 1997 to 2014.

At one time, MDOT engineers performed nearly all design and engineering work for State projects. This began to change with a series of early retirement incentives implemented in 1997-98, 2002, and 2010-11, which resulted in an exodus of senior tal-

Figure 1: MDOT Consultant Contracts Trends, 1997-2014



Source: MDOT Contract Services Division

ent.[6] Meanwhile, appropriations acts froze new hiring, which prevented the MDOT from filling vacancies.[7] This two-pronged policy of incentivizing the MDOT personnel to retire while impairing the ability of the MDOT to re-staff reduced the capacity for the MDOT to handle Michigan design and engineering projects. Current MDOT staffing is less than two-thirds the level seen in the early 1990s.[8]

Reducing State personnel did not diminish the need for engineering services. To fill the void, the MDOT outsourced the design and engineering work to private contractors - a service delivery model that has grown with time. The MDOT spent $177.9 million in Fiscal Year (FY) 2016, $200.7 million in FY 2017, and $224.3 million in FY 2018 on consultant contracts for various construction services, such as design, inspection, testing and surveying.[9] For FY 2017 and FY 2018, this translates into year-over-year increases of 12.8 percent and 11.8 percent, respectively. Consultants often work side by side with MDOT employees who do similar work.

This analysis explores the economic feasibility of outsourcing these services. It examines a sample of design and engineering contracts approved during a three-year period from FY 2011-12 to FY 2013-14, and estimates the hypothetical cost for these services if MDOT employees had performed the work. Results indicate that Michigan pays a substantial premium for outsourced design and engineering services.

Methodology

The analysis employed a cost substitution method, which takes civil engineering expense information for work performed by contractors and then substitutes comparable MDOT expenses. The validity of this comparison method depends on an accurate match between contractor expense items and the MDOT replacements.

This method begins with data on a cohort sample of outsourced contracts. In 2015, our research partners obtained a random sample of contracts from the full universe of construction engineering (CE), preliminary engineering (PE) and early preliminary engineering (EPE) contracts with an effective start date any time from October 1, 2011 to September 30, 2014. A random sample of 305 cases was drawn from this three-year period. Population and sample statistics are in Table 1.

In the three years of this study, the MDOT spent a little over $185 million on design and engineering contracts for CE, EPE and PE services. For the population, the average CE contract was $202,252, the average EPE contract was $194,026, and the average PE contract was $113,886.

Sample statistics for work category and region dimensions generally conform to the population percentages. Chi-squared tests for Work Category ($\chi 2 = 2.21$; d.f. 2) and Region ($\chi 2 = 6.33$; d.f. 9) both indicate a representative sample.

Our project partners requested financial data on the sample of contracts. The source of the data are the MDOT 5180 forms (Acceptance of Priced Proposal & Authorization for Consultant to Proceed). This form has the contractor employee titles, hourly charges, budgeted hours, contractor overhead, other direct expenses, such as mileage, and a fixed fee for profit. Of the 305 contracts in the original sample, 274 had sufficient data for this analysis. Most excluded cases lacked the personnel information necessary to match against comparable MDOT positions. For example, some contracts were "lump sum" payments that did not list the job titles and hours involved in the work.

The cost substitution method relies on plausible matches between contractor per-

Table 1: MDOT Road Engineering Contracts, FY 2011-12 to FY 2013-14			
Statistic	Sample	Not Sampled	Population
N	305	875	1180
Contract Average	$153,822.9	$157,847	$156,806.9
Work Category			
CE	127 (41.6%)	326 (37.3%)	453 (38.4%)
EPE	28 (9.2%)	107 (12.2%)	135 (11.4%)
PE	150 (49.2%)	442 (50.5%)	592 (50.2%)
Region			
Bay	17 (5.65%)	61 (7.03%)	78 (6.67%)
Central	68 (22.59%)	182 (20.97%)	250 (21.39%)
Grand	35 (11.63%)	102 (11.75%)	137 (11.72%)
Metro	82 (27.24%)	213 (24.54%)	295 (25.24%)
N/A	3 (1.00%)	10 (1.15%)	13 (1.11%)
North	11 (3.65%)	36 (4.15%)	47 (4.02%)
Southwest	15 (4.98%)	74 (8.53%)	89 (7.61%)
Statewide	26 (8.64%)	90 (10.37%)	116 (9.92%)
Superior	4 (1.33%)	14 (1.61%)	18 (1.54%)
University	40 (13.29%)	86 (9.91%)	126 (10.78%)
Key: CE = construction engineering, PE = preliminary engineering and EPE = early preliminary engineering.			

sonnel and equivalent MDOT staff. The 5180 forms listed the titles of the contractor personnel on each project, along with the hourly charge and budgeted hours. A MDOT employee with over 30 years of experience performed the job matches, taking into consideration both the contractor job titles and the task allocation practice at the MDOT. The objective was to find MDOT positions that could reasonably substitute for the contract personnel. Appendix A lists a sample of private consultant job titles and MDOT job equivalents.

Once the job matches were complete, I was able to substitute compensation costs for the hypothetical MDOT replacements. Compensation for the MDOT equivalents were based on the State compensation plan for the last year of the study, FY 2013-2014, and hourly rates at the top of the wage scale were chosen for each position. The civil service wage structure includes incremental pay raises based on time spent in a classification, whereby an employee reaches the top of their classification level at the end of five years. Due to a slowdown in new hires, MDOT personnel currently have an average of about thirteen years of service. Using the top rate of pay is consistent with this seniority average. It also provides a conservatively high estimate for estimated State labor costs.

The analysis required several other assumptions. Civil service pay rates cover wages only. Benefits were added to the MDOT compensation costs, including health insurance ($12,500 average plan per FTE at 2014 rates), pension (0.07 of wages), OPEB (0.02 of wages), FICA (0.0765 of wages), workers compensation (0.01 of wages) and unemployment insurance (0.002 of wages). These amounts reflect the costs of hiring new FTE in 2014.

Michigan agencies use CS-138 guidelines, Standard D, to estimate the economic feasibility of outsourcing services. Per Standard D guidelines, the necessary increase in MDOT indirect overhead was set at 10 percent of wages.[10] This assumes that the MDOT does not have to incur additional capital costs in order to bring work back in-house (i.e. that excess office capacity currently exists). It also assumes that substantial additions to the administrative workforce will not be necessary if the MDOT reverses outsourcing by replenishing the MDOT with qualified personnel.

Finally, the estimates assume that several contractor cost items were the same for the MDOT. Contract purchased services (various smaller subcontracts) were assumed to be needed as well under an MDOT operation, and thus the expense was set equal for the two delivery types. Similarly, other expenses (FCCM, lodging, meals, office supplies, travel, and per diem) are equal for contract and MDOT modes. Figure 2 below provides a cost breakout for the average contracted job and the average MDOT replacement.

Results

Figure 2 shows an average consultant contract cost of slightly over $140,000. Had MDOT employees performed the same work, the estimated average project cost would have been just under $68,000. Assuming these estimates extend to the full population of contract work, then Michigan would have saved more than $90,000,000 over the three-year period under the MDOT staffing model.

To place this finding in contemporary context, recall that the MDOT paid $224.3 million on consultant contracts in 2018, and that the newly appointed MDOT director is asking for $1.5 billion to fix Michigan's trunklines. If returning the design and engineering services to the MDOT generated a savings of 50 percent over private contracting, this would fill 7.5 percent of the director's recent request.

Note that MDOT wage costs were comparable to the hourly charge of contract employees. Benefits through the MDOT raise the compensation costs for State personnel above the hourly contract charges for contractor personnel. Contractor expenses include personnel benefit items under overhead fees, and the data did not allow us to parse out contractor benefits from other overhead items.

Clearly, where the MDOT has a large cost advantage is in overhead, followed by a guaranteed contractor profit (set at 11 percent of the total). Overhead expenses by the private contractors exceeded their charges for direct labor. Average percentage of overhead was 44.8 percent for CE contracts, 43.7 percent for EPE contracts and 47.0 percent for PE contracts. The profit expense has no parallel at the MDOT. When taking into account overhead and profit, the cost of private consultants became roughly double the cost of comparable State output.

Other Reasons to Outsource

Outsourced design and engineering work is more expensive. However, there might be other reasons for MDOT to outsource.

Seasonality

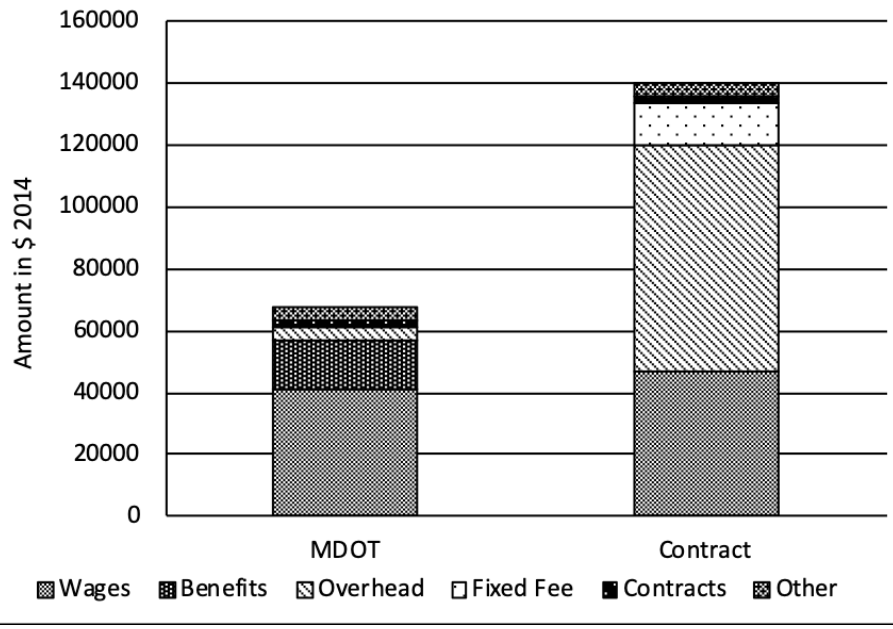
Road and bridge construction has seasonal cycles. Typically, planning activities occur during the winter months, and other activities, such as inspections and reporting, occur during the construction season. Perhaps the MDOT needs consultants during the busiest period of the cycle.

There are two problems with this argument. First, these consultant contracts are not seasonal, but year-round, some spanning years. Second, MDOT personnel had formerly completed both long and short-term projects.

Specialty Skills

It is possible that contractors possess unique skills that the MDOT cannot hire on as in-house staff. For intermittent occasions when the MDOT needs a certain skill set it may

Figure 2: MDOT v Contract Expense Item Breakout



make more sense to outsource rather than hire full time staff.

Like the seasonality argument, this explanation does not match the facts. Many of these outsourced projects are for comprehensive, long-term services that require the same skill set possessed by MDOT employees. As Figure 1 shows, outsourcing was minimal before the induced staff shortages of the mid-1990s. At one time in Michigan history MDOT staff handled this work, and there is no reason to believe that the MDOT cannot recruit necessary talent.

Conclusion

Beginning in the mid-1990s, State policy incentivized the MDOT engineering staff to retire. At the same time, the State imposed hiring freezes, which prevented the MDOT from re-staffing. This forced the MDOT to outsource engineering services to private consultants.

Our analysis indicates that the outsourcing model roughly doubles the cost of MDOT engineering and design work for the State of Michigan. Given a popular demand to fix State roads and bridges, and slim prospects of new taxes to pay for improvements, a question moving forward is whether Michigan should reverse this practice to free up funds for road repair. Our findings suggest that returning these services to the State would fill 7.5 percent of the MDOT director's recent request for additional road repair and maintenance funding.

References

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2. Driven by Excellence: A Report on Transportation Performance Measurement at MDOT. Michigan Department of Transportation, Lansing. May 2010.
3. 2017 Attitudes and Perceptions of Transportation in Michigan. Michigan Department of Transportation, Lansing. November 2017: Figure 6, p. 12. Prepared by WestGroup Research.
4. MDOT director: Agency needs $1.5 billion more to fix state roads. Paul Egan, Detroit Free Press, February 5, 2019.
5. Michigan voters soundly reject Proposal 1 road tax plan. Paul Egan and Kathleen Gray, Detroit Free Press, May 5, 2015.
6. Hamilton, William E. Michigan Department of Transportation Staffing Levels. House Fiscal Agency. Memo, May 16, 2014.
7. Ibid.
8. FY 1990-1991 lists 3,868 positions. As of 9/22/2018 the MDOT had 2,399 full-time employees. For a trend graph from FY 1990-91 to FY 2012-13, see Ibid. For the most recent counts, see: Thirty-Ninth Annual Workforce Report, Fiscal Year 2017-18, Civil Service Commission, State of Michigan, Lansing, MI.
9. Summary of Awarded Service Contracts: FY 2016 – FY 2019 Year-to-Date. Obtained from the MDOT.
10. Standard D instructs agency officials to assume that outsourcing a service results in a reduction in indirect costs (i.e. support services such as finance and personnel functions) that is at least equivalent to 10 percent of the public employee salaries. The guide is at https://www.michigan.gov/mdcs/0,4614,7-147-6877_8154-18784--,00.html.

Disclosure: SEIU Local 517M purchased the data for this analysis. All statements and errors are the responsibility of the Author.

Appendix A: Sample of MDOT Positions and Consultant Title Match			
MDOT Title (Grade)	Match Example 1	Match Example 2	Match Example 3
ENGLMGR3 (14)	Contract Admin	Project Manager	QAQC Eng
LANSRVYA (12)	Project Surveyor	Prof Surveyor II	Survey Manager
LANSRVYE (9)	Surveyor	Prof Surveyor 1	Surveyor II
LANSSPL2 (13)	QAQC Surveyor	Survey Manager	Prof Surveyor II
SECRTRYE (7)	Clerical	Clerical Admin	Bookkeeper
TRAENGE (9)	Asst Project Eng	Design Eng	Field Eng
TRAENGE (10)	Bridge Eng	Lead Eng/Planner	Project Eng
TRAENGE (11)	Sr. Project Eng	Electrical Eng	Lead Design Eng
TRALSPL2 (13)	QA/QC	PR/GR support	Design QA 1
TRANENLA (12)	Hydrualics Eng	Project Manager	Lead Traffic Eng
TRNCADEE (6)	Eng/Arch Aide	Inspector 5	Field Tech 2
TRNSTCHA (11)	Chief Inspector	Contract Admin	CADD Technician
TRNSTCHA (12)	Project Analyst	LIDAR Specialist	Constructability
TRNSTCHE (8)	CADD Tech	Const Serv Tech	Eng Tech III
TRNSTCHE (9)	Tech III	Crew Chief	Inspector
TRNSTCHE (10)	Cartographer	Design Tech	Office Tech

Challenging 'TRIPs' to the African Continent: Access to Medicines and HIV/AIDS in Africa

by Divya Prabhakar

Part I: The TRIPs Debate and Africa

Africa's Battle with HIV/AIDS and Adoption of the TRIPs Agreement

The 1990s was a horrific decade on the planet, more so on the African continent, as millions died of HIV/AIDS - one of the most catastrophic emergencies the world had ever seen. From the late-1970s when cases of HIV/AIDS were first being recorded until the end of 1990s, the disease had claimed lives of 14 million people while 33 million were living with HIV. Sub-Saharan Africa alone accounted for nearly 70% of people who were living with or had died of the disease. Life expectancies of newborn babies across the region dropped to a little over 30 years, and Botswana, Lesotho, South Africa, Namibia, Zimbabwe, Swaziland, and Zambia were some of the worst affected countries. The World Health Organization (WHO) announced that AIDS was the fourth biggest cause of death worldwide and the number one killer in Africa.[1]

It was in 1995 that a treatment for the disease was first developed, when the United States Food and Drug Administration (USFDA) approved the first protease inhibitor, beginning a new era of highly ARV treatment. This treatment brought about an immediate decline in rates of AIDS-related deaths and hospitalization to between 60% and 80%. Yet, Africa continued to suffer. Priced at $10,000 per person per year, by no means could most Africans have afforded the treatment.[2] By charging such high prices, big pharmaceutical companies in some of the most industrialized economies of the world sought to recoup their research and development (R&D) costs, which was made possible through the acquisition of patents. Meanwhile, a small group of developing countries with resources and scientific capacity to reverse-engineer these drugs were expanding their generic drug-manufacturing base and producing low-cost "copycat" drugs. Africa neither had the means to purchase the patented, branded drugs nor the capacity to produce the generic versions.

The increasing production of generic drugs, which cost less than a tenth of the price of the original drugs, created a demand for patenting on an international level. Intellectual property (IP) protection had been high on the agendas of industrialized nations, and specifically the United States of America, throughout the Uruguay round which concluded in 1994.[3] At this time, countries had different regulations on IP. Patent terms usually ranged from 15 to 17 years but in certain developing countries, there were either no patent regimes or patents were granted for much shorter terms of 5 to 7 years. Once the term expired, drugs could be produced and sold generically.[4] This group of countries with well-functioning national patent regimes were frustrated with the increasing sale of cheap generic medicines in the developing world without the permission of the patent holder. This drove them to push hard for implementation of a uniform set of intellectual property protections across WTO member nations. At the conclusion of the round, the TRIPs agreement was adopted, providing for a consistent system of IP protections across member countries. The agreement stipulated that all countries make patents available for inventions in all

fields of technology, including pharmaceutical products and processes.[5]

The TRIPs agreement required that all member states provide protection for a minimum term of 20 years from the filing date of a patent application for any invention, including for a pharmaceutical product or process.[6] There had been significant divergence between the developed and developing countries on this issue during the negotiations. Nonetheless, the agreement was adopted under the single undertaking principle, requiring:[7]

- A 20-year patent term (measured from patent filing date)
- No discrimination between locally produced and imported products
- Compulsory licensing of patented technology to be strictly limited and cannot be used to target a particular industry
- Patent rights to be extended to all fields of technology, without discrimination.

This led to a worsening of the HIV/AIDS pandemic in Africa, as medicine patenting exacerbated the problem of access to drugs by restricting production of generic ARVs until the patent term expired. While generic drug production may have been possible through obtaining a license from the patent holder, the application of this exception was unclear at that time.[8]

Diverging Interests: The Fight over Patents

While the decision to extend patent protection to pharmaceuticals was driven by powerful vested interests of governments and corporations in industrialized economies, the fight over pharmaceutical patenting was well-motivated. Both sides, those seeking patents for their innovations and those arguing against them for the sake of public health, had relevant concerns. The key challenge when it comes to pharmaceutical products is to balance the need to encourage development of new, more advanced, and effective products, while at the same time making these available to those who need them the most but cannot afford them.[9]

At the core of patenting pharmaceutical products is the argument that failure to provide adequate protection to the innovators may halt the development of new drugs all together, hindering our ability to fight the diseases of the future. The lack of any means of patenting inventions will eliminate the potential for financial returns for private sector, thus reducing the incentive to invest in R&D – no patents means no rewards for undertaking expensive innovation. This in turn will stymie the development of commercial enterprises focused on alleviating the disease burdens common to developing countries.[10] Further, this puts the burden of financing innovation in the field on consumers in developed countries. Patent protection for chemical and pharmaceutical products is especially important compared with other industries because the manufacturing process can be easy to replicate with limited capital investment. It is not the cost of manufacturing, as in the case of other industrial goods, but the high investment in laboratory research and clinical testing that makes up a significant portion of costs for drug makers.[11] This makes patent exclusivity the only effective way to protect and receive a return on that investment. Only a small percentage of new drugs that begin safety trials ultimately reach the market. As such, patents allowing manufacturers to charge high prices enable companies to recover the development and production costs of the drug in question as well as those of failed drugs in the manufacturer's pipeline.[12]

Another reason why drug patents are particularly important is that unlike in many technology-based industries where it is possible to keep inventions a secret until the moment they are marketed, the culture of

medical research emphasizes very early disclosure of inventions, long before a resulting product can be placed on the market. As the knowledge of the invention spreads at an early stage, the scope of reverse-engineering the product increases.[13] Scientists working in the field of human pathology are obligated to share their findings as soon as possible with their peers so that those peers are able to apply the new knowledge in their own research. In fact, the pharmaceutical industry is heavily regulated by government agencies to assure the safety of products, thus necessitating a significant amount of investment in clinical trials. The "buyer beware" philosophy is hardly accepted in the pharmaceutical industry.[14]

Clearly, patents serve to encourage private innovation by granting temporary monopolies to innovators, thus allowing them to recoup their expenses and providing a solution to the public-goods characteristics of innovation. Yet, allowing patent owners to extract monopoly rents imposes static costs on the society. It brings to the fore the classical argument between developed and developing countries. Countries differ in terms of their levels of innovation and, hence, their abilities to make use of the opportunities and incentives created by the patent system. This makes wealthier countries, who have more advanced scientific and technological infrastructures as well as institutional capabilities, the key beneficiaries of the TRIPs provisions. These countries are better able to take advantage of the opportunities created by patent systems to foster innovation.[15] The main *demandeur* of patent protection, as such, was the pharmaceutical industry, concentrated in the United States, Europe and Japan. This industry was dominated by relatively few firms who sought to profit from the edge they had in the market through strict enforcement of patents.[16]

A Passionate Call for TRIPs Flexibilities

While the demand for patenting of drugs is not without grounds, patenting has been used as a means to maximize the profit accruing to the inventors. The debate on patenting of pharmaceutical products is often portrayed as being a struggle between the economic interests of pharmaceutical companies and the human rights of people suffering from life-threatening diseases. The new rules of the WTO, as agreed upon in 1994, became a bone of contention between globalists and anti-globalization advocates. The argument was simple and logical - strict enforcement of pharmaceutical patents will increase the prices for essential drugs to the point where these drugs may be out of the reach of many individuals.[17]

The industrialized nations' proposal for a TRIPs agreement came under increasing fire from governments in developing countries, human rights and humanitarian groups, relief organizations, and anti-capitalist groups.[18] It was argued that the system would retard the economic growth of developing countries and even result in deaths because of the inability of citizens to access medicines and other patented life-saving technologies. Thus, a part of the final package, was an exemption for developing countries, who were allowed a transition period of up to 10 years, thereby delaying the application of pharmaceutical patents. A loophole was created in the TRIPs to allow for an exemption that allowed countries to manufacture generic drugs without the consent of the patent owner, under the compulsory licensing clause, though the clause required licensee to pay adequate remuneration to right holder.[19] This meant that generic drug manufacturing was now allowed under the exceptions to TRIPs agreement.

Nonetheless, developing countries were still concerned that patent rules would be an obstacle to treatment of AIDS as well as other diseases like malaria and tuberculosis. These fears arose due to the complaints launched by the United States and the Eu-

ropean Union against developing countries that manufacture generic drugs. It was in 1997 that the debate resurfaced in Africa when President Nelson Mandela signed the South African Medicines and Related Substances Control Amendment Act (Article 90). aimed to encourage creation of a legal framework for increasing the availability of low-cost medicines in the country. The Amendment provided for –

- Generic substitution for drugs with expired patents,
- Establishment of a committee to regulate and ensure transparency in medicine pricing
- Incorporation of international exhaustion of rights (parallel importation), and
- Establishment of an international competitive bidding system to ensure provision of medicines."[20]

The Amendment was opposed by the Pharmaceutical Manufacturer's Association of South Africa who, together with 39 transnational pharmaceutical industries, filed a lawsuit against the South African government. At this point, the private sector accounted for 80% of South Africa's total expenditure on drugs.[21] This case attracted the attention of the United States and the European Union, with the United States threatening trade sanctions against South Africa if it did not revoke the amendment.[22] Later, the United States also launched a complaint against Brazil, challenging certain aspects of its compulsory licensing legislation.[23] In 1999-2000, when the Thai government attempted to issue a compulsory license for the manufacture of AIDS drugs AZT and DDI, the United States government again threatened it with trade sanctions if it went ahead and issued the license.[24]

Such cases were withdrawn, since none of the countries were in violation of the TRIPs provisions which provided for public health exceptions. Meanwhile, at the WTO, the African Group brought up the need to include the issue of access to medicines in the TRIPs Council Agenda. In a Special Session, they urged the WTO members to issue a special declaration stating that TRIPs provision shall not prevent member states from adopting measures necessary to protect public health. In September 2001, the African Group, supported by 19 other WTO member states, presented a draft of a Ministerial Declaration on the TRIPS Agreement and Public Health reinforcing the April Proposal by the African Group. Reflecting the positions in the African draft, the Doha Ministerial Declaration of November 14, 2001 was adopted, in essence settling the debate surrounding the proper interpretation of the TRIPs agreement.[25] The Declaration sought to clarify the flexibilities under the TRIPs agreement. It was specified that countries will be free to determine the grounds for granting compulsory licenses. In doing so, the Declaration reiterated that "the TRIPS Agreement does not and should not prevent Members from taking measures to protect public health."[26]

Doha Declaration reinforced the rights of the members to adopt flexible interpretation of the TRIPs agreement. The Declaration upheld the rights of member states to determine the basis of granting compulsory license and the right to determine what constitutes a national emergency. In addition, the Doha Declaration also granted special flexibility to the least developed WTO member states, exempting them from adopting patent or data protection for pharmaceuticals at least until January 2016. These countries were allowed to "disapply" patents that existed since colonial administration.[27] In South Africa, too, it was concluded by 2001 that the amendment was not in violation of the TRIPs Agreement, and the United States government dropped its sanctions. What was most encouraging was how the 3-year long negotiations had helped shape interna-

tional public opinion and civil society activism - and things started to change.

The final piece of the jigsaw fell into place in August 2003, when poorer countries were allowed to import cheaper generics made under compulsory licensing if they are unable to manufacture the medicines themselves. This was a waiver to Article 31(f) of the TRIPS Agreement which had earlier provided that compulsory licensing must be primarily for the production of drugs for domestic market.[28] However, it was not until 2017 that the WTO[29] announced an amendment to the TRIPS agreement, making the 2003 waiver a permanent mechanism to ease poorer WTO members' access to affordable generic medicines produced in other countries. The amendment was ratified by two-thirds of the members of the WTO and provides "a secure and sustained legal basis for both potential exporters and importers to adopt legislation and establish the means needed to allow countries with limited or no production capacity to import affordable generics from countries where pharmaceuticals are patented."[30]

Part II: Tracing Accomplishments and Challenges

The Current Situation in Africa

The incorporation of public health exceptions in the TRIPs agreement continues to be a frequently quoted example of an instance where the international trade community has made commendable strides towards creating a fine balance between the diverging interests of developing and developed countries. For the first time in its history, international health and development were discussed with great zeal at the WTO, addressing the controversial issue of how WTO rules on patents harm public health in poor countries.[31] Exceptions such as those on compulsory licensing, long transition periods for developing and least developed countries, and removal of restrictions on trade in generic ARVs for members with insufficient manufacturing capacities are some of the significant achievements of the international trade community that have helped solve the problem of access to medicines on the African continent.

The drastic decline in the prices of ARVs is attributable to a number of developments including: the increased availability of generic ARVs, national efforts to enforce TRIPS flexibilities in developing countries such as South Africa, generous donations of ARVs by brand name pharmaceutical companies, and successful lobbying and advocacy efforts of global coalitions of non-governmental organizations (NGOs) and activists. Today, generic ARVs are a key pillar of AIDS treatment in Africa. As of June 2017, 20.9 million people living with HIV/AIDS had access to treatment, up from just 7.7 million as of December 2010. AIDS related deaths in the region have decreased by over 40%. Where products are on patents, "voluntary licensing" has played an important role in making generic medicines available based on pre-defined terms agreed upon between the manufacturers and patent holders.[32] Almost all ARVs today have been voluntarily licensed. 93% of people with HIV who have access to ARVs use generic products. According to the President's Emergency Plan for AIDS Relief (PEPFAR), a United States governmental initiative to address the global HIV/AIDS epidemic which focuses primarily on Africa, the proportion of generic drugs compared to branded drugs procured increased from 16% to 98% from 2005 to 2015. The annual per-patient cost of ARVs to PEPFAR fell by 90%, from $1,100 to $109, during the same period.[33] It was also found that treatment outcomes were as good as those reported in Western countries. As of December 2017, an estimated 21.7 million people globally were receiving ARV therapy. Of all persons living with HIV, 59% had obtained antiretroviral therapy in 2017.[34] While not specifically available for ARVs,

trade data shows that the imports of medicines and pharmaceutical products by developing countries in Africa have increased substantially since 2001.

The production of generic ARVs has provided affordable drugs to the market and created much needed competition with many brand name producers, thus leading to a decline in price of even the patented products.

Stumbling Blocks

Despite these accomplishments in making ARVs available to Africans, the journey has posed several challenges. To date, access to ARVs is not universal and many, especially young women and girls, are unable to access ARVs.[35] The issue of sustainability has continued to be important, given the need to ensure that the package of care is continuously improved such that all patients can benefit from the latest improvements in drug development, clinical science, and public health.[36] Some of the challenges and shortcomings of the system are outlined below.

Lack of Confidence in the African Markets

Most countries on the African continent have relatively small markets and low purchasing power, and thus do not offer viable and profitable markets for pharmaceutical products. As such foreign generic industries seeking economies of scale and predictability of market prospects are not keen on entering the market.[37]

Patent Law Amendment in Large Developing Countries

The Doha Declaration adopted at WTO's Fourth Ministerial Conference in 2001 required all developing countries to bring their national laws in compliance with the TRIPs provision by 2005. As such, countries like India, Brazil, and China, the major suppliers of generic drugs to Africa, had to amend their national laws accordingly. While most drugs on WHO's essential drug list were patented before 1995 and were unaffected by the new measures, stronger IP protection affected the patent status of new and future drugs. This meant that the cost of generic versions of second line ARVs became problematic. By restricting these countries from producing and exporting such drugs, this measure has restricted competition and has become a reason for a substantial increase in prices of second line drugs.[38]

Restrictions Imposed by Developed Countries

The flexibilities under the TRIPs agreement are often eroded by the negotiation of FTAs with TRIPs-plus measures. Provisions to protect access to medicines have been bargained away in many such agreements between developed and developing countries, with developing countries seeking to boost their economic growth by getting access to developed country markets. For instance, few such FTAs stipulate that compulsory licensing would only be permitted when the patent on a product has expired. Many include provisions on data exclusivity which, in turn, enables large pharmaceutical companies to prevent generic competition. These stronger protections raise concerns because they reduce the capacity of a country to issue or use compulsory licensing for unpatented drugs. For instance, in Jordan, an analysis of 103 medicines registered and launched since the signing of the US-Jordan FTA in 2001 found at least 79% have no generic competition as a consequence of data exclusivity introduced under the agreement. In certain FTAs, the period of protection has been extended. Such factors together curtail the ability of African countries to import generic medicines from several developing countries.[39]

Furthermore, many industrialized countries have made attempts to prevent the use of TRIPs flexibilities. For instance, when

Thailand issued a compulsory license in 2007, the European Union Commissioner wrote a letter to the WTO stating that "neither the TRIPS Agreement nor the Doha Declaration appear to justify a systematic use of compulsory license wherever medicine exceeds certain prices."[40]

Limited Incorporation by Developed Countries

Only a few developed countries and regional groups like Canada and the European Union have issued a directive regulating the export of generic pharmaceutical drugs. The Netherlands, Switzerland, and Norway have established such national regulatory regimes. In Asia, India, China, and South Korea have all developed legislative structures to allow for the export of pharmaceutical drugs to address public health concerns. However, a significant number of key developed countries have not implemented domestic regimes under the WTO General Council Decision 2003. Most notably, the United States, Japan, and Australia have shown little enthusiasm for establishing policies that facilitate the export of pharmaceutical drugs to developing countries.[41]

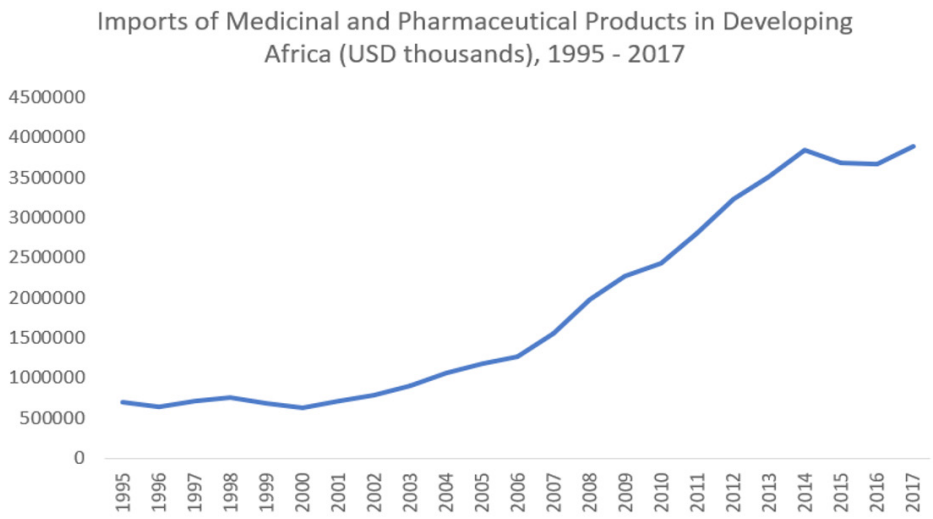
Complex Implementation Procedures

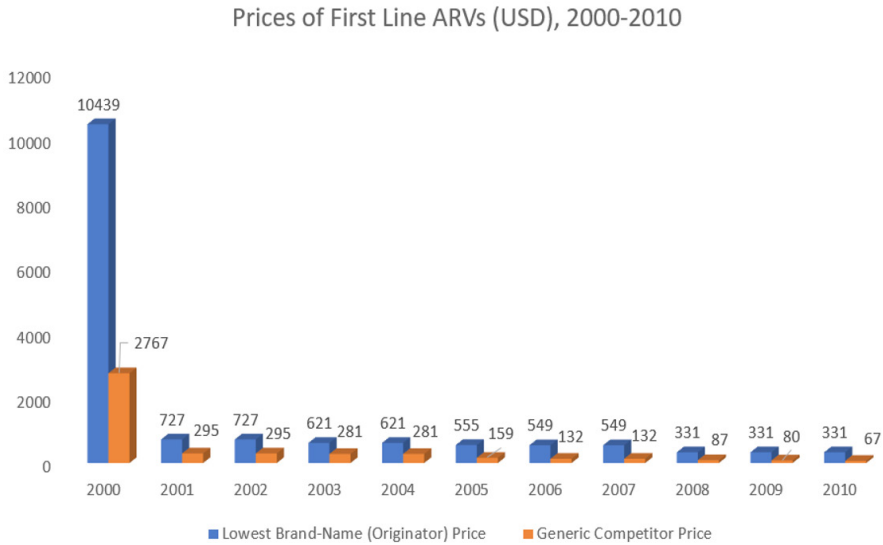
The procedure for procuring drugs is cumbersome and varies drug-by-drug and country-to-country. For instance, the first application of the 2003 waiver was seen when Rwanda ordered a generic fixed-dose-combination HIV medicine from a Canadian producer, Apotex, in 2007. Canada issued a compulsory license allowing Apotex to use nine patented inventions for manufacturing and exporting TriAvir to Rwanda. On October 4, 2007, Canada notified the Council for TRIPS of the compulsory license.[42] The process took 4 years and significant civil society involvement to make it happen. Rwanda's complex tendering process, time consuming negotiations between Apotex and the patent holders, and delay in manufacture and shipment of the product made Apotex refer to the process as "unworkable."[43] So far, this hasbeen the only application of the 2003 waiver.

Inadequate Production Capacity in Africa

As part of the utilization of the TRIPS flex-

Source: http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx





Source: https://www.aidsdatahub.org/

ibilities, a number of advocates have argued for the local production of ARVs as the ultimate means of enhancing access to affordable HIV/AID medicines in the developing world.[44] Various countries in Africa have experimented with this. Yet, local production of pharmaceuticals in the African region has been mainly confined to the formulation of drugs in final dosage forms from imported Active Pharmaceutical Ingredients (APIs). Less than 2% of drugs consumed in Africa are actually produced on the continent.[45]

One successful example is South Africa where generic production of ARVs started when Aspen Pharmacare Holdings Limited obtained a voluntary license from Boehringer Ingelheim (BI) and Glaxo Smith Kline (GSK). Aspen is the largest manufacturer of generic pharmaceuticals and a leading supplier to both private and public sectors in South Africa. It also exports generic drugs to other countries in Sub-Saharan Africa. Aspen has an annual installed capacity of 5.5 billion for tablets and capsules with plants and processes compliant with international standards. Despite competition from India and China, Aspen has effectively taken advantage of the voluntary license to successfully build and sustain a viable local ARV manufacturing company, while keeping prices low for at least the public sector. The government of South Africa procures large quantities of ARVs from Aspen by reimbursing it for the cost of producing the medicines.[46]

While South Africa's robust economy, large market for ARVs, investor-friendly domestic regulation, and vibrant civil society have all encouraged Aspen's success, other countries in the region continue to struggle with developing their domestic ARV manufacturing base. Most countries in the region lack the necessary infrastructure and manufacturing capacity for effective use of compulsory licensing. With the exception of a few countries such as South Africa, existing frameworks for compulsory licensing in several African countries have not been fully compliant with the TRIPS Agreement.[47] As of 2008, 80% of the drugs used to treat HIV infection across the continent were imported. Africa's inefficient and bureaucratic public sector supply system is often plagued

by poor procurement practices that make drugs very costly or unavailable. Additionally, many countries in Sub-Saharan Africa have weak transportation systems and lack adequate pharmaceutical storage facilities.[48] These factors make the establishment of a sound pharmaceutical manufacturing base within the region, extremely difficult.[49] For those countries that have managed to establish a medicine manufacturing facility domestically, the key challenge is being able to meet medicine quality and safety standards and to maintain good manufacturing practices (GMP). This too requires significant investments with respect to quality upgrading. However, the unwillingness of domestic commercial banks to engage in long-term projects makes access to credit an issue for these manufacturers.[50]

This is the reason why other African countries have failed to make effective use of the TRIPs flexibilities to produce ARVs. For instance, in 2002, the government of Zimbabwe declared an HIV/AIDS emergency for a period of six months and issued a government-use order for the production and import of ARVs. The order enabled Varichem Pharmaceuticals, a local company, to manufacture generic versions of selected ARVs at a cheaper price. Unlike Varichem, Kenya's Cosmos established its generic drug manufacturing base through obtaining a voluntary rather than a compulsory license from GSK and BI. It launched its first production of generic ARVs in 2003. As it turned out, meeting international quality standards was difficult for both Varichem and Cosmos. They struggled due to lack of funding to conduct laboratory trials and import APIs. Furthermore, they were restricted from serving the entire African market. While Varichem enjoyed preferential treatment from the government on account of producing under the government-use order, Cosmos lacked such support and did not benefit from an established market for its product. A significant proportion of raw materials used were imported, rendering their final product uncompetitive. In fact, the moment Cosmos started manufacturing ARVs, GSK and BI lowered their prices below those offered by Cosmos.[51]

The Road Ahead

Keeping in mind these challenges and the long-term goal of ensuring that the entire continent is able to access and afford ARVs, there is a need to address the challenges specified above and make additional efforts in this direction. The issue of access to medicines in a system that reflects stark inequalities across countries is challenging. Despite these differences and long time the process has taken, we have made great strides, and a few extra steps can help us overcome the bottlenecks that we still face.

Firstly, it is important to realize that originator countries as well as generic manufacturers need to take on the joint responsibility of ensuring access to ARVs in Africa, or to medicines in general globally. Originator countries should maintain a broad set of registrations in licensed markets. This will enable the national drug regulatory authorities to expedite the process of generic drug filings. Originators must also provide technical assistance to generic drug manufacturers. For instance, Bristol-Myers Squibb has a technology transfer agreement to support the Brazilian government in becoming the sole supplier of Atazanavir in Brazil.[52]

Secondly, large pharmaceutical markets like Brazil, India, and China with relatively considerable power and say at the multilateral level must steer the agenda and provide leadership in asserting flexibilities under TRIPs. It is important also to present a united position against the further spread of TRIPs-plus measures in negotiations of FTAs, as done in 2006, when 10 countries issued the Declaration of Ministers of South America over Intellectual Property, Access to Medicines, and Public Health. Even least

developed countries (LDCs) can cite public health reasons to negotiate better deals. Public health protections should form an important point in regional and bilateral agreements.[53]

Finally, south-to-south partnerships; i.e. partnerships within the global South are an important piece of the puzzle and could remove challenges associated with resource constraints and facilitate innovation and technology transfers to Africa.

Conclusion

The "Access to Medicines" debate has been one of the most intense and worthwhile debates at the WTO. Today's Africa is a healthier continent, made possible by considerable support from all member states as well as donor organizations. From being largely driven by profit motives of big pharmaceutical companies, to having incorporated differing perspectives, the TRIPs agreement has been fair and effective in ensuring access to medicines in Africa. While this paper did not explore specific instances of application of TRIPs flexibilities by African countries, a World Intellectual Property Rights Organization (WIPO) published paper has indicated several specific instances where Africa has made effective use of these flexibilities. Implementation and application of the TRIPs agreement with all its public health exceptions has generated imperfect yet positive results. There are still further steps that can be taken to improve the accessibility of medicines. As already pointed out, there are several factors that have curtailed the ability of African countries to reap the benefits of these flexibilities. Nonetheless, the vigorous engagement of the international trade community and substantial progress made despite impediments underscores that the road ahead may not be as challenging.

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Strength in Inclusion: Assessing Climate Change Vulnerability of Migrants from the Arab World to the Long Island Sound Region

by Farah Kader

Introduction

As global temperature and sea level rises increase the frequency and severity of natural disasters along the Atlantic coastal plain, land and community structures along Long Island Sound become increasingly at-risk of damage and destruction. This region harbors a historical legacy of aquaculture, commercial fishing, and marine science innovation, motivating many local institutions and special interest groups in the states of Connecticut (CT) and New York (NY) to preserve local maritime traditions. Accordingly, these states have relatively strong records of promoting local sustainability efforts through policy, research, and grassroots efforts.

However, these efforts have paid minimal attention to the social vulnerability of disadvantaged groups, including a growing English Language Limited (ELL) population in the New York City (NYC) metropolitan area. The combined effects of global migration and urban gentrification in the region may lead to a rise in the number of ELL residents in Long Island and along the southern CT coastline, an area that is highly sensitive to the effects of climate change. Current vulnerability assessments lack concrete steps to assess the ways in which these immigrants are uniquely impacted by the environment. Additionally, state and county adaptation proposals neglect this subset of the population in plans for community building and public education on climate change.

This report will describe projected climate-related shifts along the southern CT coast and the changing demographics of recently-arrived immigrants and resettled refugees in the region. Policy recommendations will pay special attention to the growing Arabic-speaking population from the Levant, Gulf region, and African continent.

I. Climate Change Impacts in Long Island Sound

Natural disasters and other climate-related hazards can exacerbate equity issues over time if groups at a financial, political, or social disadvantaged individuals do not have the right support structures to help them recover from natural hazards.[1] Thus, it is critical to understand how present and future exposure can amplify the vulnerability of coastal Long Island Sound communities. Exposure is defined by geographic and biophysical forces that increase one's likelihood of being impacted by climate change.[2] Exposure to climate change is a contributor to overall climate change vulnerability, which also considers social factors such as race, income, education, and language access.

Sea Level Rise

A primary environmental concern for coastal communities is local sea level rise, which is influenced by global factors such as ocean circulation, glacial isostatic adjustment, and eustatic sea level rise. The sea level rise in the NYC region is currently higher than the world average by up to 20 inches.[3] In 2009, the CT Governor's Steering Committee on Climate Change (GSC) reported that sea level rise and changing precipitation patterns will have the biggest impact on infrastructure planning areas as

temperatures increase.[4]

Severe Weather Events

With regional temperatures projected to increase by over 2.8 degrees, Long Island Sound is likely to face a higher incidence of natural hazards and increases in precipitation.[5] Heavy rainfall events in the northeastern United States increased by 71 percent from 1958 to 2012. In contrast, observed changes in precipitation in other U.S. regions during this time range between a 12 percent decrease (Hawai'i) and a 37 percent increase in heavy rainfall events (Midwestern U.S.).[6] Subsequent increases in inland flood events and severity of damage from flooding has impacted communities along the Long Island Sound in recent decades. Amplified impacts can be seen in certain regions, such as the Lower Connecticut River Valley, where the river meets the sound.[7] Simultaneous flooding events in the New York City region are estimated to now occur twice as frequently as they did in the mid-20th century.[8]

Rises in sea level and precipitation have also added to impact and frequency of hurricanes near Long Island Sound. For example, Hurricane Irene filled the Connecticut River with muddy sediment as a result of erosion upstream in 2011.[9] In 2012, Hurricane Sandy caused nearly 300 fatalities and an estimated $65 billion in damage, mainly from flooding, in the tri-state area.[10]

Climate change may have a similar effect on severity and frequency of snow storms. Large snowstorms such as nor'easters that draw their energy from a clash between warm Gulf streams and cold Arctic air are likely to reoccur as global temperatures increase. In 2013, a blizzard resulting from two low pressure systems in the Northeast resulted in 700,000 individuals losing power, at least 15 deaths, and new records for one-day snowfall amounts. The blizzard took place shortly after Hurricane Sandy, positioning two of the most significant extreme weather events in the past three centuries just months apart.[11]

Coastal Land Changes

Coastal responses to sea level rise in this region include sediment accumulation, increased marsh blue carbon storage, and loss of marshland. Declining elevations have also led to more frequent tidal flooding in local coastal communities.[12] In 2009, the shoreline erosion rate ranged from one to three feet per year, and that rate is expected to increase as sea level continues to rise.[13] Urbanization of the coast poses additional limitations to salt marshes' ability to accommodate sea level rise, act as a habitat for wildlife species, and provide a natural filtration system for water resources. For example, structures such as roads and sea walls block horizontal migration of the marshes.[14] This migration scenario portends a reduction in salt marshes' protective effect against storm surges, winds, and wave energy from coastal storms.

Public Health

Population health is a concern in the aftermath of extreme weather events. Storm surges and subsequent flooding are likely to lead to direct injuries, death, infectious disease, and mental health issues, particularly for the most vulnerable individuals. Vector-borne diseases after a flood are a specific concern for this region, particularly vector survival, biting frequency, replication, and geographic range.[15] Furthermore, major storm events can have severe effects on infrastructure, leading to sewage leaks, water filtration issues, and other risks to water quality. Stormwater runoff poses an added risk of toxicity to both the environment and human health.

Climate change also directly contributes to public health and safety issues. Heat stroke and other physical injuries are concerns during the humid summer months, partic-

ularly for children, the elderly, and low-income individuals without air conditioning at home. Poor air quality from carbon dioxide and ozone emissions also leads to rises in respiratory morbidities and mortalities in warmer months, in addition to heat-induced ailments.[16] This can significantly burden health systems and emergency medical services. Much of southern CT already contains medically underserved areas with limited access to emergency care.[17]

Economic Impacts

Warming waters, changing currents, and other climate-related conditions have altered fish populations in Long Island Sound over time. The region has seen both declining fish populations and new species introduced by shifts in the marine ecosystem. Fish species that were once popular, such as summer flounder, bluefish, and black sea bass, face endangerment that can have an adverse economic effect on local fishermen. Revenue generated from CT fisheries decreased from $73 million in 2012 to $50 million in 2014 — the industry's lowest profit since 2008. The number of jobs associated with the fishing industry also dropped from 1,213 to 851 between 2012 and 2014.[18]

Agricultural planning is needed to respond to increases in temperature, especially increases in late-winter and early-spring nighttime temperatures. Agricultural products highly vulnerable to climate change include maple syrup, dairy animal husbandry, apple and pear trees, and warm weather produce such as tomatoes. Temperature increases correlate with animal stress and subsequent reductions in dairy production.[19]

The region's aging infrastructure poses further concerns about the economic challenges climate change presents. The New England Environmental Finance Center predicts that a sea level rise of 1 meter in 2070 would result in a cumulative expected loss of $8,768,776 in the historic Mystic, CT region alone.[20] Coastal wetlands in CT, which function as self-maintaining levees for hurricane protection, provide the state with an estimated $13,000 in storm damage cost savings per acre annually.[21] Sinking coastlines and diminished biodiversity, in conjunction with aging infrastructure, require local climate adaptation plans to consider the hefty costs of replenishing the natural and built environment.

II. Local Immigration Patterns

Overview

The NYC metropolitan region consists mainly of NYC, Long Island, Northern and Central New Jersey, Western CT, and their vicinities. This populous region attracts large numbers of Latino, Asian, Southeast Asian, Caribbean, and Arab immigrants, likely due to relatively progressive state immigration policies and existing ethnic enclaves, where migrants are likely to have relatives and resources. Global humanitarian emergencies and natural disasters contribute to migration crises and concerns of inadequate housing and services to meet migration pressures in the tri-state area.

The volume of refugees and immigrants seeking safety from complex emergencies in the Middle East and Africa since 2015 has contributed to a global migrant crisis. Arabic speakers fleeing wars in Yemen, Iraq, Syria, and Sudan comprise a large proportion of these migrants. Although the United States government has since set record-low caps on refugee entry, the broader immigration wave from 2015 to 2018 led to a dramatic rise in the local Arabic-speaking population.[22] In the second half of 2018, the Refugee Processing Center documented more refugees in NY than any other state besides Texas.[23] In 2015, CT became home to the sixth largest population of Syrian refugees per capita in the country despite being the third-smallest state.[24] Many of these refugees have been resettled in the southwestern part of CT, likely due to the con-

centration of resettlement organizations in New Haven and low-income housing units available for rent in Bridgeport, Waterbury, and other major cities.[25]

Demographic Data Collection

While all climate and war refugees are a concern in terms of vulnerability and sensitivity to climate change, the overall Arab immigrant population in CT has received insufficient attention. State agencies and direct service providers face several challenges in assessing this group, partly due to a failure to recognize its heterogeneity.

Local, state, and federal agencies use U.S. Census data to collect information about counties that are most at-risk in the event of a disaster. The U.S. Census Bureau has an Emergency Planning and Response Team that relies on public information tools built with Census data, such as the online OnTheMap Application for Emergency Management. Demographic and economic variables at the county-level help the Bureau disseminate information to emergency response teams and the public.[26]

State and local agencies also depend on Census data. The CT State Emergency Response Commission (SERC) employs a number of public domain software systems that incorporate information from the Census and American Community Survey, such as MARPLOT and other mapping applications for identifying hazard areas.[27] The NY Office of Mental Health has a detailed information dissemination plan and community-based advisory committee for the Director of Community Services (DCS) aimed at mental-health planning during disasters in NY counties. Geographic and population demographics inform DCS educational materials and the linguistic and/or cultural needs that should be considered for special populations.[28]

Given these agencies' reliance on survey response for proper data collection, the unique characteristics and needs of Arab migrants are often excluded from the emergency planning process. It is difficult to collect information on all Arabic-speaking refugees and immigrants, including those without refugee status, in terms of geographic location and place of origin. Twenty-two nations comprise the Arab World (collectively known as the Arab League), and each state is linguistically, religiously, racially, and culturally diverse. The Arab World is sometimes used synonymously with the Middle East and North Africa (MENA), a broad geographic area that inclusdes non-Arab countries and may exclude some Arab countries. There is no standardized list of the countries in the MENA region. For this reason, and for the purposes of describing individuals who identify as Arab, the term 'Arab World' is preferred.

There have been efforts to add a MENA category to the 2020 U.S. Census. Presently, individuals who identify as MENA must elect "White" as their racial category on the Census, regardless of their race or ethnicity. The lack of a MENA or similar category on the Census falsely inflates the proportion of Caucasian residents in the U.S. and prevents researchers from understanding the ethnic demographics within individual states. Thus, gaps in U.S. demographic data collection preserve misunderstandings about Arabs and Middle Easterners, which can impact the quality of health, immigration, and refugee resettlement services.[29] For example, refugee and immigrant advocacy organizations may overlook ethnic minorities from Arab countries and Arabs of African descent, affecting the linguistic and cultural appropriateness of services to migrants from the Arab World.

It is critical to focus on Arab and MENA groups when assessing the disaster preparedness and mental health of underserved

immigrants, due to their unique history as targets of structural racism. Historians believe that even the first wave of MENA immigrants in the late nineteenth century, before the collapse of the Ottoman Empire, was documented incorrectly: "Muslim subjects were forbidden to emigrate, which may have led some to state that they were of Christian origin on official records. Fear of deportation if their true faith was discovered may have led them to conceal their Muslim origins after arrival."[30] In recent decades, prejudice during the Gulf War, increasing government surveillance, and forced disappearances in the tri-state area after the 2001 World Trade Center attacks have targeted individuals broadly associated with Islam and the Middle East.[31] Given these circumstances, Arabs who have lived in the region are often too fearful and suspicious to participate in surveys or provide accurate information about religion, language, and ethnicity.[32]

Without proper survey tools for capturing the multiplicities of Arab identity, large-scale surveys such as the American Community Survey are not helpful for understanding this group's vulnerability. The sections below describe various approaches for gathering quantitative and qualitative demographic data to inform strategies for improving ELL Arabs' adaptive capacity while living in a high-risk coastal community.

III. Investigating Dimensions of Vulnerability

The areas surrounding Long Island Sound are highly susceptible to the effects of climate change; however, it is unclear whether immigration to the NYC metro area will spread along these coastal regions. Professionals who conduct climate vulnerability assessments must consider the future of the physical environment as well as the diversity of future coastal communities.

Physical Exposure

CT contracts with agencies concentrated in New Haven, Bridgeport, Stamford, and Hartford for refugee intake and resettlement. Consequently, many refugees rent apartments or live with family in urban areas of southwestern CT. However, a recent housing crisis and subsequent population migration out of NYC has led to an increased cost of living in New Haven and Fairfield counties. An estimated one million migrants from NYC will enter surrounding gentrifying neighborhoods, including New Haven, leaving approximately 21 percent of the county's residents at risk of housing displacement and 46 percent of households burdened by rent. Long Island is more heavily suburban with high rates of home ownership, thus it is less likely to experience the same gentrification patterns.[33] While exact migration destinations between and within NY and CT are unknown, it is likely that many displaced residents will move eastward along the coast of CT, where costs of living are lower and there is a high proportion of vacant housing.[34]

This predicted migration pattern corresponds with high-risk regions of the CT coastline as described above. A vulnerability assessment of coastal recreation infrastructure along Long Island Sound identified six CT sites deemed most vulnerable based on their high potential for inundation with minimal rise in sea level. The sites are in Stonington, Groton, Milford, Madison, Old Lyme, and East Lyme.[35] Housing in these regions of high-exposure is relatively vacant and inexpensive, and it may attract refugees who cannot afford rent in the New Haven metro area. It is important to note that this region also lacks protective shelters, which may be needed if an extreme weather event leads to housing losses in the affected areas.[36]

While it is difficult to predict local migration patterns of coastal communities, tools exist

to project the geographic regions that will be most highly exposed to climate change. The Connecticut Institute for Resilience and Climate Adaptation (CIRCA) conducted an analysis of the FEMA 100-year flood maps and susceptibility; the results exhibited several areas of "very high" and "high" risk outside of coastal subregions of Long Island that were not marked on the FEMA maps. This demonstrates limitations of FEMA maps and the outdated information often used to create them.[37] There are other predictive tools widely used in climate change research, such as the Sea Level Affecting Marshes Model, which utilize data from a variety of sources. Models can be limited by inabilities to predict hydrodynamics or other complex interactions that help researchers predict changes in the marine environment.[38] Strengthening climate-change projection instruments used for disaster planning can help governments assess the extent of communities' vulnerabilities.

Social Vulnerability

Social, economic, political, and other systemic factors can shape the degree of impact climate change has on an individual or community. These issues add to overall vulnerability to climate change, beyond physical exposure to its effects, such as natural disasters. Social vulnerability can include individual beliefs or customs, the accumulation of social capital, or even dependence on the physical environment for sustenance or economic power.[39]

One of the most obvious sources of social vulnerability for Arab immigrants is lack of language access, which can pose problems for accommodating and providing services to ELL communities. It also becomes an issue for state departments that may distribute important materials to the public. Examples relevant to climate change and natural hazards include weather advisories, water quality communications, and advertisements for food pantry services.

The Centers for Disease Control and Prevention (CDC) uses geospatial analysis and a Social Vulnerability Index (SVI) to rank areas of the U.S. in terms of vulnerability. According to the SVI, several coastal communities in the Suffolk and Nassau counties of Long Island and the coastal CT counties of New Haven and New London are categorized as 'highly vulnerable.' The SVI "refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters… to human-caused threats."[40] Ethnicity/race/language, housing/transportation, disability, and socioeconomic status are the SVI factors that contribute to vulnerability in these communities. The CDC's analyses can parse vulnerability factors specific to the Long Island Sound region and the recent influx of war refugees from the Arab World. However, the county maps showing SVI rankings do not give more specific information about ELL and ethnic groups that are experiencing high vulnerability along the coast.

Non-government organizations may bridge the gap in states' understanding of local communities and their needs. Immigrant-serving organizations are crucial for fostering agency awareness of the NYC metro area's evolving population and various challenges faced by ELL groups. However, in the case of refugees, case management services cease after the first 90 days of a refugee's arrival in either CT or NY. In these first months of arrival, refugees are given basic needs including shelter, furnishings, and physical exams.[41] Depending on the resettlement organization and its capacity, refugees may not receive adequate integration services that provide other important knowledge, such as how to navigate the local transportation system or find affordable grocery stores in walking distance. Capacity limitations also prevent organizations from providing more targeted disaster planning education for individual households.

With increasing instability and violence in the Arab World, millions of migrants continue to flee the Mediterranean region, the Arab Gulf, and Africa. Because this group still comprises a minority of ELL residents, Arabs are frequently overlooked in the U.S. as a vulnerable population. While surveillance data of this group focuses on refugees, there are many more Arab immigrants without refugee status who are equally at-risk of adverse mental health outcomes.[42] These variables must be considered when a natural disaster threatens displacement, damage, and fear among groups that already have psychiatric vulnerabilities. Cumulative trauma disorders are of particular concern for Arabs who have experienced war and discrimination, and who may accumulate additional comorbidities, such as dissociation, during a hurricane or flood.[43]

IV. Current Policies and State Action Plans

Devastation from rise of natural disasters in the northeastern U.S., particularly along unprotected waterfronts, inspire many environment-focused government action committees and state laws. The majority of policy actions center on mitigation, efforts to reduce and stabilize greenhouse gas levels in the atmosphere to prevent further climate change.[44] However, place-based vulnerability assessments that include the perspectives of local stakeholders are also needed to examine the unique needs of diverse localities.[45]

While it is difficult for governments to formulate policies and vulnerability assessments that comprise all the social vulnerability factors their constituents face, it is necessary to invoke strategic plans for reducing vulnerability as much as possible. Government reports in NY and CT often acknowledge the need to assess how communities' unique social circumstances can inform resilience, or the ability of a community to recover from climate change impacts. However, there are no standard guidelines or procedures to conduct these assessments. Increasing participatory approaches, as described below, can strengthen the quality and inclusivity of vulnerability assessments.

New York

In 2007, the NY State Legislature created the New York State Sea Level Rise Task Force in 2007 to coordinate the work of five areas: Community Resilience, Ecosystems and Natural Resources, Infrastructure, Legal, and Public Outreach. The most recent report from the Task Force was issued in 2011 and synthesizes research surrounding future sea level rise in New York State. It also provides a series of low-cost actions to reduce coastline vulnerability; however, there are few specific recommendations to the government that address researching and alleviating the social vulnerability of the state's immigrants.[46]

Suggestions offered in the Task Force's report include new emergency management protocols, consideration of mental health vulnerabilities in first response, and community-specific knowledge of the local environment. Given this baseline knowledge, states must form the connection between the high proportion of ELL coastal residents, especially those fleeing war, in NY and the need for their inclusion in these resilience strategies. The NY Department of Environment considers environmental justice for low-income communities of color and the advocacy role of grassroots organizations. However, how these acknowledgements reflect policy remains uncertain.[47]

The 2010 Smart Growth Infrastructure Policy Act provides community-based planning, but it applies only to state infrastructure authorities and agencies. Local governments are not subject to the law. In response to a 2013 survey, 36 percent of NY municipalities stated that policies that "encourage community-based planning, pub-

lic participation, or collaborative decision making" were already in place, suggesting the need to improve these conditions in the state as a whole.[48] At the state level, a number of reports, task forces, and action plans for climate change preparation have followed recent state policies. For example, Executive Order Number 24 mandates the New York State Climate Action Plan Interim Report, which offers a Risk Assessment Tool to prioritize areas of high-risk, including within socially-vulnerable populations. The report highlights natural resource-dependent and low-income communities, particularly those in agricultural and coastal zones, while ELL communities receive little attention.[49]

Additionally, NY has a detailed emergency response plan that includes disseminating educational materials and warnings in multiple languages, including Spanish and Arabic.[50] Reports express an urgency to bridge language gaps, while other critical needs, such as mental health vulnerabilities of refugees in emergency situations and spatial mapping of various ethnic enclaves, are not mentioned. Steps for community outreach are outlined, but specific goals and progress regarding the outreach plans are unclear. Furthermore, the DCS has developed a "County Disaster Mental Health Planning and Response Guide" naming stakeholders to be organized into task forces, including disaster relief personnel, faith organizations, and tribal nations. There is no information about how these stakeholders will be identified and selected.[51]

Connecticut

In CT, collaborations between the state government and researchers at the University of Connecticut have generated mitigation policies, high-quality research, and a robust set of tools in the area of ecological resilience and adaptation planning. As in NY, most of these efforts aim for nature-based mitigation and adaptation policy and planning. In 2018, the CT legislature passed Public Act No. 18-82, An Act Concerning Climate Change Planning and Resiliency, based on CIRCA's sea level projections. The bill adopted recommendations to reduce greenhouse gas to 45 percent below 2001 levels by 2030 and requires that all federally-funded development projects take sea level rise into account before construction.[52]

The Adaptation Subcommittee of the Governor's Steering Committee on Climate Change has acknowledged in its adaptation plan that communities of color, low-income communities, and other socially disadvantaged groups may be disproportionately impacted by climate change. However, the Subcommittee has failed to provide details on identification or other specific actions for protecting environmental justice communities.[53]

At the state-level, there are no mentions of English language-limited migrants to southern CT and the implications of a growing immigrant community for emergency response and climate resilience. Municipal governments, such as the City of Bridgeport, have considered language diversity among their constituents that may complicate action plans.[54] The Town of Cheshire's hazard mitigation plan includes location maps for "linguistically isolated" households, in which all members over the age of 14 have at least some difficulty with English.[55] The "Connecticut Guide to Emergency Preparedness," which includes safety checklists and wallet emergency cards, is currently available in English, Spanish, Russian, Brazilian Portuguese, Haitian Creole, Vietnamese, Mandarin, Italian, French, and Polish.[56] However, in New Haven, the two most commonly spoken non-English languages are Spanish and Arabic, with Urdu and various languages from the Democratic Republic of the Congo also represented. It is unclear whether CT officials plan to update emergency planning and disaster risk

information with translations into these languages.

V. Policy-driven Assessments of Arab Immigrant Vulnerability and Adaptive Capacity

Overview

Adaptive capacity refers to individual and community-level capabilities to adjust to climate change and seek opportunities and resources that allow them to accumulate social capital even while the surrounding environment is changing.[57] Adaptation at the community-level is a major barrier to implementing green infrastructure along the Long Island Sound coastline and fostering resilience.[58] Resilience plans should ideally comprise assessments of vulnerability and adaptive capacity of ELL communities.

A lack of data on Arab immigrants motivates these recommendations for a needs assessment and resilience plan that acknowledges their presence in coastal communities. This group's vulnerability and adaptive capacity cannot be evaluated by traditional means, such as census data collection. Thus, participatory approaches to identifying indicators of vulnerability can also help inform future strategies for facilitating community-led adaptation and mitigation.

Vulnerability Assessment

More rigorous data collection approaches are needed to determine whether Arab immigrants experience high levels of exposure to climate change effects. For instance, Maantay and Maroko employ an areal weighting system when mapping urban flood risks in NYC in order to more accurately estimate vulnerable sub-populations, subsequently improving relief efforts.[59] This may be adapted for states and municipalities with Arab enclaves that are not captured in the Census. Such novel techniques, combined with in-use models and other resources, may inform social forces impacting climate change vulnerability.

To overcome the obstacle of inaccurate data collection, states should form partnerships with local faith-based organizations, community health centers, and other direct service providers with capacity to serve Arab immigrants. Linguistically competent staff may administer a survey on the frequency and dimensions of climate change exposure and sensitivity. Responses can give policymakers a sense of migrants' perception of risk, knowledge of the local environment, and other potential measures of vulnerability and adaptive capacity.

While observational studies are useful for capturing quantitative prevalence data, in-depth case studies can be helpful for collecting qualitative information. The Michigan Sustainability Case (MSC) provides an example of a tool that links professionals from diverse fields with students and faculty in higher education, facilitating thorough study and exploration of specific sustainability topics.[60] This platform can be used as a learning model for university students at UConn-Storrs, Stony Brook University, and other institutions conducting regional research near Long Island Sound.

States that are well-informed about social vulnerabilities of recent Arab immigrants may begin to predict in-state migration patterns and the likelihood of movement eastward across the CT coastline. If paths for relocation remain within CT or NYC, state agencies and other organizations must be wary of the increased vulnerability of refugees who resettle more than once. Future policies may obligate the appropriate agencies to conduct spatial mapping of future migration patterns using economic and housing projections to help determine where resilience efforts should be concentrated. Researchers have investigated many geospatial techniques for overlaying natural disaster risk with socially vulnerable subpopulations. It is possible to apply these techniques to understand the intersection

between Long Island Sound's physical environmental conditions and social forces impacting ELL communities.[61]

To understand the mental health needs of Arab migrants in emergency situations, case managers may use simplified questionnaires to report a range of war events related to house damage, injury, and kidnapping participants experience in their home countries. This information can inform first responders of unique experiences that may create physical challenges or trigger post-traumatic stress in a severe weather event. This is particularly important for the growing number of migrants from Yemen, Iraq, Sudan, and Syria.

Models for Adaptation Planning

Participatory strategies can help policymakers establish uncertainties, craft clear goals informed by unique sensitivity factors, and coordinate interdependent organizations serving Arab immigrants.[62] Lack of community engagement and participation leads to failure to prioritize low-rate events, such as hurricanes and blizzards, that are high-risk to individuals from countries where such hazards are not typical. Cohen et al. emphasize the importance of communication between communities and governing municipalities for strengthening resilience and improving emergency response. This communication should ideally be bidirectional, with public officials making emergency information accessible for all, while also learning what the local population's needs are from the community itself.[63]

Participatory scenario planning is one method that can be used to address gaps in public education. This type of adaptive management is useful for immigrant coastal communities, where high levels of uncertainty are present. Scenario planning can be facilitated in different languages in places of worship and other inclusive settings, with the help of community partners.[64] Several organizations focus on the climate resilience of Spanish speakers in the U.S, and their work at the grassroots level can be adapted for outreach efforts and services geared toward Arab migrants. Examples include the nonprofit group, Sachamama, which teaches Latinos how to respond to climate change and mitigate its effects.[65] Similar organizations in NY include the Long Beach Latino Civic Association and UPROSE, which both focus on empowering Spanish speakers living in NY.[66]

When it comes to refugees, the lack of support provided after the 90-day resettlement period creates significant gaps in knowledge and slows integration. This adds to vulnerability and hampers adaptation. Furthermore, adaptive capacity in general requires political representation, capacity to organize, and institutional support. Community partnerships formed outside of the refugee resettlement can leverage existing tools and mechanisms for refugees' civic engagement. This can help officials understand Arabs' specific climate-change-related vulnerabilities and the ways in which they can adapt and contribute to the resilience of the Long Island Sound coastlines.

Collaborations between urban farming collectives and refugee resettlement organizations have grown in popularity in the U.S. While study of the long-term effect of urban farming on refugees' adaptive capacity is missing, relative success appears to be dependent on the proportion of refugees with an agricultural background, as well as participation from stakeholders such as healthcare providers, schools, and faith groups.[67] Broader research on urban farming demonstrates the benefits of the trade for mental health outcomes and community interconnectedness. Existing literature on urban farming also attests that this activity cultivates "ecological citizenship," in which participation encourages conscious environmental decision-making at an individ-

ual level.[68] Similar programs can be implemented to transform agriculture and green infrastructure in southern CT, beyond the urban environment, where regions with high climate change exposure and Arab community membership overlap.

Conclusion

The States of New York and Connecticut possess the resources to assess the vulnerability of Arab immigrants, a growing but understudied population. Inclusion of their needs in state resilience plans will lead to more effective strategic adaptation planning, as the states continue to expend resources toward assessing and planning for natural disasters in Long Island Sound-adjacent communities. The attraction of low-income, English language-limited migrants to areas near Long Island Sound, even as sea level rises and natural disasters threaten the region, heighten the vulnerability of coastline populations. Participatory approaches to understanding vulnerability and adaptive capacity can generate inclusive, multi-dimensional coastal resilience plans.

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Does Broad Consent Apply to Direct-to-Consumer Genetic Testing Biobanks?

by Dr. Kashvi Gupta

Introduction

Biobanks were established for the primary purpose of conducting research. Modern genomic biobanks collect relevant health data (phenotypic data) in addition to tissue samples. These are obtained from participants using a general consent form, wherein consent is obtained for a broad range of research activities and not for a specific study.[1,2]

As early as 1996, the first population-wide genomic biobank was proposed by an Icelandic firm called deCODE Genetics. The proposal received government support through the "Act on Health Sector Database" law passed in the spring of 1998. For all the 275,000 inhabitants of Iceland, their ancestry data (that could be traced back over 1,000 years), their genomic profiles, and their clinical health information was linked for the dual benefit of advancing research and providing comprehensive data to physicians for treating their patients. In addition to establishing the biobank, through the Act, deCODE had the consent from all Icelanders to contribute their data to a range of research studies. Participants did have the ability to opt out of the database. However, information that was already in the system could not be deleted for those who opted out.[2,3]

In 1998, deCODE established a $200 million partnership with the pharmaceutical company Roche. The partnership gave Roche exclusivity to mine deCODE's biobank and develop new pharmacogenomic therapies. The prospect of creating a goldmine of genetic information skyrocketed deCODE's shares from $24 in December 1999 to $65 in early January 2000. This was closely followed by the Icelandic government awarding deCODE a license (at a price of $1 million per year) for a 12-year period to exclusively maintain Iceland's Health Sector Database. Not surprisingly, the market valuation of deCODE in 2001 was more than $2 billion.[3,4] However, by late 2002, a series of poor business decisions, national and international criticism on database exclusivity, privacy concerns, and unethical consent procedures plunged its stock prices to an all-time low of $2. deCODE filed for bankruptcy in 2009.[5,6]

The example of deCODE Genetics' rise and fall brings to light several key points for success in the direct-to-consumer (DTC) genetic testing era and for establishing genomic biobanks:

- Appropriate business models to sequence a large population's genetic information
- Opt-in informed consent procedures
- Autonomy of a company to sell genomic data to pharmaceutical companies for research

23andMe has been one of the most successful DTC genetic testing companies following the completion of the Human Genome Project in 2003. This paper will analyze 23andMe's business model and procedure for consenting participants to its biobank.

Background

In 2006 Anne Wojcicki founded 23andMe with the mission to "help people access, understand and benefit from the human

genome."[7] It was the first-ever DTC genetic testing company in the United States. The first product, priced at $999 and launched in 2007, provided a genetic test report characterizing 14 traits and diseases.[8,9] With significant funding milestones, 23andMe was able to fast-track its advances by expanding its customer base, offering additional test reports, and using advanced techniques for sequencing DNA.[10] Given the company's rapid growth, Time Magazine recognized 23andMe as the "Invention of the Year" in 2008.[11]

Over the next five years, 23andMe processed 180,000 DNA samples. In an effort to expand its database, the company drastically reduced the pricing of its product to $99 and started offering seasonal discounts to its customers.[12]

In 2014, 23andMe entered a new path of drug discovery and research. They had more than 2 million customers at the time who had provided DNA samples and answered more than 300 questions about their personality traits and medical backgrounds. Further, for participants that consented to contribute their information for research purposes, the company shared conglomerate genomic and phenotypic data consisting of de-identified individual-level data and statistical summaries with pharmaceutical companies, nonprofits, and academic institutions.[13]

By 2018, 23andMe had obtained consent from 3 million more customers to add to its database. On July 25, 2018, 23andMe signed a 4-year contract with GlaxoSmithKline (GSK). GSK invested $300 million into the company for exclusive rights to mine 23andMe's biobank for pharmacogenomic drug discovery.

The contract brings to light critical questions on the consent 23andMe had previously obtained from participants of its biobank before the GSK deal. While it has been argued that broad consent can be informed consent for biobank-related research, the argument does not hold true for DTC genetic testing companies that exercise autonomy in providing pharmaceutical companies exclusive access to their biobanks.[14]

Ethical Analysis

The importance of obtaining informed consent as opposed to the presumed consent model used by deCODE Genetics for conducting biomedical research is universally recognized. 23andMe obtains informed consent from all research participants represented in its biobank and appears to be abiding by the ethical biomedical research guidelines put forth by Emanuel et al.[18] However, on closer inspection, the company's informed consent procedure is flawed in many ways, as illustrated in Table 1.

For further discussion, let us assume that participants are knowledgeable about the scope of their genetic and personal information that is being used for research purposes. We assume the participants act on their free and informed desire to contribute to 23andMe's biobank.

Although participants consent on their first-order desire to "donate" their genetic and phenotypic information to the biobank, it is unclear whether the second-order desire to share the information with other research bodies and pharmaceutical companies truly exists.[23] Since the second-order desire is under control of the biobank's governing body, the participant is coerced into sharing data with research bodies and pharmaceutical companies partnering with the biobank after signing the consent form .

Prior to the deal with GSK, participants had a certain degree of autonomy in determining the type of research studies they participated in. Although the second-order desire was governed by the partnerships

established by 23andMe, participants were allowed to choose whether they wanted to work with an academic institution versus a pharmaceutical company, for example. However, now that GSK has the exclusive right to mine 23andMe's biobank, participants will lose this limited autonomy. The situation is further complicated as participants who choose to withdraw their consent will only be able to prevent their information from being used in future studies. They cannot retract their data from studies that are already in progress.[24]

Lastly, there is evidence that the potential for commercial use of personal data can impact the first-order desire of participants to share their information with biobanks and consent to research.[25] Participants typically see social value (i.e., advancing medical research) in contributing their data to biobanks. However, since DTC biobank research is driven by financial gains, DTC genetic testing companies' motives are different from those participating in their biobanks. It could also be argued that some - if not all - participants would want a more equitable and collaborative partnership if their data is being used for scientific discovery and patents. In addition, the social value of contributing data to biobanks lies in transparency and public access to conduct research on the data to further scientific discovery. Exclusivity in access to the biobank stalls scientific progress and creates disparities in data access. This diminishes the overall social value of sharing data with the biobank.

Summary and Recommendations

The flexibility with which DTC genetic companies can change genetic data-sharing norms without requiring to re-consent participants is concerning. It undermines an individual's autonomy in participating in genetic research and coerces them to contribute their data, even if the data is "de-identified."[26]

In order to respectfully and ethically collaborate with customers for biomedical research, DTC genetic companies must claim up-front their projected financial benefits and collaborations with pharmaceutical companies before obtaining consent. Information must be conveyed to participants in a manner that is easily understandable, allows a two-way conversation to enable clarification, and prevents misunderstandings. Once a participant consents for a research study with a partnering organization or pharmaceutical company, the terms of service should not be modified until the study has been completed. Participants should be provided with an option to receive information about the outcome of the study, both scientific and financial (if applicable).

Further, DTC genetic companies that are conducting internal research and sharing data with external organizations must ensure that the interests of the research participants are safeguarded against the companies' own interests of establishing partnerships to increase their returns on investment.

Since DTC genetic companies profit from consumers, both monetarily and by obtaining their health information, participants should not be charged for contributing their data to the biobank. In order to establish a fair partnership, they should receive a stake in the profits that are made as a result of any drug discoveries. Although one might argue that consumers are receiving information from a DTC genetic company about their genetic risk profiles, the potential benefits for these companies are much higher compared to those of the customers. This is because genetic testing reports do not inform customers of clinical diagnoses. Rather, they only provide statistical probabilities of risk for particular diseases that they would be predisposed to depending on their ancestry. Following receipt of the report, a customer bears the additional expense of reviewing

the report with a genetic counselor.[27,28]

In summary, DTC genetic testing companies that have a covert business model are not suited for the traditional application of broad consent for biobank research. More regulation is needed in this area to protect the autonomy of the research participants in such biobanks.

Table 1: Analysis of the components of 23andMe's informed consent using the guidelines put forth by Emanuel et al.[15]

Benchmarks of an Informed Consent	**Flaws in 23andMe's Informed Consent**
Consent forms and verbal disclosures must be sensitive to participants' culture, language, and level of knowledge in the subject of research.	The consent form is long and scientifically dense for the average customer who does not have a background in genetic studies.[16,17]
Study must allow voluntariness of choice for participation in research studies. Further, information provided to participants should be complete, accurate, and must outline the purpose of the research study without overwhelming the participant with information.	Customers click through multiple screens and paragraphs of the consent form without reading the fine print - similar to installing a software update on a personal computer. The overwhelming amount of information infringes on individuals' abilities to make informed decisions. Studies have shown that at least some of the participants in 23andMe's research studies were not aware of the terms and conditions that they were consenting to in the online form.[18]
	The information provided to customers in the consent form is incomplete, as it does not state the specific personal information about the participant that will be used for the research study. For example, a customer that consents for Alzheimer's research and another that consents for cardiovascular research will be providing the same volume of information to the company using the same consenting procedure. While broad consent forms used by biobanks are inherently incomplete as they take consent from participants for a range of evolving scientific research, 23andMe's customers volunteer for specific areas of research that they are interested in.[19,20]

Benchmarks of an Informed Consent	Flaws in 23andMe's Informed Consent
Consent procedure must have an appropriate plan in place for obtaining permission from legally authorized representatives for individuals unable to consent for themselves.	23andMe restricts the age group for individuals providing consent to 18 years of age. However, any individual can purchase and complete the form through the online platform.
Study must protect the confidentiality of research participants.	Although 23andMe consents participants for sharing de-identified data with their research partners, they only strip directly identifiable information from the record. Genetic data that is accompanied by more than 300 self-reported phenotypic data points and survey questions can be questionably kept "de-identified."[20]
Study must be approved by a review board that is both independent and competent.	The consent form specifically protects the interests of the company, its internal review board, and its research partners, but not the customers consenting to participate in the studies.[21]
Individual participants must be made aware of their right to refuse to participate and must be free to refuse to participate in research study.	Upon giving consent, participants are held to the Terms of Service most recently made available on 23andMe's website. Thus, at any time after consenting for a research study, a participant may only be partially informed about the details of the updated contract. This is especially true if the person has not had time to go back and read the updated version or has not received a notification about the update in the contract.[22]

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