REGIONALLY FRAGMENTED: TRANSIT POLICIES CONTRIBUTING TO A RACIALLY AND SOCIOECONOMICALLY INEQUITABLE REGION

Andrew Dunham

Introduction

The Milwaukee metropolitan area is characterized by staunch racial and socioeconomic divisions and inequalities throughout its eight-county, roughly 1,500 square mile footprint. Census data from 2010 suggest that the Milwaukee area is the most segregated between Black and white residents, second-most segregated between white and Latino residents, and 35th-most segregated between income levels among the 100 largest metropolitan areas in the United States[1].

Though racial and economic segregation are not unique among cities in the Rust Belt (a term used to describe deindustrialized metropolitan Great Lakes cities and metropolitan areas), Milwaukee's remarkable level of segregation creates issues regarding social sustainability and overall equity within the region[2]. Milwaukee's racial and, subsequently socioeconomic, neighborhood composition is shaped by a history of redlining (a practice which denied home loans or insurance to prospective homeowners of certain racial and ethnic groups and/or religious faiths) and restrictive covenants (caveats situated within home deeds which sought to prevent the sale of a home to buyers of certain racial, ethnic, and/or religious groups), which became so ubiquitous in the area that nearly every single Black Milwaukee resident (99.9%) lived in a redlined area by 1938[3]. Subsequent legislation ruled these lending and real estate practices unconstitutional, but decades of disinvestment, unemployment, and pronounced poverty in these politically-formulated underserved neighborhoods limited the social mobility of the residents, thus leaving much of metropolitan Milwaukee's Black and other minority populations no other choice than to remain in the region's historically disenfranchised clusters. Concentrated poverty, inequality, disinvestment, and crime continue to hinder the development and prosperity of many of Milwaukee's Black and Latino neighborhoods to this day.

Access to reliable, comprehensive, and affordable transportation options is one the most effective agents in reducing inequalities and bolstering social mobility, widely regarded as more effective than education and quality of housing for the economic betterment of disenfranchised communities. Regional public transportation creates linkages to job centers and allows for residents throughout the region, especially in marginalized communities, to better capitalize on the employment options and minimize the spatial mismatch separating jobs from potential candidates for employment[4].

Regionally, metropolitan Milwaukee's various transit systems lack integration, comprehensiveness, and an overseeing body to facilitate interconnectivity. As a result, Milwaukee County Transit System (MCTS) provides extensive service within the boundaries of Milwaukee County, Belle Urban System offers limited service in the southern satellite city of Racine, and Waukesha Metro Transit in Waukesha; despite these services, Racine and Waukesha County, alongside the six other counties comprising Metro Milwaukee's urban fringe,

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[1] The Cost of Segregation. (2018, March 19). Retrieved May 8, 2018, from https://www.urban.org/policy-centers/metropolitan-housing-and-communities-policy-center/projects/cost-segregation

[2] Austin, J. C. (2018, January 31). Segregation and changing populations shape Rust Belt's politics. Retrieved September 14, 2017, from https://www.brookings.edu/blog/the-avenue/2017/09/14/segregation-and-changing-populations-shape-regions-politics/

[3] Maternowski, M., & Powers, J. (2017, March 3). How Did Metro Milwaukee Become So Segregated? Retrieved May 8, 2018, from http://wuwm.com/post/how-did-metro-milwaukee-become-so-segregated

[4] Foxx, A. (2017, August 15). Pathways to opportunity: Housing, transportation, and social mobility. Retrieved May 8, 2018, from https://www.brookings.edu/events/pathways-to-opportunity-housing-transportation-and-social-mobility/

have little transit service outside of a handful of commuter shuttles. Connectivity between these transit systems, which fall on different political geographies, is nearly non-existent. Outside of a transfer point at Brookfield Mall, just past the Milwaukee County corporate boundary, which provides a transfer between four Waukesha and Milwaukee bus lines, transfers do not reach the regional centers of employment and population. A single transfer point makes many inter-county journeys unnecessarily roundabout and inefficient. Furthermore, the lack of fare integration and prevalence of separate ticketing operations on each system requires riders of both systems to maintain two separate passes and pay two separate fares each journey; unlike a transfer on the MCTS, which costs only an additional 75 cents, or is free within two hours[5]. The lack of transfer points and high cost of multiple tickets make Milwaukee's system especially difficult for citizens in poverty seeking employment outside of Milwaukee County.

Throughout this regional analysis of policy, plans, and trends, I will examine the effect of Metropolitan Milwaukee's fragmented regional transit system and lack of regional governing body to manage transit on social mobility, regional equity, and, by extension Milwaukee's mode share and carbon footprint, and what these implications mean in the context of social and ecological sustainability.

Regulatory and policy analysis

Milwaukee, like most American cities, once hosted a robust network of rail lines operated by privately owned corporations and utilities. The Milwaukee Electric Railway & Light Company operated extensive streetcar service in the city from 1890 to 1952, when diesel buses replaced street railways for inner-city[6]. Additionally a plethora of interurban routes connected Milwaukee to far-flung destinations like Port Washington, Burlington, and Chicago by way of Kenosha. Expansive networks of intercity rail lines linked the region to Madison, Green Bay, the Twin Cities, and hundreds of other small towns in Wisconsin.

In 1975, Milwaukee County Transit Service (MCTS, then-called Milwaukee Transport Services) assumed control of a majority of the former bus routes and operated public transportation service at a county level. Shortly thereafter, Racine and Waukesha (both of which outside Milwaukee County) began to assume the remnants of their own bus services at a municipal level in 1977 and 1983, respectively[7].

As more and more of the Milwaukee region's economic and population growth shifts to the fringes of the metropolitan area, the transit coverage of the region becomes increasingly inadequate. Urban sprawl brings with it ecological damage through development of greenfields, farmland, and forested areas, and its lack of regional connectivity, especially in the case of job centers like shopping malls or office parks, has adverse effects on regional equity and overall sustainability. Certain routes do extend beyond the Milwaukee County corporate boundary and are partially subsidized by the municipalities they service; in Waukesha County, Menominee Falls supports two bus routes and New Berlin operates a commuter service between the New Berlin Industrial Park and Brookfield Mall, where it meets the frequent "Blue Line" service. In Ozaukee County, a few express services are provided from Port Washington to Downtown Milwaukee and other locations like University of Wisconsin-Milwaukee and Bayshore Mall. These agreements indicate that, although MCTS is a county-run entity, municipalities can negotiate with the agency to subsidize and receive service, but no municipality has

[5] Fare Information. (2018). Retrieved May 9, 2018, from https://www.ridemcts.com/fares-passes/fare-information

[6] The Milwaukee Electric Rail & Light Co. (2008). Retrieved May 9, 2018, from http://www.trainweb.org/twerhs/tmerl.html

[7] MCTS History. (2017). Retrieved May 9, 2018, from https://www.ridemcts.com/about-mcts/history

opted-in for full system integration as of yet[8]. This leaves many of the region's largest suburban job centers and population hubs without transit service and only accessible by an automobile, the associated cost of which creates equity issues for the region.

The MCTS system is comparable to Dallas Area Rapid Transit (DART), wherein suburban municipalities have the option to opt-in to DART service. This creates a misshapen hodgepodge of transit coverage, snaking along the boundaries of municipalities that have not chosen to opt-in. Most notable of these gaps is Arlington and Grand Prairie, two cities with a combined population of 550,000 lacking any transit services and hindering job prospects for regional residents[9]. Though not as extreme, Metro Milwaukee's gaps between the region's the transit agencies exemplify a lack of regional cooperation between municipalities, metropolitan planning organizations, and community interests.

Unlike the RTA in Chicago or Metro Transit in Minneapolis-St. Paul, Milwaukee has lacked a regional transit commission since 2011, when the organization (created only six years earlier, in 2005) was dissolved by the State of Wisconsin[10]. Similar to how the federal government oversees relations between American states, the State of Wisconsin reserves the right to oversee agencies which span multiple counties. The hierarchy of is delineated chiefly by the size of government, with local/municipal government at the bottom of the totem pole, then county, then state. The former agency, known as the Southeastern Wisconsin Regional Transportation Authority (SEWRTA) provided the foundation for new, regional transit systems and sought to facilitate cooperation between municipalities, different transit operators, and community interests. The dissolution of SEWRTA was part of a larger anti-transit campaign spearheaded by state lawmakers in the early 2010's which also resulted in the rejection of federal funding for a Chicago-Milwaukee-Madison high-speed rail corridor[11].

In recent years, groups of politicians from Kenosha, Racine, Milwaukee, and Waukesha have sought to revive the agency to address regional disconnectivity[12]. This would require the collaboration of not only counties, but other Southeastern Wisconsin stakeholders such as the MCTS of Milwaukee County, Belle Urban System of Racine, Kenosha Transit. and Waukesha Metro Transit, which comprise the four main transit providers in the region and will have to cooperate once more upon the formation of the system; the State of Wisconsin, which will need to be willing to work with and subsidize the various smaller governments and agencies to create an effective service; the Department of Transportation, which will need to renew a commitment to moving away from automobile-centric projects is key to making current and transit accessible and attractive in the area; and the taxpaying public, especially those residing outside of Milwaukee County, who must be willing to pay into a regional system[13]. As it stands, the Southeastern Wisconsin transit system remains divided by corporate boundaries, with each county on separate planes, prioritizing different transportation modes and scales, yet remaining almost completely parallel to one another with only a semblance of interconnectivity and cooperation.

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[8] MCTS Route Map. (2018). Retrieved May 9, 2018, from https://www.ridemcts.com/getattachment/Routes-Schedules/System-Map/2018-Map-6x9.pdf?lang=en-US

[9] Barry, K. (2017, June 03). Biggest American Town Without Public Transportation Finally Catches the Bus. Retrieved May 9, 2018, from https://www.wired.com/2013/08/arlington-texas-bus/

[10] Briefing on SERTA Responsibilities and Recent History of RTA Consideration in Southeastern Wisconsin. (2009, November 23). Retrieved May 9, 2018, from http://maps.sewrpc.org/sewisrta/pdfs/2009/2009-11-23-serta-agenda-briefing.pdf

[11] Giove, J. (2014, May 28). Histories & Photos. Retrieved May 9, 2018, from http://milwtransit.org/WP/?page_id=62

[12] Torres, R. (2018, February 06). Local Democrats look to revive regional transit authority legislation. Retrieved May 9, 2018, from http://journaltimes.com/news/local/local-democrats-look-to-revive-regional-transit-authority-legislation/article_e6e92bed-8d00-554d-b684-8eef316935e7.html

[13] Urban Milwaukee. (2017, October 31). WisDOT applies for federal Infrastructure For Rebuilding America Grant. Retrieved May 9, 2018, from https://urbanmilwaukee.com/pressrelease/wisdot-applies-for-federal-infrastructure-for-rebuilding-america-grant/

Funding sources vary greatly between transit agencies in the region, whereas Kenosha, Racine, and Waukesha's systems are primarily funded by the municipalities themselves (these services are, by in large, not countywide) through sales and property taxes, Milwaukee's system relies on (in ascending order) grants, countywide property taxes, federal subsidies, state subsidies, and farebox recovery. In recent years, aid from the state has become more irregular and service alterations have lowered the system's farebox recovery ratio, which comprises more than a quarter of the MCTS' $155 million annual budget. These systems operate largely independently, with few transfer points, lack of fare integration, and lack of standardized, regional funding sources and cooperative planmaking. As each system works piecemeal to improve transit in their respective counties and/or municipalities, the quality of transit connectivity and the viability of public transportation worsens without an overseeing body.

Plan Analysis

In the late 2000's and early 2010's, Milwaukee was the center of various transit proposals which sought to improve access on a regional, municipal, and neighborhood scale. On the smallest scale is the Milwaukee Streetcar (known as The HOP), which is a three-mile streetcar circulator connecting Milwaukee's Amtrak station to the downtown area via the rapidly developing Third Ward neighborhood, downtown, and the lakefront, set to open in summer of 2018. In the long-term, Milwaukee hopes to expand the service along multiple corridors throughout the city, but these expansions have not yet been funded, nor have potential sources been identified[14]. The HOP will accommodate new urban infill development in the dense core, which will be instrumental in creating even more walkable, mixed-use, and car-free environments, but its potential to provide meaningful, convenient transit service is hindered by its slow speed and susceptibility to slowdowns, as it runs in mixed-traffic. The wave of development associated with the streetcar will primarily benefit downtown. Its short route will bypass Milwaukee's underserved neighborhoods, where the majority of the area's transit-dependent residents live. Furthermore, given the desirability of the area, it is likely that future residential units built along the corridor will be luxury residences, unaffordable for much of the city's population[15].

On a slightly larger scale, the proposed East-West Bus Rapid Transit project is intended to connect downtown Milwaukee to Mayfair Mall in the inner-ring suburb of Wauwatosa. Dense (Downtown), compact neighborhood scale (West Side), and suburban (Wauwatosa) urban forms will be linked along the line, potentially increasing overall density throughout the corridor, infill development is especially viable given the glut of vacant properties in the disinvestment-struck West Side. Throughout Milwaukee city proper, the service will be routed along Wisconsin Avenue, using dedicated lanes, level boarding at new stations, prepaid boarding, and traffic signal priority to preempt stoplights and maintain a timely schedule. Outside of the city limits, the service will run in mixed-traffic towards Mayfair Mall, connecting to multiple job and healthcare centers along the route. Though this service has a relatively small scope, it will serve to better connect Milwaukee's stagnant West Side with employment centers in downtown, the Marquette University area, and suburban office and retail jobs. Although the urban extent of the metropolitan Milwaukee region extends for fifteen miles past Mayfair in the towns of Brookfield, Pewaukee, and Oconomowoc, these areas will likely not see connection to

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[14] Milwaukee, C. (2011, October). Milwaukee Street: Environmental Impact. Retrieved May 9, 2018, from https://www.themilwaukeestreetcar.com/pdf/Milwaukee-Streetcar-Environmental-Assessment.pdf

[15] Tolan, C. (2015, February 11). The Milwaukee Streetcar Is Still Happening. Retrieved May 9, 2018, from https://nextcity.org/daily/entry/milwaukee-streetcar-happening-plan

the proposed bus line, as they are outside of Milwaukee County's boundaries. Regardless of its small scale relative to the vastness of the metropolitan area, the lines improves access to regional jobs and the speed at which destinations can be reached and at half of the cost of Milwaukee's Streetcar (the BRT is estimated to cost $55 million, while the streetcar is a $128 million project), this project may serve as a more affordable and effective way to improve equitable access in cash-strapped Milwaukee County, and potentially on a regional scale in the future[16]. The East-West BRT, though still in its infancy as a planned, unfunded project, provides a realistic foundation for Milwaukee County to develop its transit network without assistance from the deep pockets of suburban Waukesha and Ozaukee County taxpayer bases.

Regionally, the Kenosha-Racine-Milwaukee (KRM) commuter rail project showed promise for an emerging regional level of connectivity and potential integrated regional transit when it was proposed in the late 2000's. The proposed commuter rail line would have connected downtown Milwaukee to its south suburbs, the satellite city of Racine, Carthage College in Somers, and terminate in Kenosha, where it would connect to Metra's UP-North commuter line, which services Chicago's North Shore and downtown area. The new commuter rail line would have provided an alternative to the infrequent Amtrak Hiawatha service, which, although highly-utilized for inter-city, bypasses many of the population centers of Southeastern Wisconsin, has relatively expensive fare structure, and is not effective as a commuter rail system due to the long distance between stations; there are only three intermediate stations between Milwaukee and Chicago: Milwaukee Airport and Sturtevant in Wisconsin, and Glenview in Illinois. The commuter rail system would have connected to the downtown transit hubs for Kenosha and Racine, connecting the region at an unprecedented level, with many of the proposed stations already existing depots from previous rail operations. Centralization and connection to existing bus systems makes this rail corridor more accessible to those without an automobile that, say, a park-and-ride station on a city's urban fringes[17]. The service could have also driven development to redensify the mid-rise urban forms of the various downtown areas, creating a network of city centers throughout a mostly low-density suburban form. This service would have provided superior regional access to not just Milwaukee's underserved communities, but Racine and Kenosha's as well, creating a larger pool of potential employers and opportunities. Originally proposed by SEWRTA, the project failed to receive funding for preliminary engineering and it was subsequently declared dead at SEWRTA's final meeting in 2011, marking a major defeat for any potential regional transit in Southeastern Wisconsin in the near future[18].

The largest proposed regional transportation initiative was the proposed Chicago Hub network of high-speed rail spokes emanating from Chicago, connecting the city to Minneapolis, Detroit, Cleveland, Cincinnati, Kansas City, and Louisville. The Minneapolis line was to be routed by way of Rochester, Minnesota, Madison, Milwaukee, Milwaukee's General Mitchell International Airport, and potentially O'Hare Airport in Chicago upon its unveiling alongside a proposed nationwide high-speed rail system. Shortly thereafter, a shortened proposal, or perhaps a smaller-scale starter line from Chicago to Madison via Milwaukee became the focus transit advocates and lawmakers in both Wisconsin and Illinois. The proposed route would not reach the 125 mile-per-hour speeds necessary to meet the classification of high-speed rail, but its proposed speed of 110 miles-per-hour (know as *higher*-speed rail) would be a significant improvement for regional

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[16] *Milwaukee East-West BRT*(Rep.). (2017, November). Retrieved May 9, 2018, from Federal Transit Administration website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grant-programs/capital-investments/69611/wi-milwaukee-east-west-brt-fy19-profile.pdf

[17] *Wisconsin 2030 Rail Plan*(Rep.). (2010). Retrieved May 9, 2018, from Wisconsin Department of Transportation website: http://wisconsindot.gov/Documents/projects/multimodal/rail/plan-chap7.pdf

[18] Sandler, L. (2018, February 28). Transportation task force established for Foxconn project. Retrieved May 9, 2018, from https://www.bizjournals.com/milwaukee/news/2018/02/28/transportation-task-force-established-for-foxconn.html

connectivity along the Wisconsin-Illinois border[19]. The station locations would be in a mix of urban (downtowns) and suburban (airport links) settings. The proposed rail link brought with it a commitment from Spanish train manufacturer Talgo to construct a new fabrication facility in the Milwaukee area, which would have provided high-paying manufacturing jobs in a deindustrialized area. Quicker and more frequent rail service would also improve regional access, not just between cities and suburbs, but also throughout the region as a whole, capitalizing on opportunities and economic engines like Chicago's Loop and the University of Wisconsin's Madison and Milwaukee campuses to improve equity and employment options between the three metropolitan areas, and reduce reliance on automobiles as primary modes of intercity transport, instead offering a safer, cleaner, accessible alternative. The proximity of the three metropolitan population centers and the high combined population of the regions abutting the corridor made this corridor an ideal density for high speed rail, with population distribution similar to that of Eurpoean regions boasting successful high speed rail networks. Despite the advantages of this corridor and hundreds of millions of federal dollars pledged to essentially cover all of the upfront capital costs of the project, the State of Wisconsin under Republican governor Scott Walker, pressured by conservative lawmakers from across the state, rejected funding in 2011, stating that the state should not be responsible for the future maintenance and operation of the line[20].

While the Milwaukee region has been the subject for a host of transportation improvement proposals in recent years, only two have moved forward into the planning or construction phase and these two proposals, the East-West BRT and HOP Streetcar show little potential to mitigate the social unsustainability of Milwaukee's geographical segregation and opportunity gaps. Milwaukee's Streetcar will only serve the offices of downtown and Milwaukee's affluent, hip Third Ward. The East-West BRT will make a sizeable difference in the availability and accessibility of jobs to Milwaukee and Wauwatosa residents but it falls short of its full potential and terminate just under a mile from the boundary of Milwaukee County, overlooking many of the opportunities beyond the corporate limits due to differing feelings towards transit at the county level of governance; additionally, the East-West Bus Rapid Transit will only connect one corridor, leaving much of the city without improved transit access.

As MCTS and Milwaukee County invest time and resources in these transit projects, much of the less-glamorous, fixed-route bus system (upon which the vast majority of Milwaukee transit riders rely) is under threat in this process of large reallocations of funds. MCTS discontinued eight bus lines in 2018, and some fear these tried-and-true services are not being prioritized as the City and County of Milwaukee and the county's transit agency continue to invest in vanity projects like the Milwaukee Streetcar. Many of the lines eliminated are shuttles to job centers, but with a low rate of passenger boarding and alighting, these routes have a lower return per mile; this is because many of these routes are direct service, skipping intermediate stops [21]. The HOP Streetcar, with its $123 million price-tag, has no tangible objectives, few tangible ridership goals, and almost no strategies for expansion of the network (save for a half-mile extension to an arena), and appears to be a dangerous precedent in Milwaukee's transit plans; the line itself little more than a development catalyst, and without clear, attainable goals, it is impossible to accurately assess the city and region's transit plans.

While planning for equity in transportation, it is imperative that one not only be aware of the various transportation solutions available, but also of the capabilities and limitations of providing such a service,

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[19] BGore Graphics. (2010). *Yahara Station, Chicago-Milwaukee-Madison HSR*(Rep.). Retrieved May 9, 2018, from Urban Milwaukee website: https://urbanmilwaukee.com/wp-content/uploads/2009/08/yaharastation.pdf

[20] Cieslewicz, D. (2014, July 24). You thought Wisconsin losing high-speed rail was bad? Retrieved May 9, 2018, from https://isthmus.com/opinion/opinion/you-thought-wisconsin-losing-high-speed-rail-was-bad/

[21] Maybin, A. (2018, January 17). "Tough decisions:" 9 MCTS bus routes being eliminated due to budget cuts. Retrieved May 9, 2018, from http://fox6now.com/2018/01/17/tough-decisions-9-mcts-bus-routes-being-eliminated-due-to-budget-cuts/

especially in regards to finance. Although alternative funding methods like tax increment financing (TIFs) can be employed to scrounge up more money for transportation projects, these are oftentimes temporary; most funding for transit improvements or new capital projects in Milwaukee would have to be reallocated from some other services, oftentimes at the expense of marginalized communities' access; the nine proposed bus lines to face the ax in 2018 by in large traversed impoverished, socioeconomically isolated neighborhoods and connected to job centers and community college[22] Milwaukee County's growth rate has been sluggish (seeing only a 0.8% growth in population between 2000 and 2010) and many municipalities within have lost population (like Milwaukee, which shed roughly 2,000 residents during the same period from 2000 to 2010). Despite the lack of a growing or stable tax base and funding source, MCTS is somehow expected to continue its growth with an ever shrinking pool of county funding. Unless collar counties or suburban municipalities outside of Milwaukee County opt-into a regional system, the balancing act of improving and maintaining transit services will become an ever-more difficult one. While a regional system would likely use some suburban money to subsidize and improve existing service in Milwaukee County, it should be noted that cities oftentimes subsidize suburban interests as well, especially in the development of automobile infrastructure around highways to allow easier automobile flow regionally, in its urban core to better serve suburban commuters, or in the form of the Marquette Interchange, which received municipal money for its reconstruction, despite mainly serving interstate through-traffic and suburban commuters. A regional tax base that allows the region's transportation system to build off of the region's economic success, without division along political boundaries would not only make public transportation more accessible on a regional level, but maintain existing service by increasing the flow of taxpayer dollars into the agency.

Environmental Impact Analysis

As a vessel to facilitate regional cooperation on matters of transportation, integrated regional transit via an overseeing body can help advise on growth strategies, regional interconnectivity initiatives, and dictate suitable land use patterns with an emphasis on transit connectivity and the mitigation of sprawl. More thoughtful land use, driven by transit connection has the potential to reduce automobile emissions by providing more transportation options to residents. Alongside this, transit (with more lax zoning restrictions on density) can encourage clusters of mixed-use development in suburban areas and endowing suburban communities with walkable, connected urban centers; the disused Northridge and Southridge Malls, and the Brookfield Mall/Blue Mound Road corridor all make excellent candidates for such suburban-to-urban transformations.

In tandem with the possible transformation and densification of Milwaukee's suburban form, regional job access, especially for those in underserved communities, will improve drastically. An integrated bus system or system of systems will make employment centers on the urban fringes of the metropolitan area (such as Kohl's corporate headquarters, Pewaukee Business Park, and various other commercial or industrial clusters) as well as once-inaccessible satellite towns (like Racine and Kenosha) more accessible to the region's workers.

Aesthetically, past regional transit projects have sought to improve the urban streetscape and landscape in the region. The once-proposed, now cancelled, KRM rail line was intended to include a parallel mixed-use

[22] Behm, D. (2018, January 18). MATC students and faculty speak out against Milwaukee County Transit System route cuts. Retrieved May 9, 2018, from https://www.jsonline.com/story/news/local/milwaukee/2018/01/17/matc-students-and-faculty-speaks-out-against-urge-milwaukee-county-board-save-bus-route-targeted-eli/1036691001/

path and landscaping, the streetscapes around the station locations would also be altered to improve the safety of pedestrians and make for more attractive infrastructure near the transit hubs. Many of the rail line's proposed stations were to be located at existing, preserved depots in traditional town centers, which not only allowed for restoration and preservation of historic structures, but could catalyze reinvestment in downtrodden downtown areas to create mixed-use, dense clusters adjacent to the transit service. Centralizing more dense, multiple land uses around rail stations not only encourages the use of transit, but improves the viability of the service, as there are more destinations available upon alighting from a transit ride. These waves of investment generated from transit-oriented development would have been a shot in the arm for the struggling downtowns of Cudahy, South Milwaukee, and Racine[23].

Similarly, the planned East-West BRT would have introduced new streetscaping elements to Wisconsin Avenue, accommodating space for plantings, wider sidewalks, and public art at stations along the stretch of the roadway. From a safety perspective, the corridor will provide traffic calming and traffic lane reduction to make the street more inviting for locals and businesses, more accessible to residents of all ages and ability levels, and safer for all transportation modes using the street. The bus rapid transit line, which entails a massive redesign of the roadway, will likely generate new, denser infill development along the corridor and encourage more multimodal trips. Though the urban fabric along this corridor was once tightly-woven and dense, decades of disinvestment has resulted in many teardowns; the development that will follow the bus rapid transit line may patch some of the urban form's holes. Regionally, it will allow for a faster suburban-urban connection and improve job access in the city's underserved West Side and in suburban Wauwatosa. Whereas the treatment will generally be positive for much of the corridor, the mixed-traffic portion in Wauwatosa, wherein the rapid bus service will operate without dedicated lanes and signal priority and be beholden to the traffic congestion make the proposal itself less effective.

Overall, regional cooperation and coordination among transportation-related issues will have a net positive effect for social mobility and the region as a whole. Improving access to jobs and education across county lines and specifically targeting communities most in need will not only allow a wider range of employment options to marginalized communities, but add depth to the talent pool of potential employment candidates for suburban businesses and firms.

Retail and service industries, which have clustered in Milwaukee areas's Waukesha and Ozaukee County suburbs, are fairly low-paying in nature; however, much of Milwaukee's suburbs are very affluent and do not produce many lower-income, uneducated workers that these businesses seek. This results in a spatial mismatch, a phenomenon in urban areas wherein certain job types are located far away from the ideal candidates for the job. For example, Brookfield Square in Waukesha County is the anchor of a large retail and service corridor along Blue Mound Road while the mall itself provides an additional 1.1 million square feet of retail. Despite the prevalence of primarily low-paying jobs, the City of Brookfield is one of the region's most affluent, with an median household income of over $100,000, nearly twice that of the state average[24]. Most of Brookfield's employees are not from Brookfield and many of the retail workers in the area must commute across county lines. Inadequate transit connectivity oftentimes forces many of the lower-income workers to own a car for commuting purposes, resulting in even less disposable income and worsening traffic and higher emissions regionally. Workers forced to take the current transit system to the area face hours of lost productivity on a daily basis and, should they need to transfer to a Waukesha bus, needlessly high fares due to lack of fare integration.

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[23] *Kenosha-Racine-Milwaukee Commuter Rail Alternatives Analysis/Environmental Impact Statement*(Rep.). (2009, July). Retrieved May 9, 2018, from Federal Transit Administration website: http://maps.sewrpc.org/KRMonline/pdf/2009-07-krm-deis.pdf

[24] Brookfield, Wisconsin. (2016). Retrieved May 9, 2018, from http://www.city-data.com/city/Brookfield-Wisconsin.html

Regional cooperation and transit expansion could address both systemic inequalities and high levels of transportation-related pollution. Services like the aforementioned KRM commuter rail, along with convenient, comprehensive, seamless bus service have the potential to make sizable dents in some of the region's most pressing issues and improve social and environmental sustainability. The KRM commuter rail, for instance, was alone estimated to create a reduction of 424 tons per day of carbon monoxide (CO), hydrocarbons, nitrogen dioxide, and particulate matter, amounting to and overall reduction of nearly -0.1% of pollutant emissions and energy consumption. While this may seem miniscule, the study does not mention or factor in the sizeable changes that could occur with the introduction of regional transit and the ensuing shift in mode share and land use practices.

Fiscal Impact Analysis

The implementation of a regional system requires, alongside cooperation between different transit providers, the formation of a regional overseeing body, and public support, regional funding. Establishing an equitable means of financing that can be scaled throughout the region is part and parcel to the success of a network. While there is no recent plan for regional transit in Southeastern Wisconsin, ergo no budgetary estimates and strategies, the recent inclusion of Clayton County into Atlanta's MARTA system provide a workable example of how to think regionally about transit. Much like Milwaukee, MARTA also operates on a county-by-county basis, counties have the option to opt-in and pay taxes toward a regional system, or go it alone.

Following a 2014 referendum to increase the sales tax by a penny, which Clayton County voters overwhelmingly (70%) approved; soon thereafter, MARTA expanded bus lines to the area and received roughly $45 million a year in new funding from the sales tax hike[25]. In the near future, MARTA intends to construct a high-capacity rail or bus rapid transit line in Clayton County to connect to its existing rapid transit heavy rail system[26]. While this is a major step for the MARTA system, the regional picture paints an image of stark inequality in terms of transit coverage; the wealthier, white suburbs to the north of Atlanta have elected to not opt-into the larger regional system. Given the high levels of job growth in Cobb and Gwinnett County, the issue of the spatial mismatch in the Atlanta region is similar to that of Milwaukee.

Racial and socioeconomic tensions and long-held stereotypes about poverty and crime are large regional issues that must be overcome when implementing a regional system of active transportation. In the past, the counties of suburban Atlanta have rejected the expansion of MARTA service in referenda, but Milwaukee's suburban counties have never held so much as a vote to expand the transit service[27]. Though swaying suburban opinion may be an uphill battle, the first step in any regional cooperation is a dialog and subsequent vote.

Creating regional transit integration brings with it the issue of securing a reliable sources of funding. Tearing a page from Clayton County's playbook, a regional sales tax could hold an answer to stable, scalable funding. MCTS is currently 12% funded by the county, but its primary funding source is from Milwaukee's

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[25] Simmons, A. (2014, November 05). Clayton voters embrace MARTA. Retrieved May 9, 2018, from https://www.ajc.com/news/transportation/clayton-voters-embrace-marta/zw2QmL6FuxXhAehAOxAbHJ/

[26] Clayton MARTA Campaign. (2016, June 01). Retrieved May 9, 2018, from https://www.sierraclub.org/georgia/rail/claytonmarta

[27] Jannene, J. (2018, April 2). Eyes on Milwaukee: Vote Tuesday. Retrieved May 9, 2018, from https://urbanmilwaukee.com/2017/04/02/eyes-on-milwaukee-vote-tuesday-2/

property taxes, increasing property taxes in Milwaukee's suburbs, where a vast majority of residents are property owners, may be difficult to accomplish politically[28] [29].

MCTS' most recent annual operating budget was about $153 million, though this figure fluctuates depending on the year and how much money is allocated for the system at state and federal levels. Milwaukee County taxpayers cover about $15.5 million of this annual budget. The state pays for roughly 40% of the budget ($63 million), federal funds cover roughly 20% of the operating costs, and fares account for about a quarter of the budget. Milwaukee County's dense population allows for a high farebox recovery ratio, which is less feasible in the surrounding suburban counties. Per each Milwaukee county resident, there are roughly $153 dollars allocated to public transit[30].

Creating a stable funding source for the region's transit needs is necessary to ensure extensive and high-quality service and sales tax offers an possible gateway to the realization of regional interconnectivity. The most common funding source for transit is through sales tax, and there may be new opportunities to gain revenue. In 2020, the Miller Park (Milwaukee's baseball stadium) sales tax will expire and the government subsidy for the stadium's construction will be repaid. The 0.1% sales tax paid in Milwaukee, Ozaukee, Waukesha, Racine, and Washington County generated roughly $34 million in 2018. If this money is reallocated to a regional transit agency and the State of Wisconsin and federal government continue their subsidies at a rate similar to the current MCTS subsidies, this will amount to a regional transit operational budget of nearly $340 million per annum and regional transit expenditure of $216 per Milwaukee metropolitan area resident. For reference, the current combined budget of the Milwaukee County, Waukesha, Racine, and Kenosha systems is just under $175 million. Even with a lower overall farebox recovery ratio (let's say 15% rather than 26%), the budget will still be twice be twice as much as the current MCTS budget. With the inclusion of retail-heavy Kenosha County, the number will likely increase[31].

Ideally, the sales tax collected as well as state- and federal-level funding would be overseen by the regional transit committee, who would then budget and distribute funds accordingly to agencies and projects. However, given the current political climate in Madison and the state's prior dissolving of SEWRTA, the counties may need to pony up more to fill the gap. A sales tax increase of 0.1% in addition to the expiring Miller Park tax including Kenosha County would have an impact of about $75 million[32]. While it is important to note that sales tax increases can disproportionately affect poorer communities, sales tax in every county in the region would remain well below 6%, well below its Illinois counterparts.

Another necessity for a regional system would be fare integration. The M-Card, the refillable contactless smart card used by the MCTS, would be the ideal candidate for a regional transit pass. One

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[28] *MCTS 2010 Annual Report*(Rep.). (2011). Retrieved May 9, 2018, from Milwaukee County Transit System website: https://www.ridemcts.com/getattachment/About-MCTS/2010-Annual-Report-Final.pdf?lang=en-US

[29] Harkness, A. J., & Reeves, R. V. (2017, November 15). Are affluent Americans willing to pay a little for a fairer society? A test case in Chicago. Retrieved May 9, 2018, from https://www.brookings.edu/blog/social-mobility-memos/2017/11/09/are-affluent-americans-willing-to-pay-a-little-for-a-fairer-society-a-test-case-in-chicago/

[30] *MCTS 2017 Annual Operating Budget*(Rep.). (2016, November). Retrieved May 9, 2018, from Milwaukee County Transit System website: http://county.milwaukee.gov/ImageLibrary/Groups/cntyDAS/PSB/Budgets/2017-Budget-/5600-DOT-Transit.pdf

[31] Nelson, J. (2018, March 15). Miller Park sales tax generated nearly $31 million last year and could be retired in 2019 or 2020. Retrieved May 9, 2018, from https://www.jsonline.com/story/news/local/milwaukee/2018/03/15/miller-park-sales-tax-generated-nearly-31-million-2017-3-increase/425308002/

[32] *Local Government Revenue Options*(Rep.). (2015, January). Retrieved May 9, 2018, from Wisconsin Fiscal Legislative Bureau website: https://docs.legis.wisconsin.gov/misc/lfb/informational_papers/january_2015/0015_local_government_revenue_options_informational_paper_15.pdf

hindrance to the implementation of this card is the fact that the three existing systems outside Milwaukee County, Waukesha Metro Transit, Belle Urban System, and Kenosha Transit, do not have card reader technology, rather, they rely on cash fares as well as weekly, daily, and monthly passes. This would require the retrofitting of existing bus fleets. Furthermore, this transition would necessitate the installation of ticket vending machines in various regional transit centers and require the agency to reach out to area retailers to sell the cards. Based off of the cost to implement Charlie Cards in Boston, this would likely cost around $40 million [33]. It is not necessary that one regional system be created, but seamless connection and integration are key. Based off of similar initiatives in Baltimore, creating and maintaining a regional transit live tracking system, which can be used for bus stops and mobile phone applications would be roughly $2 million per year[34].

Conceptually, the cost of regional transit integration is very difficult to calculate, especially without a benchmark regional plan. There are no set strategies for the implementation of such integration, which would require alterations of bus routes, improvements of bus stop, pedestrian, and cycling infrastructure, and development of a centralized governing body, but there are certain proposals that can shed some light on the possible costs.

KRM Commuter Rail, which would run through three counties, is an example of a regional transit proposal that was extensively studied prior to its cancellation. Its environmental impact stated that the rail line would cost $203 million to construct (with inflation the cost would be roughly $245 million) and that it would require about $12 million annually to operate in 2018 dollars. While this may seem steep, capital projects are oftentimes awarded federal grants, which can offset some of the local financial burden. Assuming that the communities of Southeastern Wisconsin can come up with half the project cost ($122 million), it is likely their financial commitment will be matched by a USDOT or its Federal Transit Administration.

Below are a two different funding scenarios based on different scenarios of local sales tax funding and state/federal subsidy. With such a large leap into a regional transit system, I would recommend a year of planning and infrastructure improvements to ensure that implementation is thorough and thoughtful.

Funding plan #1, $345 million (Estimated budget with the continuation of proportional subsidy from state and federal government, maintaining the .01% Miller Park sales tax, including Kenosha County)

Year one

Maintenance of current transit operations	Infrastructure rehabilitation	Transit planning & engineering	KRM Commuter Rail capital costs	Fleet modernization and acquisition, MCard implementation & open data system development	Costs relating to the formation of the transit agency	Total
$180 million	$50 million	$15 million	$50 million	$42 million	$8 million	$345 million

[33] G, A. (2017, November 20). CharlieCards 1.0 to be replaced by CharlieCards 2.0. Retrieved May 9, 2018, from https://www.universalhub.com/2017/charliecards-we-hardly-knew-ye

[34] M. (2015, February 24). How we saved Baltimore $600,000 in one day – Transit – Medium. Retrieved May 9, 2018, from https://medium.com/transit-app/how-we-saved-baltimore-600-000-in-one-day-f8311e487e58

Year two

Maintenance of expanded transit operations	Fleet acquisition	KRM Commuter Rail capital costs	Open data and public outreach	Capital improvements fund	Total
$200 million	$80 million	$72 million	$8 million	$10 million	$345 million

Year three and on

Maintenance of expanded operations (including KRM)	Fleet acquisition	Open data & research	Capital improvements fund	Total
$280 million	$25 million	$20 million	$20 million	$345 million

Funding plan #2, $242 million (Additional .01% sales tax increase beyond the current Miller Park sales tax, proportional subsidies from state and federal government halved)

Years one, two, three, and four

Maintenance of current transit operations, with marginal implementation of new service	Infrastructure rehabilitation	Transit planning & engineering	KRM Commuter Rail capital costs	Fleet modernization and acquisition, MCard implementation & open data system development	Costs relating to the formation of the transit agency	Total
$185 million	$10 million	$4 million	$30.5 million	$10.5 million	$2 million	$242 million

Year five and on

Maintenance of expanded operations (including KRM)	Fleet acquisition	Open data & research	Capital improvements fund	Total
$210 million	$15 million	$2 million	$15 million	$242 million

Though local revenue sources are important, the majority of funding for this regional agency will likely depend on state and federal funding, otherwise regional tax increases may sour public opinion of the potential system. Despite some musings from area democrats about the reintroduction of SEWRTA, such a feat may be difficult to accomplish given the state's current political climate. Freeing up an additional $80 million in the

state coffers during the next budget vote in 2019 may also be a tricky financial balancing act[35]. While we are able to roughly outline a budget for regional transit integration, predicting public opinion and willingness to pay--locally, regionally, or statewide--is much more difficult.

Cost-Benefit Analysis

Much like the fiscal impact analysis, the cost-benefit analysis is largely conceptual. Throughout this analysis, peer-reviewed studies regarding the effects of segregation and the spatial mismatch will be employed as well as economic data from Clayton County, just south of Atlanta, which recently opted-in to the MARTA regional transit system via a referendum.

The spatial mismatch holds a plethora of detriments to a metropolitan area, specifically in regards to segregation and the traffic generated from the commuting distance necessitate by a separation between job centers and the people who work there. Multiple tools have been implemented in metropolitan areas across the nation; inclusionary zoning which allows the existence of affordable housing in suburban areas like in the retail-heavy Glenview, Illinois or job shuttle links in Chicago's northwest suburbs[36] [37].

The spatial mismatch has a cost that is not quantifiable, yet its effects are widely felt throughout a region, especially within marginalized communities that are far removed from places of employment. Laurent Gobillon notes that in recent years, the adverse effects of the spatial mismatch have been partially mitigated by the deconcentration of minority and impoverished populations away from the specific inner-city neighborhoods and into suburbs, which is the case in many Sun Belt cities; Milwaukee, on the other hand, has not experienced such a racial or socioeconomic blending on a geographic scale--rather, its impoverished Black and Latino neighborhoods have remained similarly isolated over the years[38].

Racial segregation within cities and greater metropolitan usually results in greater economic inequality between racial groups. This inequality oftentimes also results in lower life expectancy, overall health, and educational attainment rates for minority groups. As a region, this geographical isolation is believed to cause higher crime, not just in the isolated neighborhoods, but throughout the region, even in wealthier, whiter communities[39].

The benefits from $34-$68 million of annual local investment from Southeastern Wisconsin communities will improve the lot not only of communities of color, but the all of the region's 1.6 million residents, bolster general business climate of the area, and a lower the crime rate. Following the introduction of a more comprehensive transit service, it is likely that the region will benefit from the positive effects of transit cooperation within five years (if Clayton County is any indication) like higher rates of job access for residents of all income levels. Transit will not be the end-all-be-all solution to social sustainability issues of American cities,

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[35] Marley, P., Stein, J., & Zettel, J. (2017, September 21). Gov. Scott Walker signs $76B Wisconsin budget with money for schools, fees for hybrids. Retrieved May 9, 2018, from https://www.jsonline.com/story/news/2017/09/21/gov-scott-walker-sign-76-b-wisconsin-budget-money-schools-fees-hybrids/688388001/

[36] Kukulka, A. (2016, August 12). Construction resumes on Glenview affordable housing project. Retrieved May 10, 2018, from http://www.chicagotribune.com/suburbs/glenview/news/ct-gla-axley-place-construction-tl-0818-20160811-story.html

[37] Pyke, M. (2016, October 17). How tollway's 'smart road' could make your commute easier. Retrieved May 10, 2018, from http://www.dailyherald.com/article/20161017/news/161018982/

[38] Gobillon, L., Selod, H., & Zenou, Y. (2007). The Mechanisms of Spatial Mismatch. *Urban Studies,44*(12), 2401-2427. doi:10.1080/00420980701540937

[39] Pendall, R., Khare, A., Acs, G., & Treskon, M. (2017, March 28). *The Cost of Segregation National Trends and the Case of Chicago, 1990–2010*(Rep.). Retrieved May 10, 2018, from The Urban Institute website: https://www.urban.org/research/publication/cost-segregation

multiple different approaches are required, but regional access can be a positive first step towards this goal and benefits will likely accrue within 20-30 years.

Whereas there are difficulties quantifying the benefits of this very vague and abstract vision, data suggest that every dollar invested into transit returns roughly four dollars into the local economy by providing access and reducing traffic[40]. By this measure, the $34-$68 million investment would provide $132-$272 million in direct investment into the regional economy. This is multiplied by increased demand for housing near transit, the Center for Transit Oriented Development estimates that 14.8 million households nationwide will seek housing near transit by 2025. Proportionally, this can translate to a demand for 80,000 housing units in the area, which will further drive regional investment[41].

MARTA in Atlanta has proven to be a driving force for affording residents employment access and catalyzing more investment from employers in the areas immediate to rail stations. Clayton County's development patterns have also shifted to become more centered around major existing and future transit corridors[42]. The effect of this has created a 17% increase in ridership between 2016 and 2018, with over 15,000 daily system riders in Clayton County.

The no-build alternative of this project retains the separate local investments into transit, each system independent of the other, amounting to an local economic investment of about $80 million and about $550 million when factoring in subsidies. This alternative also makes few regional investments into transit, which perpetuates the spatial mismatch and segregation patterns, further compounding the difficult-to-quantify regional costs of segregation, inequality, and associated crime. This represents zero change on the part of regional stakeholders like the transit agencies, the State of Wisconsin, the federal government, and Southeastern Wisconsin residents.

The regional transit agency alternative would have a far greater impact for the region's economy, funding plan #1 would contribute about $1.1 billion to the Southeastern Wisconsin economy and funding plan #2 would contribute roughly $775 million. These two funding plans represent the local roles in funding, wherein plan #1 entails statewide and federal commitment, plan #2 is a scenario in which the localities must step up and provide better service. This would impact all four of the aforementioned stakeholders financially; a shift in funding sources and distribution would take away some autonomy from the region's transit agencies, the state and federal government would need to allocate more funding for the subsidizing of the area's transit, and the residents would continue to pay a sales tax that would have expired or pay higher sales taxes in the case of plan #2.

Given the ever-increasing costs of transportation infrastructure, expedited implementation of this regional system is key to constructing infrastructure. Although the percentage-based sales tax will account for some inflation, ballooning infrastructure pricetags make securing additional (federal) funding increasingly difficult[43]. Using a specific project as an example, the East-West BRT, which costs an estimated $122 million now, could cost well over $150 million if built in ten years given current discount rates (for transit expansion, it

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[40] *Economic Recovery: Promoting Growth*(Rep.). (n.d.). Retrieved May 10, 2018, from APTA website: http://www.apta.com/resources/reportsandpublications/Documents/Economic-Recovery-APTA-White-Paper.pdf

[41] Ray, E. (2017). *MARTA in Clayton County: An Opportunity for Equitable Transit-Oriented Development*(Rep.). Retrieved May 10, 2018, from Georgia Institute of Technology website: https://smartech.gatech.edu/bitstream/handle/1853/58522/ellen_ray_marta_in_clayton_county.pdf?sequence=1&isAllowed=y

[42] *The Economic Impact of MARTA on the Economy And Labor Market in the Region*(Rep.). (2012, December). Retrieved May 10, 2018, from University of Georgia website: http://caes2.caes.uga.edu/center/caed/pubs/2012/documents/MARTAFinalReport.pdf

[43] Marohn, C. (2017, June 5). This is why infrastructure is so expensive. Retrieved May 10, 2018, from https://www.strongtowns.org/journal/2017/6/4/this-is-why-infrastructure-is-so-expensive

is roughly 4%), and this does not even account for the increased costs that may come with higher infrastructure capital costs.

It is clear that, if Southeastern Wisconsin can muster the regionalist will to enact a regional transit network, either in the form of a single or multiple systems, the economic benefits, coupled with the mitigation of negative externalities that proliferate from isolation, disenfranchisement, and segregation, will far outweigh the costs.

Conclusion

Milwaukee and the whole of Southeastern Wisconsin, without a guiding force or governing body to oversee transit operations and facilitate regional cooperation, the systemic segregation and lack of access will fester in Milwaukee's underserved neighborhoods. Through the continuation and repurposing of an existing sales tax, Wisconsin's largest metropolitan area can make its first foray into transportation-centric regionalism. Mitigating the spatial mismatch and widening the job pool for residents and labor pool for employers by way of public transportation improvements will significantly improve equity and social mobility in the region and reverse the decades-long pattern of fragmentation and unjust growth.

Forging a new regionalist identity through policies intended to uplift the region's most vulnerable and needy residents via enhanced connectivity will lead to a stronger region. While support from the state level has been inconsistent and spotty, there is clear political will among Southeastern Wisconsin lawmakers and residents to move forward with such a system. As the issues of racial segregation, economic inequality, and climate change from carbon emissions grow ever-more important, it is up to the people of Southeastern Wisconsin to decide what type of region they want.