Driving the Budget: The Politics of Bus Transportation in Madison Wisconsin

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Abstract: Public transportation, beneficial to citizens directly and indirectly, is dictated by the political sphere, localized budgets, and urban demographics. This study seeks to isolate the characteristics of who is riding the bus in the city of Madison, Wisconsin and how they will be affected by the contemporary fiscal climate as it acts upon transit policy. Methods of participant observation, surveys, photography and an interview assess ridership and attitudes on proposed bus fare increases. Riders of routes 80 and 6 do not parallel the demography of the metropolitan and campus communities, but do illustrate the geographic pattern of households. Demand for public transportation will not be adversely affected by fare increases.

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Introduction

Madison has a long history of public transit. Beginning in 1884, Madison Street Railroad Company offered mule car service on State Street. In the following years, transit service transitioned to electric streetcars and later to bus service in 1923. Madison Street Railroad Company was reorganized and renamed eight times between its inception and final transition to Madison Metro in 1970 (Vandervoort 2012). Today, Madison Metro is the publicly owned transit company that provides bus service to the greater Madison Metropolitan area.

The political sphere, localized budgets, and urban demographics often dictate public services. The volatile nature of politics and the economy have yielded numerous changes in transport policy in the urban center of Madison, Wisconsin. University of Wisconsin-Madison campus routes and metropolitan routes must constantly address temporal and spatial shifts to service on the Madison Metropolitan Transit system. Historically having undergone massive changes, the Madison Metropolitan Transit system continues to evolve today.

We sought to isolate the characteristics of the individuals who ride the bus and compared that to campus demographics and census data in order to assess who rides the bus in Madison, Wisconsin and how these persons can be affected by the politics and economy of the contemporary social climate. The study observed the demographics of individuals serviced by the UW-Madison campus route 80 and the metropolitan route 6, which provides service between the West Transfer Point and East Towne Mall. Observations of the routes' bus stops and their immediate surroundings in addition to surveys and interviews regarding the changing transport policy and the public transportation landscape inform who rides the bus in Madison, Wisconsin, and how will they be affected by changes in fiscal policy?

At the end of the 2011-2012 academic year, UW Transportation Services announced that a $1 million deficit would result in changes to bus service at the beginning of the 2012 fall term. The route 85 campus circulator was absorbed into the 'new' 80 route in order to cut service hours and costs. The frequency of the other campus buses such as the Safe Ride 81 and 82 has been decreased in order to mediate costs as a result of the deficit (UW Transportation Services). UW Transportation Services is an auxiliary. It cannot generate funding from taxes because the university does not have a property tax, thus UW Transportation Services must make its revenue from parking spaces (Margaret Bergamini Interview 2012). UW Transportation services negotiated a cut in campus bus service in order to decrease costs to the institution in the face of a deficit.

In October of 2012, Mayor Paul Soglin released the executive budget for the city of Madison. The city budget is composed of two parts, the capital and operating budgets. Capital budgets are directed at long-term investments and operating budgets are directed at funding contemporary city departmental needs (City of Madison, "Metro Transit" 2012). Every city of Madison agency was asked to account for a five percent tax levy reduction. Madison Metro Transit concluded that the best way to meet the mandatory reduction was to decrease service expenses or add a fare increase. Due to the crowding on buses, Madison Metro Transit determined that cuts to service were not a viable option thus a fare increase was proposed to generate an expected $686,600 in revenue (City of Madison, "Frequently Asked" 2012). The operating budget for transit included provisions to increase adult fares, extend service to Owl Creek neighborhood, decrease the diesel fuel budget, budget for an advertising associate and increase security at transfer points (City of Madison, "Metro Transit" 2012). The community and city alders met the proposed budget increases were met with intense opposition.

Under federal law, the City of Madison does not have to provide bus service to the University of Wisconsin-Madison campus. However, the university functions like its own 'quasi-city' and is thus a large consumer of Metro Transit. The Associated Students of Madison (ASM) has negotiated a contract between UW Transportation Services and Madison Metro Transit where ASM pays $1.15 to Metro Transit every time an individual with an unlimited bus pass rides a metropolitan bus route. The proposed increases in fares included a $0.10 increase in the amount paid by users with unlimited access passes. Paying for campus circulators such as the 80 is not linked to ridership. Everyone in the campus community pays for the bus whether they use it or not because it is a social good. UW Transportation negotiated with Madison Metropolitan Transit to cut service on campus routes to operate with 3000 less service hours in order to pay less of the total expense of service operation (Margaret Bergamini Interview 2012).

On 12 November 2012, Soglin published a package of changes to the city operating budget taking fare increases off the table. There will not be a $0.25 increase to adult fares in January of 2013. However, the Mayor has suggested the fare increase may be brought up again in 2014 (Wisconsin State Journal 2012). The package also eliminated the potential increase of $0.10 paid by ASM each students use their bus pass. Thus students will not face an immediate increase in the segregated fees they pay each semester (Margaret Bergamini Interview 2012).

Literature Review

Literary analysis of public transportation policy (the relationship between urban transport and spatial organization, exclusionary and inclusionary mechanisms in transport policy, policy problems and solutions) will inform dialogues on ridership and how budgets are acting upon individuals. Interpreting the bus as a mechanism for consumption and the analysis of better bus

practices and sustainability informs the complexities of transport policy and how policy is imposed on individuals.

1. Defining the Transport-scape

Through engagement with the landscape, research on ridership of the routes 80 and 6 lines should and does define social boundaries of the bus line. Participant observation assists in the process of defining both the bus and bus stops in a meaningful fashion via how individuals who regularly interact with bus service are imposing themselves upon it.

It was be helpful to draw or define the different institutions along the bus route and the specific locations in which the bus stops are situated. It was important to see if there was a recognizable pattern for where stops are situated and whether or not they have a shelter (Cronon 2009). Seeking a pattern provided insights into which areas are perhaps most spatially affected by cuts or proposed amendments to the city and/or university transportation budgets. If we had unlimited time and resources and could expand our research, it would be prudent to include observation of bus stops and ridership at different times of the year (Cronon 2009). Additionally, climate has an impact on purposive ridership of the metro lines; if there was more time to engage with this research it would be informative to observe the changes in ridership as correlated to the change in Wisconsin's seasons.

Engaging with multiple individuals through interviews and surveys to demonstrates how bus lines and stops are variable spaces and have multiple symbolic meanings (Cronon 2009). The increase in the cost of the metropolitan bus lines will likely yield a change in how people identify and or relate with the bus. Fare increases can alter the process of ridership via changing costs of consumerism, thus changing how the transport-scape is defined. The one million dollar deficit in the UW Transportation Services budget (UW Transportation 2012) could result in spatial,

temporal, and economic costs to the individuals who ride the 80. Proposed elements of the city of Madison operating budget for 2013 could have increased the bus fares by $0.25 per ride (City of Madison 2012). Thus, the city operating budget has the potential to alter the spatial and economic mobility of citizens in the greater metropolitan area.

2. Urban Transportation

In Becky Loo's entry in the International Encyclopedia of Human Geography on "Transport, Urban," Loo introduces the dialogue of urban transportation and differentiates between public and private transportation. Graphics and analysis detailing and comparing environmental impact, housing types served, parking space usage, public space creation, and general land use patterns for automobile- and transit-oriented development suggested bias towards transit-oriented development (Loo 2009, 468). Ultimately, Loo argues an urban transport system must consider the elements of increased infrastructure and policies like pricing models to develop a successful and less-congested urban area. A combination of transport and land use policy that meets the economic needs of the population is the key for developing sustainable urban transport system (Loo 2009, 469). This dialogue could mediate the tensions between best service practices and increasing bus fares or decreasing services.

Urban transportation, specifically transit ridership, has gone through many different cycles since its initial growth from 1900 to the 1920's (Taaffe, Gauthier, & O'Kelly 1996, 188). In the book Geography of Transportation, Taaffe, Gauthier, and O'Kelly define how urban areas are spatially organized. Their chapter "Urban Transportation" helps to explain this organization by charting out the differing trends in transit ridership from the initial growth phase in 1900 to the early 1990's (Taaffe, Gauthier, & O'Kelly 1996, 190). They assert that there is a strong dependent and dynamic relationship between urban transportation and spatial organization

(Taaffe, Gauthier, & O'Kelly 1996, 166). Of the different dynamics, the authors explore accessibility, the spatial form/setup of transportation, urban externalities, economies of agglomeration (regional specialization and comparative advantages), and social changes, which are all important elements of urban transport. The authors also delve into explaining why there has been such a decline in the most cost-effective form of transportation: public transit. The decline is a feedback loop starting with the fact that drop in ridership leads to lesser funds for transit system which then results in cutting routes and changing schedules to accommodate budget, which in turn can disadvantage people and lead to even less ridership. If we had more time, it would be prudent to research if changes in ridership have resulted in more or less funding for public transportation in the city of Madison. Last year, Madison broke a 40-year record of ridership (Margaret Bergamini Interview, 15 November 2012; see section 10) that merited an award for best midsized transit system from the American Public Transportation Association. If the transit system has less funding than it has in the past, Taafe, Gauthier, and O'Kelly's feedback loop cannot be universally applied to all transit systems. The interrelationships between transportation and the spatial organization explicate elements of Madison's dynamic urban transportation system.

3. Transit-related Exclusionary & Inclusionary Processes

Transport is a mechanism for social exclusion. Transit systems perpetuate inclusionary and exclusionary processes. In *Mobility and Transport-related Social Exclusion,* Amartya Sen's theory of entitlement is used to derive policy responses for transit-related social exclusion. Mechanisms for reducing transit based social exclusion include lowering transport costs, increasing contacts through the use of technology, altering land use to promote social interactions through decentralization, increasing personal incomes, and promoting civil society

(Preston & Rajé 2007, 151-52). These are credible solutions to factors that are limiting access to transit in theory, but do not seem like accessible solutions in the city of Madison in light of the current economy and political climate. Preston and Rajé's study documented a GIS technique for mapping accessibility, a tool limited by data availability (Preston and Rajé 2007, 154). While our study did not utilize the accessibility function, data availability was a limiting factor in our research. Preston and Rajé noted that an acceptable approach to collecting data in the absence of detailed surveys was to locate prudent census data that provides information on age, gender, employment status, access to a private vehicle and ethnicity (Preston and Rajé 2007, 156). While the GIS technique is not an accessible tool in our research to see if one group of the population has been particularly disadvantaged by bus service, use of relative measures of exclusion based conclusions on characteristics of individuals and space can be observed. Preston & Rajé's study also lacked a qualitative element that informs deeper social discourses, their focus on GIS and statistical data missed information that could have been obtained through emotive interviews with the bus riders.

J. Hine's article "Transport and Social Exclusion" seeks out the importance of transportation accessibility and personal mobility to social exclusion. The author uses a spatial science approach, though a humanistic paradigm with statistical analysis would be an effective to the research question on transportation and social exclusion. Hine's theorizes that low income, women, elderly and disabled persons, and children are groups more prone to social exclusion (Hines 2009, 430). At a public hearing on proposed fare increases, Madison citizens shared how they felt they were particularly disadvantaged by the public transit system. The proposed fare increases were disproportionally higher on senior and disabled persons passes. Low income as well as minority individuals expressed dissatisfaction with service and felt that increased fares

and stagnant service improvements furthered unemployment and social exclusion (Public Hearing on Fare Increases, 7 November 2012). Policy responses can either help or hinder the effort to improve inclusion. Therefore, policy decisions and targeted and general subsidies should be made with social inclusion in mind. Hines cites targeted bus policy and specialist transport services as possible measures of inclusion. Hines also suggests virtual mobility and non-transport methods as "solutions" to the question of transportation and social exclusion, which defeats the purpose of studying social exclusion in light of transportation issues (Hines 2009, 430-433). This article builds a foundation for our research question on how transportation policy affects individuals and households. Transportation policy, or lack thereof, can yield lead to persons experiencing losses in ability to participate fully in society.

The geography of poverty is complex. Pain et al. assert that a structural explanation to explicating poverty is the strongest approach as opposed to individualist or community based explanations. Poverty should be viewed from a structural approach because poverty is exacerbated by the system. This post structuralism viewpoint on poverty cites failed and inadequate transportation. Census and other bureaucratic statistics provide data on poverty based on the elements of poverty and mobile geographies, poverty and gender, poverty and racism, etc. (Pain et al. 2001, 255). Graphs depicting unemployment over time against income effectively argue poverty is often concentrated spatially and contained by lack of transportation to better quality jobs (Pain et al. 2001, 265).

The "Urban Transport Problems and Solutions" chapter in Hoyle and Knowles' study gives an overview of several major problems and general solutions. In cities in the developed world, private vehicles dominate principle modes of transportation. In third world cities, all mechanisms for public transportation are inadequate. The study indicates that bus systems and

road infrastructure are inadequate even in developed countries (Hoyle and Knowles 1998, 155). Several solutions to inadequate transport infrastructure are offered, including paratransit, taxi services, and widening roads (Hoyle and Knowles 1998, 139-142). The study suggests improvements can be made to public transportation with profound fiscal investments. Bus rapid transit (BRT) is a high frequency, minimal stop alternative to standard buses that is being considered in Madison, Wisconsin. According to alder Scott Resnick, this would require substantial federal investment in order to restructure the transit system and provide adequate service (Breaking Down the Budget, 15 October 2012). In the remainder of the chapter, Hoyle and Knowles cite a graphic that indicates lower levels of car ownership in Third World countries, but the study lacks a comparison to car ownership in developed countries. Though the data is accurate and relevant to this overview of urban transport problems, little is presented in way of solutions.

3.1 Policy of Finance

Urban transportation finance explains how policy and finance determines the landscape of transportation. In B. Taylor's study in The Geography of Urban Transportation, the author assesses data that looks at urban transportation finance and reviews the economic and political factors, and fiscal politics in shaping urban public transits systems. From a critical realist perspective that examines urban transportation finance as a factor in the geography of transportation, Taylor "follows the money" (Taylor 2004, 204) in various case studies to examine what guides changes to transportation systems. The data from the US Department of Transportation and Bureau of Investigational Statistics leads to conclusions on where the money does and should come from in order to finance public transportation services efficiently and equally socially, though not often the case (Taylor 2004, 304-310). Madison metropolitan

community members voiced different opinions on where funding to meet the mandatory tax levy should come from (see section 9.1). Case studies effectively look towards the future. Highly useful to our research, this chapter and book provides excellent in-depth look into the relationship between finances and transportation systems, often controlled by political policy.

4. Metro Transit as a Mechanism for Production & Consumption

In 2006, Neil Paulley et al. provided an updated report on factors influencing demand for public transport in the UK. An original report from 1980 identified demand factors in public transportation and became highly valuable to public transport operators and planners and policy makers (Paulley et al. 2005, 295). For the article "The demand for public transport: The effects of fares, quality of service, income and car ownership," the authors collected data from surveys, modeling, and observations and, where possible, compared data to that of the 1980 study. The article focuses on fare increases, quality of service, and car ownership as factors influencing public transport demand, which are relevant to our study. Analysis of fare elasticity over short-, medium-, and long run change during peak and off-peak hours is comprehensive and generally negative, which refers to proportional relationship between fares and patronage. The study concluded that, in Great Britain, increases in fares almost always lead to increases in revenue (Paulley et al. 2005, 296-297). In Madison, Wisconsin, the proposed bus fare increases was expected to mimic the results of this study and generate $686,600 in revenue (City of Madison, "Frequently Asked" 2012). Paulley et al. also interpret quality of service, which includes wait times and time spent on the bus (Paulley et al. 2005, 301). Changes in quality of service are of primary concern in alterations to the Madison Metro System, but more data is needed to explain quality of service as this study produced less quantifiable results in quality of service than in research on fares. While there are many factors that are relevant to assessing demand for public

transport, there is always a degree of uncertainty. This study provides a foundation for future research in the mechanisms influencing demand and consumption.

The bus is a mechanism for the processes of production and consumption. Services are produced at variable rates attending to differentiated service corridors. Consumption may be limited by factors of physical or economical accessibility. *Transit, Location, & Spatial Policy* asserts that transport is part of a locational problem. Individuals linked to institutions and households consume transport based on price relative to other tangible concepts like accessibility. The development of space is typically uneven and modern cities are centrally organized. Uneven development and central organization create a tension in transport policy between the principles of equity and efficiency (Button and Gillingwater 1983, 2-5). If land use and spatial organization in the city dictate which corridors have the greatest accessibility to public transit, better bus practices are mitigated by inequity of services and there will be a population that is particularly disadvantaged by transit services. Research on who is riding the bus and how they are affected by the proposed budget may not provide enough information to develop a causal link between the budget and transit-related social exclusion, as there are other social factors that mediate individual use of public transit. The conflict between the principles of equity and efficiency is a force acting upon the consumption of public transit. In *Social Geographies,* Valentine reevaluates the city as a place of consumption rather than as center of production (Valentine 2001, 227). This concept evaluates purposive ridership in the dialogue of bus ridership. In the 1970s and 80s cities were organized around production. In the late 1980s and 90s mechanisms of spatial organization shifted to be around consumption. This shift to consumption parallels the rise of culture as a focus of generating capital and the shift to a service based economy in the United States (Valentine 2001, 227-28). Though the concept of organizing

the city around modes of consumption relates to transit policy, it does not contribute directly to the question of who is riding the bus. The concept of consumption questions how ridership is constructed and how it might be affected by outside forces such as the budget.

5. Better Bus Practices

In 2009, the Florida Department of Transportation endeavored to create a generalized approach to best bus practices that could be used by transportation planners to facilitate better public transportation services. The analysis of practices is divided into three topical areas: service design standards, performance measurement, and service evaluation. Factors that mediate service design standards include classification systems, the availability of service, travel time and passenger capacity, standards of customer service, the reliability and conditions of transit vehicles and the equity of service. Service could be improved through a transition to Bus Rapid Transit, which is a high frequency, efficiency, and speed service line (Mistretta et al. 2009, 5-35). Bus Rapid Transit is a high capacity, low cost solution to urban transit mobility (National Bus Rapid Transit Institute 2012). There is currently an exploratory initiative in the City of Madison to develop Bus Rapid Transit between the Madison Area Transportation Board, the Capital Area Regional Planning Commission, and Metro Transit (Capital Region 2012). It is likely that Bus Rapid Transit would require a profound economic commitment from the city in addition to federal funding.

The second element of the Florida Transportation Board approach to best transit planning is route performance measures. Performance can be measured by comparing passenger rides per hour, mile, or vehicle trip. During peak hours, centralized routes should carry 30 passengers per hour with a minimum of 10 passengers per hour (Mistretta et al. 2009, 35-40). The last principle of transit service planning is service evaluation. Urban transportation services must implement a

performance monitoring system and a system to address substandard service (Mistretta et al. 2009, 41-46). This study provides a sufficient outline for a reflective and observational analysis as to whether Madison Metropolitan Transit Services has optimal bus practices. We included elements of this study in a survey question (see section 14) to inform which elements of better bus practices that Metro is implementing. A dialogue on whether transit services are executing best practices will be informed by changes as a result of budget amendments and deficits.

5.1 Sustainable Bus Practices

In the article "Sustainable transportation planning on college campuses," Balsas argues that, due to the "pro-active educational milieu," campuses are places that play a vital role in changing thoughts of sustainability and can help reshape greater society's transportation patterns (Balsas 2002, 36). Balsas conducted surveys and interviews with transportation planners/coordinators, observed and participated committee meetings, reviewed campus plans and web pages, as well as collected articles from each of the places local and college newspapers. Balsas concludes that although college campuses are "microcosms of society" and as some of us may think of it as a city within a city; they have distinct differences from larger society. When comparing to national ratios of automobile transportation, college campuses tend to commute by very different means. Instead of owning a vehicle and driving it into campus, most people walk, bike, or use a campus shuttle. Since many campuses have a greater impact on the city or state it is found in, Balsas hopes that these sustainable practices will flood into the communities that look to the universities as leaders. The University of Wisconsin was one of the college campuses surveyed and indeed it was shown to have a much greater use of public transit as well as having a very biking- and walking-friendly campus. In an interview with Margaret Bergamini, Bergamini referenced a Public Interest Research Group study that suggests public

transportation ridership continues to increase on college campuses as a result of behavioral changes as the present collegiate generation favors more sustainable practices (Margaret Bergamini Interview, 15 November 2012; see section 10).

5.2 Unlimited Access

Cities that contain large universities often have a ride agreement with public transit called "Unlimited Access." In this arrangement, the university pays the transit system a certain sum of money in order to get their students "free" access to the transit (Brown, Hess, and Shoup 2001, 234). The overall argument is that this is extremely beneficial for both the students as well as the public transit. Unlimited access has more to it than one would think—it isn't necessarily free due to the fact that the university pays something called a "shadow fare" which is paid for by every single student in segregated fees (Brown, Hess, and Shoup 2001, 234). For the Fall 2012 semester, segregated fees at UW-Madison totaled $55.56 (University of Wisconsin Registrar 2012). The method these authors used to retrieve data was in the form of telephone interviews with university administrators, transit officials, and representatives of campus student organizations. These are important methods that helped guide our data retrieval: for our study, we sought out information from university websites, transit officials, and a sampling of students and community members. Unlimited access is a benefit to both the student riders as well as the transit systems in the agreement and it even branches out and benefits society as well.

5.3 Benefits of Public Transit

Savings occur in many spectrums when using public transit, some are as follow: saving due to the avoidance of owning a personal vehicle and the costs of upkeep that come with it, bypassing congested freeways and thus possibly savings in time, and pollution (Lewis and Williams 1999, 59). These two authors compared actual cost of transit to the amount that transit

customers pay which stated "on average, only 44 percent of transit operating costs [is accounted for] by fares; taxpayers pay the remaining 56 percent (Lewis and Williams 1999, 60)." This is an interesting statement because the authors also explained that only 1 in 20 workers use transit to commute to work and even though it's assumed that "poor and near-poor people are more likely…to use transit, only 3.5 percent of their trips were on transit (Lewis and Williams 1999, 60)." So although every taxpayer pays for the transit system, they do not necessarily take advantage of it and actually use it. Had we the time and resources, further investigation into whether university students take full advantage of their bus passes would have been another interesting aspect of transit to compare to Lewis and Williams' results.

6. Methods

Our research design required a mixed methods approach to analyzing bus ridership and how budgets are affecting citizens in Madison, Wisconsin. Data measuring busload, subjective ethnicity characteristics, and relative age informed the question of ridership on the routes 80 and 6. We compared this data to census and campus demographic statistics to measure if ridership is representative of the greater population and if a particular segment of the research population is disadvantaged by bus services. Participant observation was an important method in this process. Surveys and an interview contributed to the dialogue of policy discourses acting upon ridership and the attitudes of bus riders. Lastly photography presented bus stops in the context of the landscape. The context of the bus stops and route is informative as to policy discourse and better bus practices.

6.1 Interviews

Mixed methods approaches to research have become increasingly important to human geography (Winchester 1999, 61). Approaching subjects in geographical research from

qualitative and quantitative approaches prevents analyses from being purely subjective or objective. Winchester asserts the validity of interviews rests on whether their results explicate mechanisms that are being observed, and thus favors a critical realist approach (Winchester 1999, 62). Qualitative characteristics such as feelings and attitudes can be used to derive meaning and causal explanations for the social mechanisms being observed. Interviews may provide information that can help researchers articulate the questions that compose their surveys. Qualitative and quantitative methods are complementary (Winchester 1999, 63). With regards to this study of the bus transit system in Madison, Wisconsin the article informs that qualitative methods and quantitative methods are complementary. Data that is collected from surveys and interviews is quite different. Collective analysis of information from interviews and surveys draws better conclusions than independent use of either technique as these research methods inform one another.

For our study we conducted an interview with Margaret Bergamini, the Associated Students of Madison Program and Policy Analyst for the student bus program and appointed member of the Transit and Parking Commission. The questions we posed to Bergamini addressed the attitudinal shifts in changing policies to better understand how the university as well as the Madison metropolitan area will respond to future budget changes. We were unable to make use of recording devices in accordance with restrictions on the Department of Geography, and have made use of paraphrasing in some instances.

6.2 Participant Observation

Ethnography and participant observation are research methods highly pertinent to the study of the demographics of bus ridership. Ethnography, or vividly describing the setting and the relationships of the people present by "people-writing," is a good way to record key

information and reminders of what influences a study's subject. In Research Methods in Geography, the authors suggest taking a layer approach to ethnography and participant observation. The researcher should start with the location then add a description of the physical setting. Next, the researcher should include the people present and expand on the relationship between the people and the landscape. Finally, the researcher must recognize his/her presence in the situation and reflect on the research process. If done correctly, the writing will be informative and, while fairly straightforward, can become increasingly complex with human subjects. Great care should be taken to avoid misrepresenting participants by following standard ethical guidelines (Allsop et al. 2010, 206-221).

6.3 Surveys

In order to reduce error in a study or survey it is best to understand how respondents will think about specific questions and respond in their specific way depending on their understanding of the social situation as well as the questions themselves. Thus, a social-cognitive framework for studying question answering in surveys is necessary, and may decrease the chances for response errors (Sudman, Bradburn, and Schwarz 1996, 244). This chapter takes into account the fact that administering surveys or questionnaires is a social process and through understanding rules that govern social encounters and conversations should be well understood in order to get the best results possible. This book, Thinking About Answers, is entirely devoted to the application of cognitive processes to survey methodology. The book looks at social situations in very specific ways and explains how to create and administer a survey in the most socially proper way. It is vital to think like the intended interviewee or survey respondent in order to ensure participants will understand the questions. Our study referenced a section devoted to attitude questions when creating a survey asking bus riders about their reaction to the potential

fare increases. It is important to understand how context affects attitudes and opinions. To make the most out of our survey, we needed to make sure that our respondents knew of the changing bus fares due to a new budget. Knowledge does indeed influence respondent opinions and attitudes on the subject (Sudman, Bradburn, and Schwarz 1996, 263). The survey we distributed to capture insights into attitudes about cost increases and Madison Metropolitan Transit as a whole as well as measuring purposive ridership and alternative transit methods. As a result of convenience sampling, survey responses were not representative of the community population as a whole (Secor 2010, 196). A copy of the survey may be seen in section five of the appendix.

6.4 Photography

Photographs establish context for social identities, relationships, and expression (Collier and Collier 1986, 77). Photographs of bus stops at different times throughout the day can explicate the demographic of ridership. Photography at bus stops or on buses, provided the opportunity to profile the clothing, ethnicity, and age of individuals who are riding the bus (Collier and Collier 1986, 79). These characteristics are socio-cultural identifiers. Taking photographs in the interior of Metro Transit buses would likely have violated individuals' reasonable expectation of privacy. Thus the Collier's approach to ethnographical photography was translated into the approach we applied to collecting demographical information while riding the buses. The study documented relative characteristics of ethnicity and age to measure who is riding the bus at different times during the day. Photographs are also informative with regards to establishing the setting of the transport-scape in Madison, Wisconsin and describing the relationship between bus shelters and their spatial context. Images of the transport-scape communicated historical transitions in the individual public transit history of Madison and the evolution of social norms.

Images of the routes 80 and 6 will inform spatial relations, social interactions, and the integration of bus stops into spatial contexts. Images may also inform better bus practices in Madison by displaying passenger services or bus stops in their surroundings, which communicate practicality or impracticality of location. Please see the photography element of the results portion of the study (see section 7 of Results: Rephotography).

6.5 Expanded Methods: Gauging System Performance Through Statistical Modeling

Different measures can determine connectivity from a graph theoretical approach for all levels of transit service coverage by integrating routes, schedules, socioeconomic, demographic and spatial activity patterns. The article "*Performance Indicators for Public Transit Connectivity in Multi-Modal Transportation Networks*" describes the statistical methods of gauging how to mathematically comprehend transit system performance (Mishra, Welch, and Jha 2012). They lay out what a complex process it is to measure performance of a transit system and then share multiple mathematical ways to reduce the need for mass amounts of data, but still be able to provide important information regarding the performance of the transportation system. The specific factor that the authors rely on is connectivity. This "connectivity index" helps integrate acceptance rates and accessibility for a specific node, which they define as a bus stop, in relation to how it fits into the larger transportation network, which the authors define as a line/links in a route (Mishra, Welch, and Jha 2012, 1066). If our group were doing a statistical analysis of connectivity that tried to explain all of Madison's system these methods would prove of great use especially to save time and money as far as data collection could go. The methods would be used to understand connectivity measure performance and quality. Although we did not measure connectivity, it would be a very valuable aspect to include, which is brought up in our expanded study section.

The complex nature of transport policy is acting upon individuals in manifold ways. It alters the physical distribution of services, moderates consumption and perpetuates exclusionary processes. Managing fiscal, political, and transportation policy is the key to developing better and sustainable bus practices. The aforementioned mechanisms elucidate the volatile nature of transport policy and will help explicate the forces acting upon Metro Transit ridership in the city of Madison.

Results

7. Rephotography

The comparison of historical images to photographs from the present informed on dialogues of the rich history of public transportation in the city of Madison. We used rephotography to replicate the historical images with the exact time and setting. The photographs allow for an informed view on the landscape and we are able to compare and contrast what society has changed about the location and attempt to explain why these changes occurred through the various changing culture and social norms. The landscape of Madison is in a constant state of change; the University of Wisconsin-Madison campus seems to be in a perpetual state of construction, which in turn has dictated changes for the campus route 80 in the present academic term.

Figure 1. Bus Stop at Park & State circa 1961. University of Wisconsin Digital Collections. 1961. http://digicoll.library.wisc.edu/WebZ/FETCH?sessionid=01403121748682375:recno=22:resultset=2:format=F:next=html/nffull.html:bad=error/badfetch.html&entitymageSize=l.

Figure 1 above portrays bus service on the University of Wisconsin-Madison campus in 1961. During this period, the privately owned Madison Bus Company operated the bus services in Madison. Formerly Madison Railway Company, the Madison Bus Company became Madison Metro in 1970. The publicly owned Madison Metro continues to provide public transit to the city today (Vandervoort, 2012).

The image portrays service coming from State Street onto Park Street; the option to provide this service was eliminated in 1968, when the Board of Regents and Madison City Planners transformed the 700 and 800 blocks of State Street into a pedestrian mall. Library Mall was first envisaged in 1900, as an area with four paths radiating from a central point (Quinn Evans). The contemporary addendum of the pedestrian mall to the initial area is the modern Library Mall east of Park Street. The creation of the pedestrian mall 7 years after the photograph

was taken established a public forum in lower campus and fundamentally altered transit mobility pushing public transit into alternate corridors.

Figure 1 also captures various cultural norms of the time, identifiable by the number of women in the photograph and the lack of racial diversity. Although women were first admitted to the University more than 100 years prior, in 1863 (Wisconsin Alumni 2010, 1), the 1960s are linked to the rise of the women's rights movement. Thus, the four women captured in the photo could be associated with an increase in the number of young women living independently and attending academic institutions with the rise of feminine mobility. In addition the 1960s are commonly tied to the Civil Rights Movement. The lack of ethnic or racial diversity in the image can be linked to cultural standards of the 1960s where segregation was the norm. That is not to say that Madison Bus Company specifically proscribed non-white ridership, rather it is to note the lack of ethnic character in the photograph. Racial discrimination was not specifically prohibited in the United States until 1964, with the legislation of the Civil Rights Act (United States Senate 2006). Figure 4 captures more diversified ridership in the present day. The man in the brown sweatshirt is an African-American senior, the young male in the gray coat would be identified as an "other" international identity, and the young female approaching the bus from the shelter would be identified as Caucasian. Ridership in the present is more diversified across age and racial classifications than of the demographic of ridership captured in Figure 1 from 1961.

Figure 2. Route 80 bus stop at Park and State, 2012. Katy Vosburg. 2012.

Figure 3. Route 80 bus stop at Park and State. Katy Vosburg. 2012.

Figure 4. Katy Vosburg. 2012.

Figure 5. Katy Vosburg. 2012.

Figures 2-5 capture the present bus stop at Park and State Streets for the Madison Metro 80 route. The photographs were taken between 9:00 and 10:00 A.M in November, conditions that appear to parallel that of Figure 1 based on the fur coats adorning the females and the lack of

snow on the ground. The stop at Park and State serves as a lower campus hub, as the 80 no longer passes in front of the Memorial Union due to construction. There are several changes to the physical landscape of lower campus to distinguish between the photo from 1961 and those of the present: buses can no longer travel all the way down State Street to Park Street but instead must turn north or south onto Lake Street, the Humanities building was not constructed until 1969 (Moe 2010), and in the present day there is a bridge connecting Bascom Mall to lower campus and Library Mall. Construction of the George L. Mosse Humanities building east of Park Street altered the vantage point from which Figure 2 was taken. In order to capture the route 80 in a photograph that included elements from that of Figure 1 such as Music Hall, required positioning of the camera on the exterior of west side of the building above the bike racks.

The second set of photographs captures several norms of the present day. Figure 2 depicts the profound amount bike racks outside of the humanities building. Bicycles are absent from Figure 1. Bicycles represent an alternative mode of mobility for students and their prevalence in Figure 2 can be attributed to an increase in bike lanes and bike safety on public streets, an increase in the size of campus, and a transition in the social norms of transport between the 1960s and the present. The clothing depicted on individuals in Figure 3 is radically different from that of Figure 1. The contemporary clothing has far more patterns - individuals are adorned with cultural symbols of the time including a The North Face brand jacket or Pikachu hat - and students in the present are wearing backpacks where as in the first image they are carrying their school materials in their arms.

The sequence of images is pertinent to defining the historical, social, and transit landscapes on the University Campus. The photographs display the historical evolution of the transit-scape in addition to defining the historical development of campus outside of the lens of

the images. It is important to note the aforementioned construction of Library Mall and the Humanities building, but to also note that Music Hall, the church-like building on bottom section of Bascom Hill, remains unchanged between Figure 1 and Figure 3. The series of images documents Madison's individual transit history. Figure 1 predates Madison Metro, the modern public transit service in the city. In Figure 1, there are no commercial advertisements on the exterior of the bus beyond the frame advocating people "Go by Bus. " The exterior of the buses in Figures2, 4, and 5 capture the commercialization of space that dominates modern American consumerist culture. Figure 2 portrays university football star Montee Ball in promotion of the 2012 athletic season. Figure 5 has captures an advertisement for a Madison car dealership, Zimbrick automotive. These images embody consumerist culture. Advertising is a form of revenue, yet it seems paradoxical to advertise for a car dealership on an alternative mode of transportation and on a campus circulator in an area where the majority of residents are students and do not have a personal vehicle.

Madison's transit-scape is helps define social and cultural norms. This series of images documents a historical change in ridership and the evolution of consumerist culture in depicting advertisements on transit vehicles. Pictures inform landscapes, gendered social roles, mobility, necessity of use and the definition of place and space.

The next two images also inform on the landscape of bus stops.

The first photograph (Figure 6) was found at the Wisconsin State Historical Society, and its focus is pedestrians and the Madison Bus Company buses. No date or other information aside from the photos being taken from 1884 to 1960 was available. Because of similarity to a 1945 Manitowoc, Wisconsin bus from other historical images, this photo is likely from the 1940s era. It is important to note that of nine people in this photograph only one was a female and the other

eight were white, male, likely middle aged, business men. The likely time period informs social dialogues. Women were primarily housewives during this era, while men were the primary breadwinners. We can also postulate that the reason the focal point was the buses could be due to the fact that in World War II there were gas rations and so people relied and made use of public transportation (Manitowoc County Historical Society, 2012). It will also be useful to note how dominant the buses are as the focal point of the image.

Figure 6. Wisconsin State Historical Society; http://arcat.library.wisc.edu/cgi-bin/Pwebrecon.cgi?BBID=7870.

Figure 7. Kelly Kohrs. 2012.

Figure 7 was taken right around 12:30pm, which parallels that of the older photograph had been taken because of the light hitting the capitol as well as the shadows cast by the individuals in the photograph. Figure 7 was likely taken a little bit later in the year because more of the trees in the recent picture have lost their leaves compared to some of the trees still having leaves in Figure 6. Figure 6 captures people on their lunch break, which generates most of the pedestrian traffic in this picture. There are numerous food carts all around the Capitol Square that people patronize. Most of the people walking around seemed to be employed in a more professional workplace judging by their clothing and language, but there also seemed to be plenty of people who were more casual who were either here in Madison for a vacation or possibly were students on their lunch breaks as well. An observation about the Capitol Square at this time is that there seem to be more women than men, though this picture does not show the gender ratios as such. This vantage point makes the stoplights and food carts appear to be the focus. If you look hard enough you can see the Main Street and Pinckney Street bus stop in the far right middle just above the tourist map station.

To best compare Figures 6 and 7, we start with the focal points. In the 1940's photo the buses and pedestrians seem to give an idea of the importance of public transportation at that time. As previously mentioned it could have been due to WWII gasoline rationing and thus a greater dependence on public transit compared to today's times. The stop light in the center of Figure 7 is an eyesore, but illustrates shows how need for more regulation and pedestrian safety methods increased with higher volume of traffic around the Capitol Square. The food carts bring about more of a casual and relaxing atmosphere where people can stroll around the square and find the most appetizing or most adventurous food cart to have a meal or strike up a conversation with a friend, whereas Figure 6 gives an impression of rushed businessmen trying to cross the

street and get back to their work or the buses full of passengers who all need to get somewhere. The audience of the first photograph seems to be the people in charge of the Madison Bus Company, now known as Madison Metro, because the photo was found in a folder that displayed many other moments of the transit company's history from the time of donkeys pulling wagons of people to the motorized buses of the 1960's. It may be an image taken by the company to show the progression of the system and its technology and reliance by the people of Madison. Another social norm, as previously mentioned, was the role of women. Figure 6 shows one female, who may have been employed as a secretary but probably did not assume a more powerful business role, whereas the more current photo only really shows one female but walking around the capitol it seemed as though more business women were holding those positions of power that once were in the hands of men. The ethnicities of people around the square today vary immensely whereas in the 1940s photo there were only Caucasians. This may be due to the growing of the university as a world-renowned education center, or simply the fact that many people enjoy the Madison experience.

The next set of images is in a different context than the previous. While the first seven images in this study observe social interaction at and around bus stops, the final historical image is devoid of pedestrians and participants and thus has a different purpose.

The image of a bus labeled "Madison Railways Company" parked in front of the Capitol building comes from Meuer Photoart (Figure 8). Meuer Photoart was a work of Madison local photographer William J. Meuer, who with his brother opened the Meuer Photoart House on State Street in 1916, providing photo duplicates of the local area to the general public. Judging by the bare-branched trees, this photo was taken in the winter of 1934. The tight frame of the 1934 photo focuses on only the bus and the immediate context during the day. Again, no persons are

visible. The photo seems to be intended as a promotional or informative shot on a bus being in Madison specifically. The Capitol is a distinct landmark and provides a perfect background for an image regarding "Madison Railways Company," the early precursor for the current Madison Metro system in place today.

Figure 8. Wisconsin Historical Society. 1934 photo: "Bus of the Madison Railways Company parked in front of the State Capitol."

The bus itself is significantly smaller than the buses used in modern times. Looking more like a modern-day 15-person van, the bus' capacity is probably 30% smaller than the present day 40-person buses used in Madison.

Significantly, the bus as parked on the left hand side of the road, empty of passengers and devoid of a driver as well. This would be unusual today as parking a bus on Capitol Square, a fairly high-traffic, one-way route, would be unacceptable. People would be upset if they saw a bus parked on Capitol Square, not running, especially on the left hand side of the road which would signify a bus deliberately not in service as opposed to idling on the right hand side of the

road. Today, idling buses occur on the right hand side of the road, where passengers are let on and off with ease away from on-coming traffic. Parking on the left hand side of the road clearly signifies the bus is not meant to be accessible for passengers.

The 1934 bus is parked across the driveway up to the Capitol. Therefore, that the bus is in a designated parking stall is unlikely. Additionally today parking on the left hand side of the road on the Capitol Square is by permit only and parking stalls are designed for the average sized car today. Today's 40-seat bus would not fit in a standard stall. This photo was probably taken for promotional purposes or the photographer happened to be in a peculiar moment at the right time.

In locating a duplicate photo for this bus, we could not identify which intersection Meuer Photoart used. Four intersections potential intersections exist but enough structural and landscape changes have been made that the exact spot is unrecognizable: we chose the West Washington at Carroll Street intersection. Current trees near the driveways are much younger than the tree in the left of the 1934 photo. The original trees maybe have been cut down and replaced or the grounds have been widened, though there is no distinct evidence for this judging by the 1934 photos. The tight frame of the 1934 photo was also unachievable by our methods. The current lanes on Capitol Square have the buses driving in the right lane as well, further impeding a close replication.

Figure 9. Jessica Shen. November 2012: W. Washington Street at Carroll Street.

Activity is noticeable in modern day (Figure 9). Persons are walking and traffic lights note action of electricity, present because there is need for regulation of the constant motion in the area. Parked cars in the driveway suggest that cars are more common now, as opposed to 1934 when no cars were parked on the streets in the photo.

Figure 10. Jessica Shen. November 2012: W. Washington Street at Carroll Street.

Ultimately, Figure 8 was taken on Capitol Square likely as a promotional photo to focus specifically on Madison Railways Company and the Capitol to provide a very “Madison-centric” photo. The Meuer Photoart House was well know for chronicling Madison landscapes and events and sold reproductions of their photos to UW faculty/staff, locals, students, and to the general public. The photo promotes Madison as a place due to the recognizable Capitol building. The City of Madison takes great pride in the Capitol building as promoting a sense of place and civic pride and thus maintains "Capitol view protection requirements" to limit building heights around the Capitol building to preserve sightlines of the beloved landmark (City of Madison, 2008). We would not be surprised if this photo was often purchased to frame as a poster. The absence of people and activity are notable in making the photo a little more “timeless” and more of a snapshot of Madison the city at the time. Photographs are an excellent way to get a glimpse of the past. Photographs tell a story that is more than what is captured in the image itself, it can

describe elements of what the culture was like at that time, how businesses were run, how buildings were an expression of what people of the time were interested in, and many other things.

8. Breaking Down the Budget for UW Students- Public Forum with Scott Resnick October 15, 2012

Scott Resnick is the alder for the 8th District covering the campus dormitories, over to Spring & Regent Streets and Langdon. In early October, alder Resnick held a forum to explain budgetary questions to UW students. Our study represented the only student in attendance not representing an interest from the Associated Students of Madison or covering the hearing for the campus newspapers.

The present county budget is in excess of $500 million. About half of this budget is directed to health and human services and an additional quarter to public safety. The county budget does not have jurisdiction over things that are incorporated, thus none of the Dane County budget is directed to public transit. This year the city proposed a budget around $266 million dollars. The city budget is divided into capital and operating budgets. The proposed operating budget for 2013 included amendments to raise the adult fare on metropolitan lines by $0.25 to $2.25 and an $0.10 increase for the fare paid to Metro Transit by ASM each time a student uses their unlimited pass. ASM and UW Transportation Services negotiate with Madison Metro to pay a special rate so that students do not pay each time they use campus circulators. Alder Resnick said that were was a 60/40 split between ASM and UW Transportation for the amount paid for campus circulators (Breaking Down the Budget, 15 October 2012). In a later interview, Margaret Bergamini corrected this amount. She stated that this year UW Transportation wanted ASM to cover 80 percent of the costs of operating route 80, and ASM only wanted to pay 50 percent of the costs. Thus in negotiations with Metro Transit, UW Transportation elected to cut

service hours rather than pay a larger proportion of the expense of operating (Margaret Bergamini Interview, 15 November 2012). UW Transportation Services would like to get to a point where they are not contributing the expense of operating campus circulators (Breaking Down the Budget, 15 October 2012).

Resnick argued that the City of Madison has the soundest budget in the state of Wisconsin, but indicated that there are limitations on the city of Madison's ability to raise taxes in order to generate more revenue and flexibility in the budget. At current tax rates, the maximum increase that could be levied on individuals in the city would max out at $9 per person. Thus the city is looking at cuts to current programs and agencies to create more room in the budget. Resnick also indicated that if Madison received proportional aid from the state at the same rate as the city of Milwaukee, the city would receive more than $200 million from the state this year. The alder noted that the proposed increases would have a profound affect on the subset of the population who makes minimum wage, however he was not sure how he would be voting on this issue (Breaking Down the Budget, 15 October 2012).

9. Public Hearing on Fare Increases| November 7, 2012

As part of the 2013 Operating Budget for the City of Madison, Mayor Paul Soglin proposed an increase to fares that would go into effect on 1 January 2013. Metro Transit and the City of Madison Transit and Parking Commission held a public hearing on Wednesday night, 7 November 2012 in order to collect feedback on the proposal. The weekday evening brought out concerned citizens, mostly seniors and disabled persons strongly vocal against the proposed increase.

Fare Type	Current	Proposed	Percent Increase
Adult Cash	$2.00	$2.25	12.50%
Youth Cash	$1.25	$1.50	20.00%
Senior Cash	$1.00	$1.10	10%
One Day Passes	$4.50	$5.00	11%
Adult 10-Ride Card	$15.00	$17.50	16.70%
Youth 10-Ride Card	$10.00	$11.25	12.50%
Senior/Disabled 10-Ride Card	$10.00	$11.25	12.50%
Adult 31-Day Pass	$55.00	$62.00	12.70%
Senior/ Disabled 31-Day Pass	$27.50	$40.00	45.50%
Low Income 31-Day Pass	$27.50	$32.00	16.40%
EZ Rider Pass	$150.00	$170.00	13.30%
Summer Youth Pass	$30.00	$35.00	16.70%
Day Tripper	$42.00	$48.00	14.30%
Paratransit Rides	$4.00 (peak) $3.00 (non-peak)	$4.00 (all rides)	
Pass Program Average Fare Rate	$1.15	$1.25	8.70%

Table 1. Proposed fare increase under discussion at 7 November 2012 public hearing.

In a discussion of the Route 80 changes, Madison Metro manager Chuck Kamp reported that bus loading, even with one less bus in circulation, was about the same as of September results. October results would give a better picture of performance levels. Alder Bridget Maniaci suggested that student riders would not know whom to call in order to voice opinions. The lack of student-aged persons at the public hearing was representative of the fact.

Of all interested persons who gave feedback whether in person or via email, only one of twenty-five voiced positive support for the proposed fare increase. Citizen 1 knowingly introduced herself as an "odd opinion" that, as a senior citizen who relies entirely on the bus system for transportation, was in favor of the proposed fare increase. Citizen 1 believes that, especially with the included free transfer per cash fare, the bus is an excellent bargain that is both cheaper and easier for a senior than a bicycle. To Citizen 1, the small fare increase keeps the system running smoothly by funding necessary fuel and employee costs. Citizen 1 was particularly in favor of the 25-cent increase because she prefers smaller periodic fare increases rather than a higher increase at every 5 or 6 years.

Many of the attendees were senior and/or disabled bus riders who strongly objected to the disproportionately high increase on senior/disabled fares. Many, visibly grey-haired or in wheelchairs, stated they are on fixed income and believed that fare increases would hinder their personal ability to take the bus and/or paratransit.

Several persons were particularly well informed on the issue. Citizen 2, a former Transit Commission member and a bus advocate, said he had previously urged Mayor Soglin to not raise bus fares. To Citizen 2, the Metro bus system should be a city services system on par with garbage collection, police, and fire department. Instead, for revenue the city should employ a wheel tax on motorists entering the central city. Citizen 2, with a Velcro strap wrapped around his right pant leg, was clearly a bicyclist.

Citizen 3 was also connected to city and transit bureaucracy in Madison Metro partner Fitchburg. Citizen 3 opposed the fare increase because of the unfair method of applying the 5% levy to every department in the city government. Citizen 3 argued for taking more time to assess the complexity of the burden to different Metro partners (UW-Madison, Fitchburg, Middleton) as well as allow residents to figure out alternate modes of transportation. Citizen 3 believed that the issue of budget cutting should be considered by the common council and not applied as mathematical formula. Other citizens agreed that a 5% increase across the board is not smart policy that reflects the value of the community.

Perhaps the most memorable speaker was an intimidatingly tall, well-dressed man who distributed fliers with personal research. With huge hand gestures, appeals to the "friends" of the audience instead of the Transit and Parking Commission, Citizen 4 insisted that the large jump in costs for senior/disabled passes was "more than unfair" when compared to UW-Madison students' unlimited bus pass that comes with tuition. Accusing the budget of an "attack on people

who rely on this system," or the "parasite" bus riders, Citizen 4 claims that Madison is charging excessively compared to cities of its size and to other APTA award winners.

Two young adult citizens and long-time Madison residents expressed love for the bus system but felt betrayed by the increase cost while service decreased. Concerned about job prospects, Citizen 5 shared that in his job search the bus system isn't considered a reliable transportation method in Madison and likely had cost him job offers in interviews.

In all, a variety of persons called the proposed fare increase “really discouraging,” “despicable,” “unfair,” and “completely out of line (Public Hearing on Fare Increases, 7 November 2012).”

9.1 Citizen Activism at the Public Forum on Fare Increases, November 7, 2012

In affiliation with the Forum on Transit on November 7th, Citizen 4 took it upon himself to distribute a flier he had made about the excessiveness of the bus fare increases. It was readily apparent that this individual was ardently opposed to fare increases, along with many other members of the community. The following are excerpts from the speaker’s informational document.

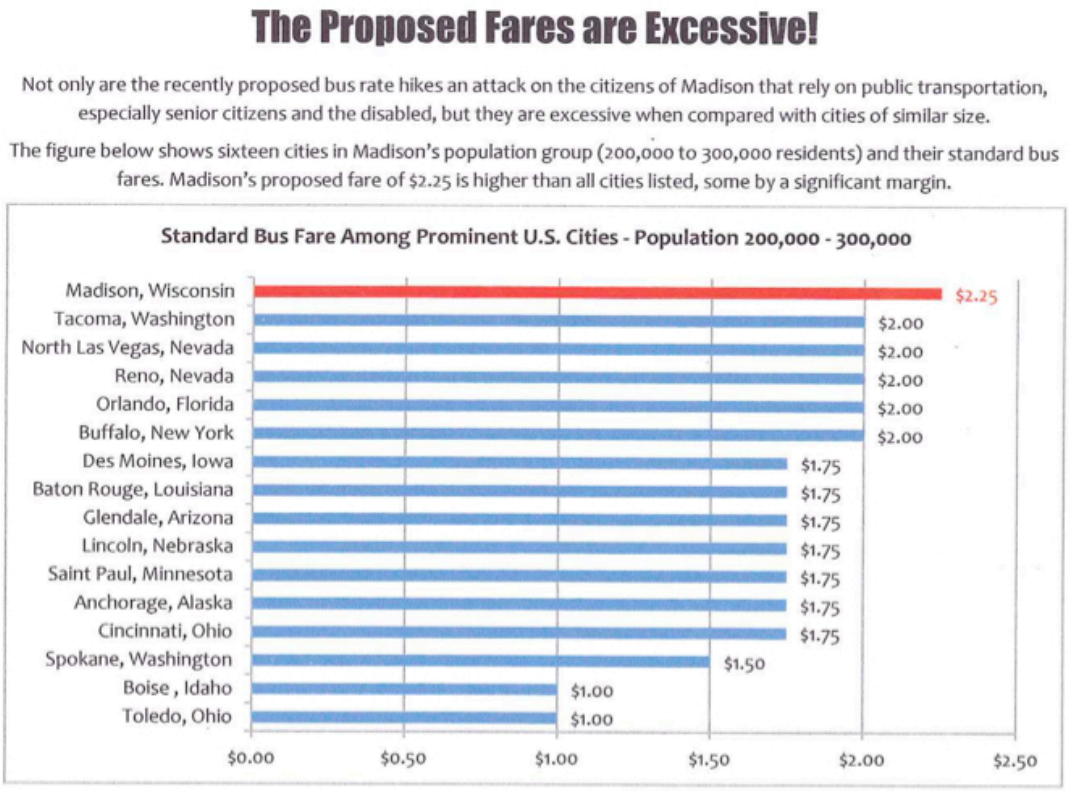


Figure 11. Bus Fares Across U.S. Cities with comparable populations to Madison, Wisconsin. Riders in Disagreement with Excessive Rates. 2012.

Figure 11 demonstrates significant bias. The fare for Madison, Wisconsin is illustrated with the proposed fare after the $0.25 increase; where as the rest of the cities depicted in the chart are illustrated at their present bus fare rates. Madison's present fare is $2.00. The other cities illustrated in the graphic are not all college towns and thus do not necessarily have a singular concentrated urban center and likely service a different primary demographic.

Paulley suggests in "The demand for public transport: The effects of fares, quality of service, income and car ownership" that in an analysis of fare elasticity that an increase in fares almost always leads to an increase in revenue (see Literature Review Section 4: Metro Transit for a Mechanism for Production & Consumption) (2005, 296-297). In the interview, Margaret Bergamini asked "How much can you raise costs before sales drop off? How much is a system willing to pay to get riders?" The fare box is based on fare elasticity, where ridership generally

increases despite cost increase. UW students paying segregated fees don't consciously feel the impact or elasticity of fare charges as their access to the bus is paid in affiliation with university tuition (Margaret Bergamini Interview, 15 November 2012). The survey also demonstrated that there would be a minimal change in bus use even if the proposed bus fare increases were put into effect demonstrating that the bus is a necessary social good (see Figure 41).

According to Bergamini, ridership has not plateaued. It is increasing all around the country in bus programs affiliated with Universities. The present generation in college is more likely to use public transit, get a driver's license at a later age, and puts a greater value on living in locations that make public transit available. The upward trend in bus ridership on college campuses is associated with behavioral change (Margaret Bergamini Interview, 15 November 2012). Generational valuation of the environment, new urbanism, and economic advantages such as the negation of parking costs make the bus an optimal mode of transportation in Madison.

In fact, a study which examined bus fares for cities of population 200,000 to 300,000 found that not only are the proposed base fares higher than the national average, but proposed rates for other passes and fare types are well above average as well. The proposed rates for monthly passes for seniors and the disabled, for example, are 47% higher than the national average for cities of a similar size to Madison, as shown in the table below.

Average Rates for Various Fare Types Among U.S. Cities			
	U.S. Cities - pop. 200,000 - 300,000	Madison, WI - proposed fares	Percentage Difference
Base Fare	$1.75	$2.25	28.6%
Senior/Disabled Base Fare	$0.77	$1.10	42.9%
One day pass	$4.03	$5.00	24.2%
Monthly Pass	$50.94	$62.00	21.7%
Senior/Disabled Monthly Pass	$27.21	$40.00	47.0%

Figure 12. Average Bus Fare Rates Across U.S. Cities. Riders in Disagreement with Excessive Rates. 2012.

Figure 12 illustrates the disparity between proposed costs and average costs across the United States, however the creator of this document failed to include the present rates for the city of Madison, Wisconsin. The budget amendment to increase bus fares in order to generate an excess of $600,000 to meet the five percent tax levy reduction was withdrawn. It would be

prudent and informational to include the present fares as compared to the proposed fares because the percent difference between those costs is generally less. While Figure 11 illustrates the disproportionate gap between average bus fares in the U.S. and the proposed costs that citizens of Madison would have faced in January 2013, it is exceptionally biased. The graphic fails to account for reasoning of fare increases and past increases. During the last bus fare increases in 2009, under Mayor Dave Cieslewicz, the senior and disabled monthly pass was not increased at a proportional rate to the rest of passes (Public Hearing on Fare Increases, 7 November 2012). Thus under the present economic conditions, it faced a higher proportional increase as illustrated by the $40.00 expense at the bottom of the graphic.

1. **Seek a compromise with the Associated Students of Madison (ASM) to raise student rates from the current rate of $1.15 per ride to $1.40 per ride to generate $687,500 per year.**
   - Current revenue from student bus pass: $3,162,500 (2.75 million rides at $1.15 per ride).
   - Route 80, which primarily serves students, is by far the most utilized bus route and students account for nearly 20% of all riders, despite the fact that most reside within the city for only two-thirds of the year.
   - Each student only pays about $55.00 per semester for unlimited access to the bus system.
   - If the city negotiated with ASM to raise the per ride rate for students by $0.25 cents (the additional amount non-students would pay were the proposed rates to go into effect) annual revenue would be $3,850,000, which would generate $687,500 in additional revenue for the bus system; a sum that exceeds the $686,600 the city is hoping to raise with the overall increase.
   - This would avoid an across the board increase, and students would still receive a 30% discount on fares.
2. **Reform the transfer point system so that buses spend less time idling – thereby saving more than $100,000 per year on fuel while expanding bus coverage.**
   - According to the Environmental Protection Agency, a typical bus burns approximately one-half gallon of diesel fuel for each hour it idles.
   - Therefore, if only the Route 2 bus (which idles for 264 minutes/4.4 hours each day) were actually moving rather than idling at the transfer point at the top of each run, the city would save 2.2 gallons of diesel fuel per day. Given a low estimate of $3.95 per gallon, that is $8.69 per day and $3,171 per year saved *on that route alone*. Madison has 39 routes that idle at transfer points or park-and-rides before beginning their runs. If 80% of these were to come off the transfer point system and continue moving while the engine is running, the city would save $100,000 per year.
   - Furthermore, with buses no longer wasting up to 15 minutes idling at transfer points, bus coverage could be expanded above and beyond the expansions proposed as buses utilize that extra time to pick up and deliver more passengers.
3. **Add express routes that carry passengers from, for example, one transfer point to the next, with no/limited stops – increased rates for these 'premium' routes would raise revenue, while the added convenience would encourage ridership and expand coverage.**
   - Not only could the city could charge more for these routes, thereby adding revenue, but it would add coverage to system that struggles to transport passengers across town in a reasonable amount of time.
   - These express routes - especially if they served areas where overcrowding of buses is an issue - would likely encourage increased ridership – which would increase the net rate-payer total, thereby further contributing to revenue gains.

Figure 13. Alternative Methods to meeting the City of Madison Tax Levy Reduction. Riders in Disagreement with Excessive Rates. 2012.

The individual concluded that the government had only considered two ways for meeting the five percent tax levy reduction on government agencies and proposed personalized alternatives to generate more revenue. The individual's proposed alternatives include increasing costs to University of Wisconsin-Madison students, decreasing fuel costs, and creating express routes.

The first alternative, raising costs to UW students poses several problems. The document mentions that the 80 route accounts for up to 20% of ridership for the entirety of the system. The cost of the 80 is negotiated at a separate rate between the Associated Students of Madison, UW Transportation, and Madison Metro. It is not affiliated with the standard student bus fare of $1.15 associated with the unlimited use pass paid for by segregated fees (Margaret Bergamini Interview, 15 November 2012). Raising the necessary revenue to meet the five percent tax levy would cost each student about fifteen dollars over the course of the year. However, is this fair when UW-Madison students are not the only individuals using the public transit system in the city of Madison? Students of Edgewood College, Madison Area Technical College, and hospital and county employees are also issued passes, in part due to the success of the program at UW-Madison. Small businesses can also get passes for their employees via the Enterprise Program(Margaret Bergamini Interview, 15 November 2012). If ridership of the 80 alone accounts for more than 20% of total ridership of Madison Metro Transit, than UW students who account for less than 1/5 of the metropolitan population account for more than 1/5 of annual rides. Thus the special rate negotiated for UW students between the Associated Students of Madison and Madison Metro Transit is merited. If the student population was not using public transit in the city of Madison, Metro Transit would not have broken its 40-year ridership record

in 2011 (see Figure 14), and may not have won the best midsized transit system award from the American Public Transportation Association.

The second alternative in the document includes reforming the bus system to minimize time spent idling during each day. This issue was addressed at the public forum on November 7 where a Madison Metro official expressed that fuel expenses had decreased from prior budget allotments for those expenses (Public Hearing on Fare Increases, 7 November 2012).

Alternative number three from Figure 13 touches on inaccessible technology for the present bus infrastructure. The Madison Area Transportation Planning Board in affiliation with Madison Metro Transit is presently looking into the potential of Bus Rapid Transit in the metropolitan area (Madison Area Transportation Planning Board 2012). Bus Rapid Transit is a high frequency, limited stop transit alternative. According to Alderman Scott Resnick, transition to Bus Rapid Transit would take significant time and financial investment on behalf of the local government in addition to substantial federal subsidies.

10. Interview with Margaret Bergamini| November 15, 2012

We interviewed Margaret Bergamini, Associated Students of Madison Program and Policy Analyst for the student bus program, and appointed member of the Transit and Parking Commission. She addressed issues of community impact on policy decisions, changes in ridership, campus and metropolitan community attitudes towards fare increases, and the American Public Transit Association Award Madison received in August.

Madison represents a conflict in transportation planning. The city is concentrated in a bottleneck with the two largest employers in the downtown area: the University of Wisconsin-Madison & the state government. Thus there is a lot of incentive to concentrate service availability downtown as this would create fabulous statistics (Margaret Bergamini Interview, 15

November 2012). This problem highlights the tension between efficiency and equity of service, as seen in the interview below:

Q: How do the attitudes of the UW Campus & Madison metropolitan community influence policy decisions?

The community has a tremendous influence on transit policy decisions. Each time an individual votes, attends a public hearing, or rides the bus they affect where service is put. Madison does not have to have a public transit system. There are cities of comparable size that do not prioritize public transportation as a social good. Every year the Common Council votes on a budget for Madison Metro. Madison is a community with a relatively high environmental consciousness and is composed of many choice riders. Community members have the ability to influence policy decisions by petitioning their representatives.

Q: Do you think that the proposed increase for single ride metropolitan lines and for the 80 will affect ridership?

Bergamini informed us that the proposed increase is not directly the cost of a single ride fare. If you pay bus fare, you can get a transfer to another bus within two hours. Fare elasticity also affects ridership- this poses the question: how much can you raise fares before sales drop off? The cost of the 80 is not linked to the price increase that was directed at users of the student bus pass. The University pays for the 80. Essentially UW rents the service provided by the 80 at a per hour rate. For many years, ridership on campus buses was low because there was a fare box associated with ridership. Bergamini was in part responsible for convincing UW Transportation Services to make the circulators free and that ASM would pay a fare box equivalent. When fare was taken off of the campus circulators, ridership exploded. The fare increase would have disproportionately affected some groups of riders had it not been taken off the table.

Q: Can we expect an increase in the cost of annual student segregated fees as a result of the increase in the negotiated fare for the 80?

The package that included an increase from $1.15 to $1.25 for use of the student bus pass would have resulted in an increase in costs to students. This would have translated into an increase in the cost of segregated fees. However, segregated fees vary widely by university and they depend on who gets to levy them and what they are being spent on. In the state of Wisconsin, segregated fees cannot be spent on academics. Thus segregated fees can be used to construct a student union but not a chemistry building.

Q: What was the attitude of the community after the last fare increase in 2009? Did ASM have to absorb any costs then?

ASM did have to absorb costs in 2009 when the last fare increase occurred. In addition, students do not get to use a 'transfer.' Each time a student pass is used $1.15 is paid to Metro Transit where as with riders who pay the fare, a transfer is made available to them. The cost of campus buses is increasing and it can be expected that segregated fees will have to absorb these increases in the future.

Q: Why did Madison Metro Transit receive the American Public Transit Association best-in-nation award for a mid-sized transit system in August?

Madison won the transit award because they broke the 40-year record of riders. They do deserve this award because they have traveled a long and hard road to increase ridership on the bus. Figure 14 illustrates the history of annual ridership totals between 1970 and 2011. The image depicts various factors affecting ridership trends and how the total record was broken in the past year.

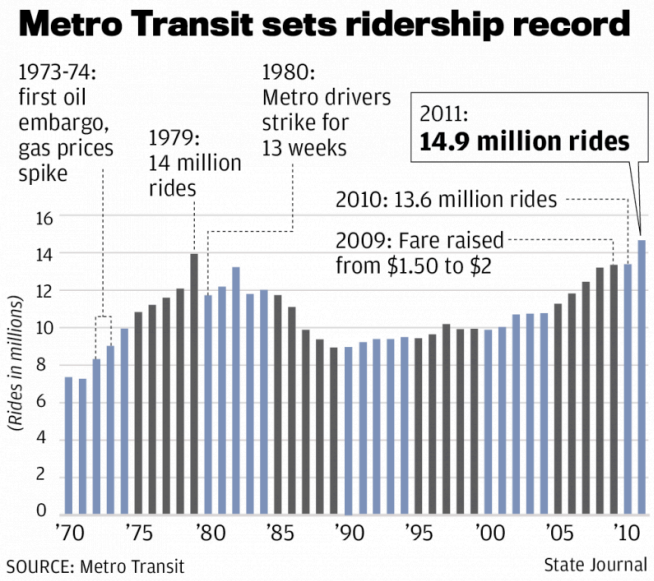


Figure 14. The record-breaking year of 2011 for ridership. Wisconsin State Journal. 2012. http://host.madison.com/news/local/govt-and-politics/record-number-rode-madison-metro-buses-in/article_81d9f184-4e02-11e1-b822-001871e3ce6c.html

When the Federal Transit Administration does an audit of the city of Madison, they have to send two committees to address population and ridership separately. Madison has two times the ridership of a city of comparable size. Bergamini stated that students saved the bus program in the city. The all-access pass made available to students was so successful that the program has been expanded to the other city colleges, hospital and county employees. There is also a program called the Enterprise program that makes such passes available to employees of small businesses, although revenue from this program has gone down over the past year.

There has been an expectation that ridership affiliated with university programs would plateau. However it continues to increase all around the country. It has been suspected that this upward trend has been associated with either fraud or behavioral change. The consensus is that behavioral change is likely the force behind this trend. The generation in college right now is more likely to use public transit, get a driver's license at a later age, and place a greater valuation on living in an area where public transit is available. This set of characteristics can be linked to

the rebirth of the downtown as younger individuals are electing to live in urban centers rather than suburban areas (Margaret Bergamini Interview, 15 November 2012).

Bergamini's interview elucidated mechanisms that influence transit policy decision-making, attitudinal shifts regarding bus service and improved upon information received from other sources. The information taken from this interview illustrates how fare increases have the potential to act upon individuals and the complexities of transit policy.

11. Nelson\Nygard: Campus Transit System Evaluation| Night of Action 13 November, 2012

Nelson\Nygaard, a corporate consulting and transportation planning group hired by UW Transportation Services, recently held four public forums to distribute the results of their study and solicit feedback from the campus community. Bethany Whitaker, an associate of Nelson\Nygaard reported results on mobility and accessibility issues and concerns and evaluated UW Transportation Services. The study found that there are geographic constraints to service on UW-Madison's campus as it is situated in an east-west corridor with Lake Mendota as the northern boundary and University Avenue as the porous boundary at the south side of campus.

In order to evaluate transit on campus, Nelson\Nygaard randomly emailed 10,000 individuals a survey with a goal of 500 responses. The survey found that the most common reasons for not taking the bus included the schedule did not work, inflexibility, and the bus did not pick up or drop off the respondents where they needed to go. The consulting group recommended changing the 80 into two distinct routes, creating an accessible transportation committee, operating on headway based schedule, combining the Safe Rides, the routes 81 and 82, into a single route, improving marketing and information systems for distributing timely information about campus circulators, and creating a campus travel training program. Other

concerns from the study included overcrowding, increasing capacity without increasing service, and reduction of stop spacing (Campus Transit Evaluation, 13 November 2012).

The results from the study that Nelson\Nygaard did last spring to measure ridership influenced the way in which we structured our data collection methods. They sought to measure ridership based on minimal data categories. Our study expanded this approach to collect the data variables of gender, racial or ethnic identity, and age subset. This information can be seen in sections 2-4 of the appendix and is compared to demographic data in order to determine whether ridership is representative of the greater campus and metropolitan community populations in the visual analysis portion of the paper (section 13).

12. Data Collection on Route 80 and Route 6

Inspired by Nelson\Nygaard Transportation Consulting Associates, we conducted data collection on the routes of our study. Our study focused on the campus circulator route 80 and the Madison Metro route 6. These routes are considered the backbone of campus and the city of Madison, respectively. Route 80 is the most frequent running campus circulator and also has the most extensive coverage, beginning at the Memorial Union, heading westward to the UW Hospital and to the university housing neighborhood Eagle Heights before looping back around. The Route 80 runs past both Lakeshore and Southeast Residence Halls neighborhoods as well as near campus hotspots such as Camp Randall, the Kohl Center, and Library Mall. Route 6 runs between the West Transfer Point and East Towne Mall approximately every half hour. Route 6 does have several variations, such as "eastbound to East Towne Mall via Portage" vs. "eastbound to East Towne Mall via Hayes." Route 6 basically runs the east-west length of Madison, linking the UW campus and the MATC campuses as well as running down State Street and around Capitol Square. This route runs along the Regent Street corridor, State Street Mall and the

downtown business district, the Capitol Square, and the East Washington Street Corridor.

We created a spreadsheet with demographic features we wanted to identify by bus stop (see appendix sections 2-4). At each bus stop, we sought to count rider activity by counting the number of boarding and disembarking passengers as well as total number of persons on the bus after leaving the stop (the load). Of the load, we counted male and female passengers, relative age, and ethnic background. We broke down age into 4 broad categories: Child (ages 1-5), Child (ages 6-15), Young Adult (ages 16-30), Middle Adult (ages 30-55), and Senior Adult (ages 55+). Ethnic background was similarly broadly categorized, reflecting US Census divisions: Caucasian, East Asian, Black, Hispanic, and Other/International.

In order to facilitate data collection, several considerations were taken: we sat in the rear, elevated portion of the bus where there are sight lines to both the front and rear doors. There was some error in our data due to when curious passengers engaged us in conversation, when the bus experienced large volumes of on/offs, or when the bus had high loads. Assessing age and ethnic category is subjective to the researcher, so slight variations in data collection did occur.

Route 80 was changed on October 18, 2012 to reflect construction and to reroute the route up Observatory Drive, for which persons had expressed favor. We rode the route 80 five times before the change and six times after, and the route 6 bus five times on a variety of weekdays and at different times. We aimed for times of day that equate to what we considered peak hours: 7AM morning commute, 10AM midmorning, noon, 3PM end of average school day/evening rush hour, and 9PM night riders. These peak times also coincided with peak load times depicted in the Nelson\Nygaard study from May 2012 (Nelson\Nygaard. *Ridecheck Workbook v6.* 2012).

13. Visual Analysis

After compiling our data, we were able to make visuals to more clearly express our findings. They are divided into graphics for Route 80 before the change on October 18 which included service to Langdon Street and the Memorial Union which may be referred to as the "Old Route 80," the current or "New Route 80" which services University Avenue and Park Street, and finally Route 6 servicing the West Transfer point to East Towne Mall (see Appendix Section 1 and Figure 24 for route maps).

13.1 Previous Route 80

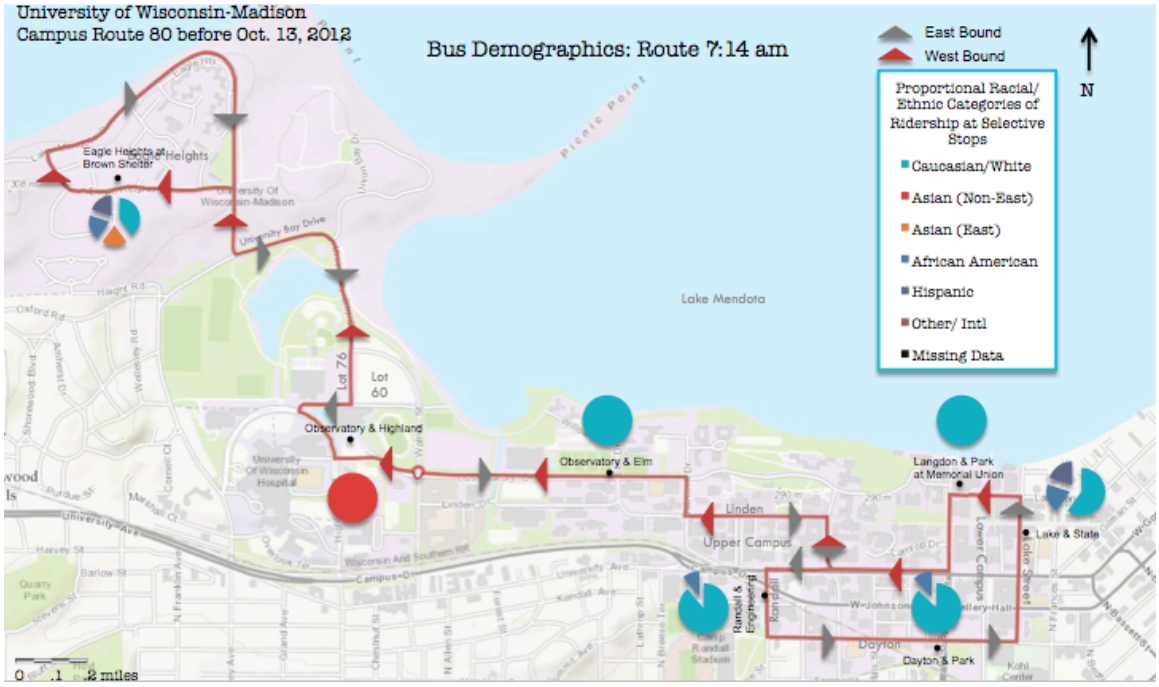


Figure 15. Map of Initial 80 Route 7:14 AM. Base Map: ArcGIS Online. Katy Vosburg. 2012.

Figures 15-19 illustrate the route 80 before it was changed on October 18, 2012 to provide service on Observatory Drive up Bascom Hill. Several Stops on Lake and Langdon were closed and the campus circulator no longer services University Avenue between Park and Charter Streets (Knutson 2012). Our research indicates that the demographic riding the 80 is overwhelmingly Caucasian and secondly East Asian. In addition, we found that diversity is much

higher between Eagle Heights and Upper campus. We noticed a trend of a more diverse body of ridership on the bus after entering Eagle Heights, which promptly dropped after the bus passed the stop at Linden and Charter. This trend is supported by that bus stop's close proximity to the Van Hise building which houses the diverse University of Wisconsin-Madison language departments. In addition, it now takes much longer to ride the bus from Linden and Charter to the lower campus hub Park at State. It can take more than 10 minutes and 17 seconds in non-peak hours or more than 15 minutes in peak hours, where as if a passenger got off the bus at Linden and Charter, it takes about 4 minutes to walk over Bascom Hill to lower campus.

Figure 15 demonstrates that the primary demographic of ridership before classes start on campus is Caucasian individuals. The map also illustrates the pattern of increasing diversity as the route travels west into Eagle Heights.

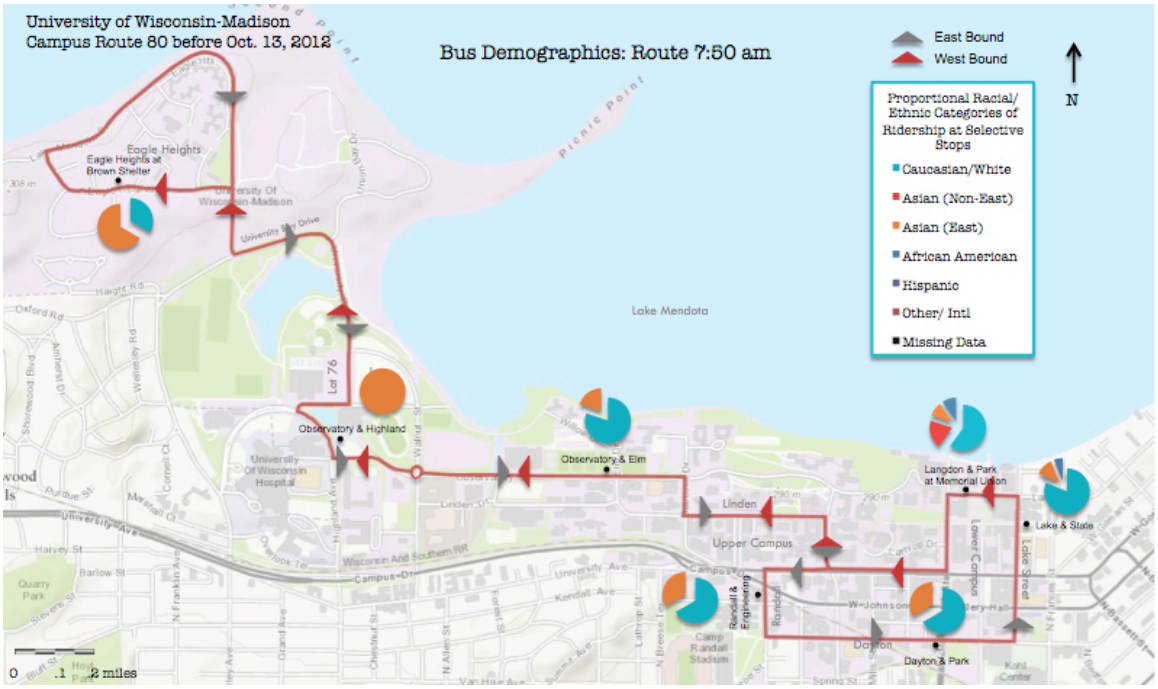


Figure 16. Map of Initial 80 Route 7:50 AM. Base map: ArcGIS Online. Katy Vosburg. 2012.

This figure is a primary example of the ridership aboard the old version of the 80. This map also captures a more diverse ridership than the first figure as it accounts for student travel for the next class period, which begins approximately 1 hour after the beginning of the bus route. On average we found that the 80 routes took about 44-48 minutes.

According to the University of Wisconsin-Madison, the non-Caucasian university population is broken down as follows: 2.9% African American, 2.3% Asian American, 3.7% Hispanic, 0.9% Native American, and 0.2% Native Hawaiian. This accounts of a cumulative total of 13% or 5,520 students across the undergraduate, graduate, professional and special students who characterize the non-Caucasian population in affiliation with the University Community (University of Wisconsin-Madison 2010). UW Transportation Services serves more than 17,000 faculty and staff, 42,000 students, and up to 4.6 million visitors to campus each year (UW Transportation Services 2011). Thus, it is difficult to account as to whether the data we obtained (see appendix) is representative of the community population. The route 80 circulator is accessible to the non-student body as a free bus and our data was obtained using relative observation methods. It is impossible to know what percentage of ridership captured in this study is affiliated with the University, beyond survey responses (see appendix for a copy of the distributed survey; see research section for survey results). In addition a limiting factor in this study is the inability to know whether the individuals we observed on the 80 were citizens of the United States or International Students.

According to the community population breakdown, ridership on the 80 is not representative of the University of Wisconsin-Madison campus demographics. As demonstrated by the map series, there are variable racial & ethnic characteristics of ridership. However, data from the study demonstrates that the primary racial and ethnic categories observed on the

campus circulator are Caucasian and East Asian. Ridership on route 80 is representative of the geographic distribution of households in the city of Madison, Wisconsin. According to the Applied Population Lab map in Section Six of the appendix, the greatest concentration of Non-Caucasian individuals living on the on the university campus is in Eagle Heights. Thus the trend of increasing diversity of ridership as the bus approaches west campus demonstrates that the route 80 is representative of the geography of households while it is not representative of the ethnic or racial composition of the community. This study suggests that there was not a change in the primary demographic of ridership for route 80 after the route was altered in October.

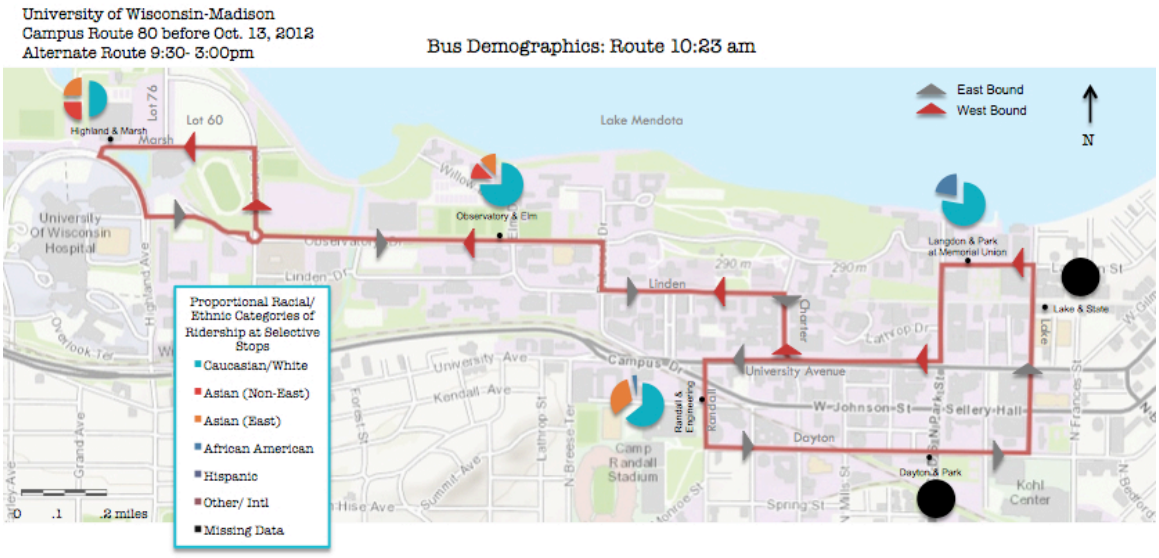


Figure 17. Map of Initial 80 Route 10:23 PM. Base Map: ArcGIS Online. Katy Vosburg. 2012.

Figure 17 illustrates the alternative route that the route 80 operates on between 9:00 am and 3:00PM. Every other bus goes on a route directly to UW-Hospital as opposed to making the longer loop to Eagle Heights. The black circles illustrate data that was missed. In incidences where individuals began talking to researchers or where too many individuals got on to the bus, data became nearly impossible to accurately collect.

The figure also demonstrates the pattern of increasing diversity of ridership as the bus approaches west campus. At the stop of Observatory and Elm, which closely affiliated with the lakeshore residence hall Dejope, the load was three quarters Caucasian, further west at the Highland and Marsh stop near University Hospital, one quarter less of the load was subjectively identified as Caucasian.

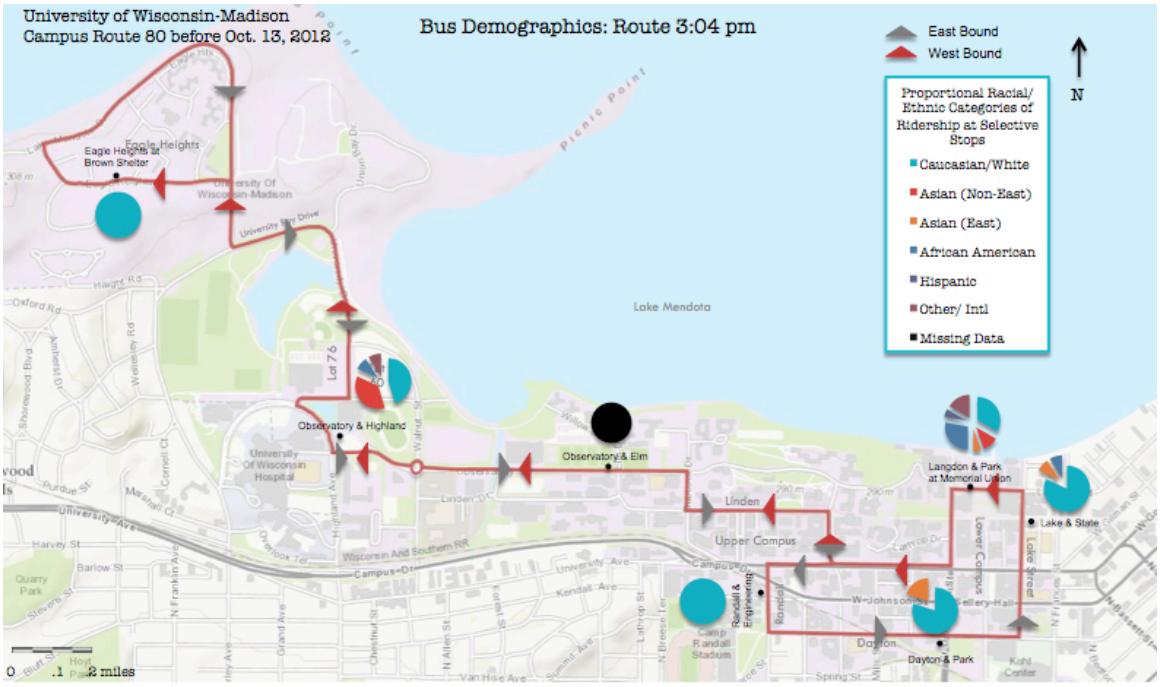


Figure 18. Map of Initial 80 Route 3:04 PM. Base Map: ArcGIS Online. Katy Vosburg. 2012.

Figure 18 illustrates a more diversified body of ridership. At each stop, the busload was overwhelmingly Caucasian. However, this time period demonstrates a more variable demography loads especially at the stops of Langdon and Park at Memorial Union and at the University and Highland stops. The more diversified ridership can perhaps be explained by the context of these bus stops within their surroundings. Memorial Union is a social forum for the greater campus body and was a hub for bus ridership before the circulator was moved off of Langdon Street to accommodate construction. The stop at University and Highland is affiliated with the university health buildings including UW-Hospital and Ebling Library. Thus this stop

services a diverse array of medical, pharmacy, nursing students and professionals. The more diverse bus load approaching the far west side of campus in Figure 18 could also be delivering residents to Eagle Heights, as the stops at Randall & Engineering and Dayton & Park in East demonstrate a minimally diverse bus load.

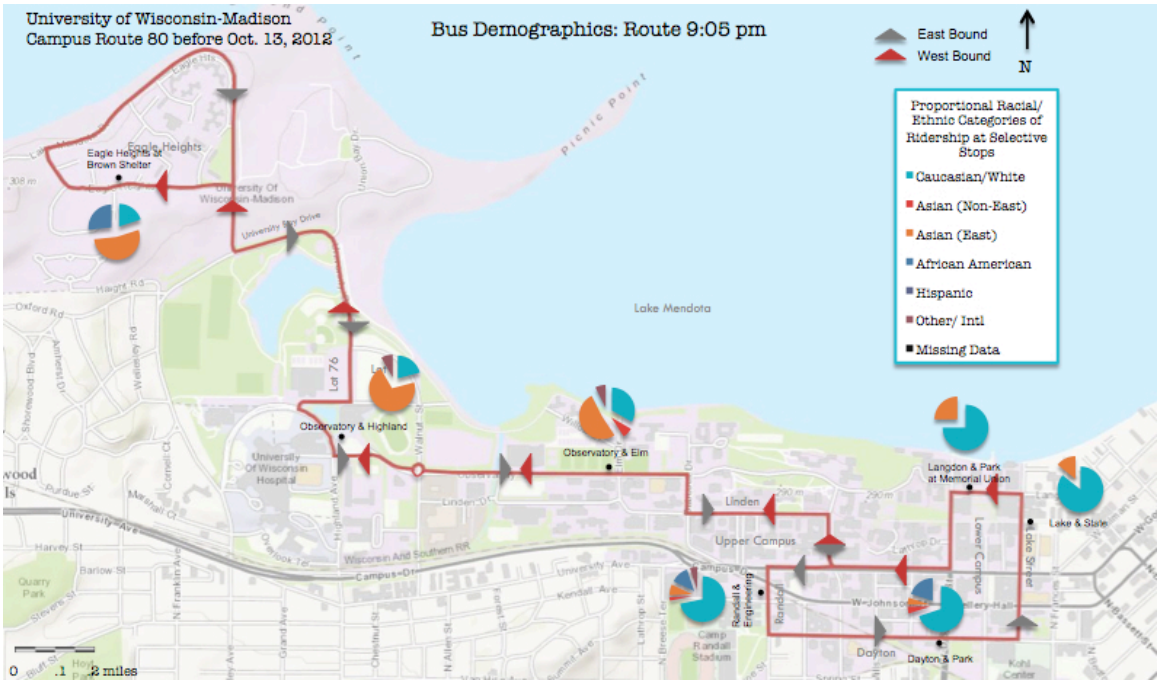


Figure 19. Map of Initial Route 80 9:05 PM. Base Map: ArcGIS Online. Katy Vosburg. 2012.

Data for Figure 19 was taken on a Friday night, thus the characteristics of demography would be different from that of data taken on a different weeknight. If the study were to be expanded, more data could be taken on separate days for each time period in order to collect more data that would accurately represent the campus community. In Figure 19, racial and ethnic diversity increases as the route approaches Eagle Heights and decreases on the eastbound leg of the route as evidenced by the proportional load characteristics at the stops of Randall & Engineering and Dayton & Park. While these stops identify the bus load as overwhelmingly

Caucasian, it is important to note that one fourth of the load at Randall and Engineering was subjectively identified as fitting a non-white category, while only 13% of the campus community is identified as a non-white racial or ethnic category. The change in load between the stops of Randall & Engineering and that of Dayton & Park is also indicative of purposive ridership. Getting off the bus in this area of campus on a Friday or weekend evening is suggestive of attending a social event in a south campus neighborhood or at Union South.

13.2 Current Route 80

The newly redesigned Route 80 maintains most of its original route while adopting the now defunct Route 85. Prior to 12 November 2012, there was an additional alternate route due to construction on Library Mall. On 12 November 2012, the route 80 reverted to a route more historically consistent that drives up Observatory Drive along Bascom Hill.

We took demographic data on bus ridership on the new Route 80 across several time frames: 7:14AM, 10:28AM, 11:47AM, 12:24PM, 3:00PM, and 9:04PM. The variations in time aimed to help capture "peak hours," as determined using previous data (Nelson\Nygaard. *Ridecheck Workbook v6.* 2012).

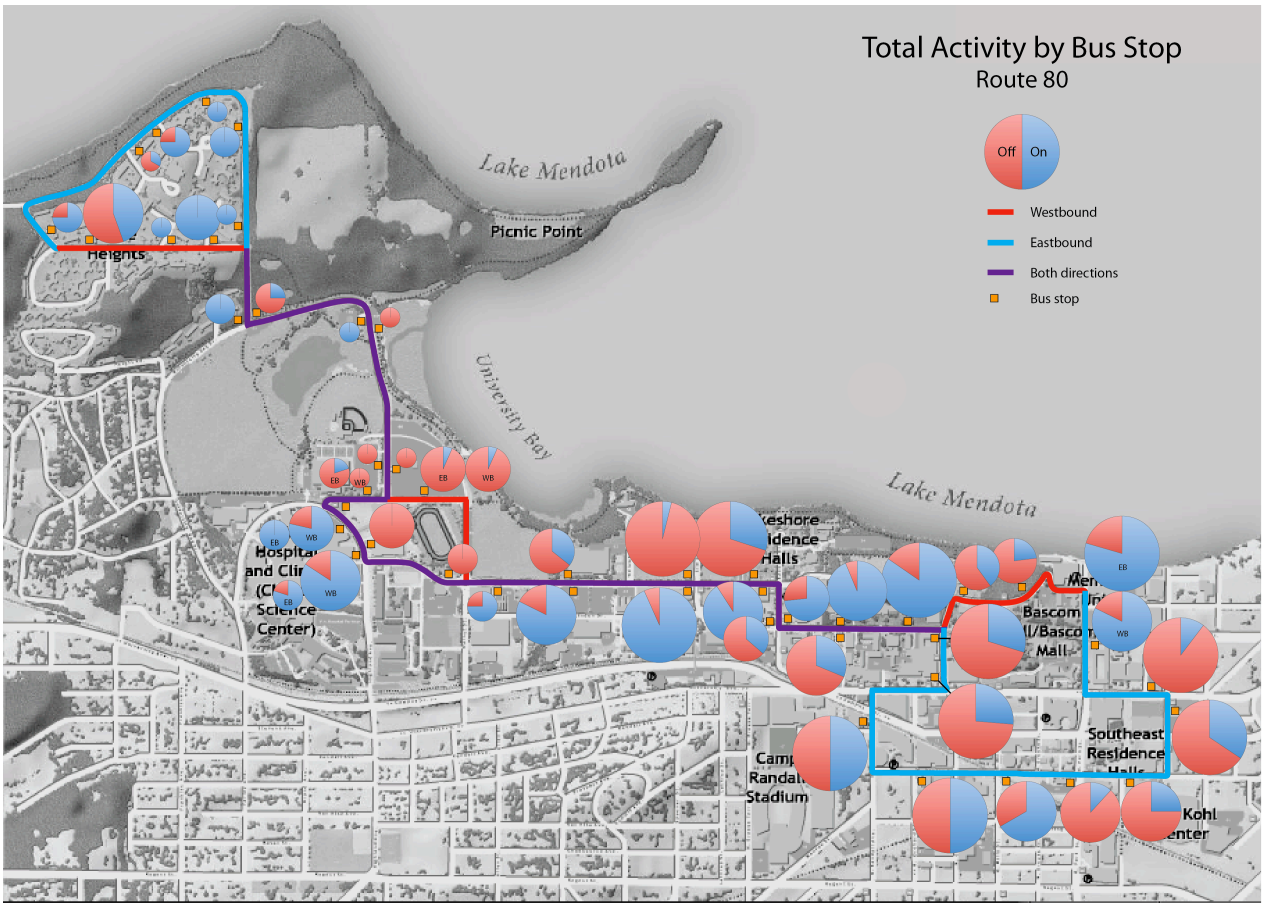


Figure 20. Jessica Shen. Base map: map.wisc.edu

When the data is aggregated by total on/off per stop, several clear patterns are visible on Figure 20. Bus stops in the main portion of campus have more activity per stop than in the western, Health Sciences campus half of the route, shown by the proportionally larger pie charts. The main portion of campus hosts most of the university's undergraduate courses whereas the western half of campus is geared towards the professional students. There are 28,897 undergraduate students and 2,682 professional students on campus as of Fall 2010 (University of Wisconsin – Madison 2010).

Passengers are primarily boarding the bus westbound in the main campus and

when in Eagle Heights. Passengers disembark in higher proportions near the UW Hospital, Lakeshore Residence Halls, near the Van Hise building and Southeast Residence Halls. This pattern suggests that health services employees and students as well as dormitory students are riding the bus frequently. Passengers from Eagle Heights are likely to disembark on the main campus at Van Hise, which is centrally located to campus buildings, Library Mall, and State Street. The new 80 route now takes longer to arrive at Park at State than previously, thus many people may be choosing to walk from Van Hise to State Street as opposed to staying on the bus (see Figure 21).

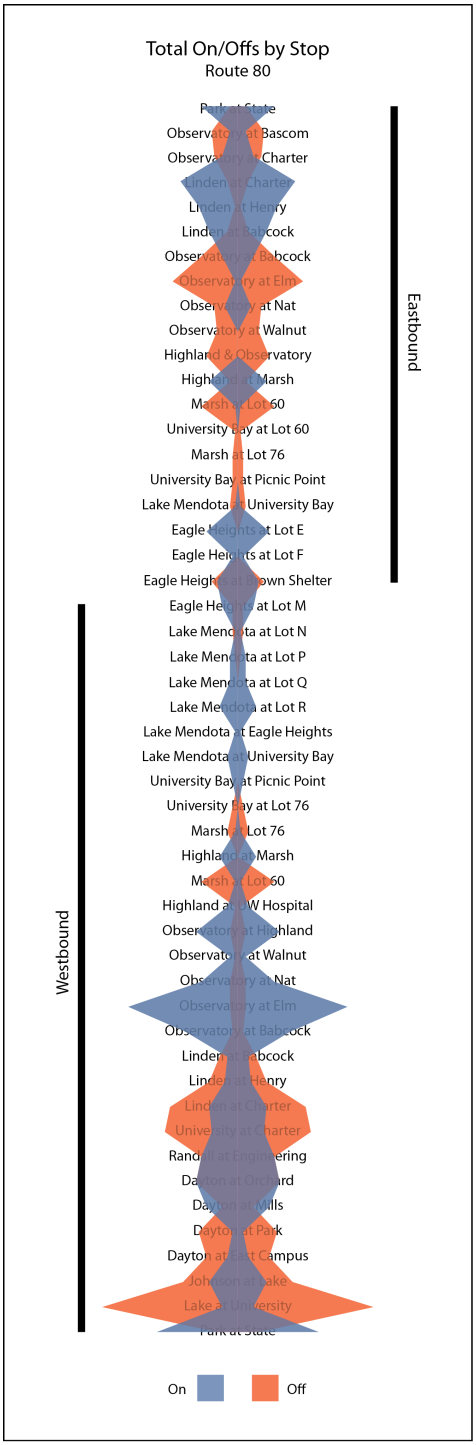


Figure 21. Jessica Shen. 2012.

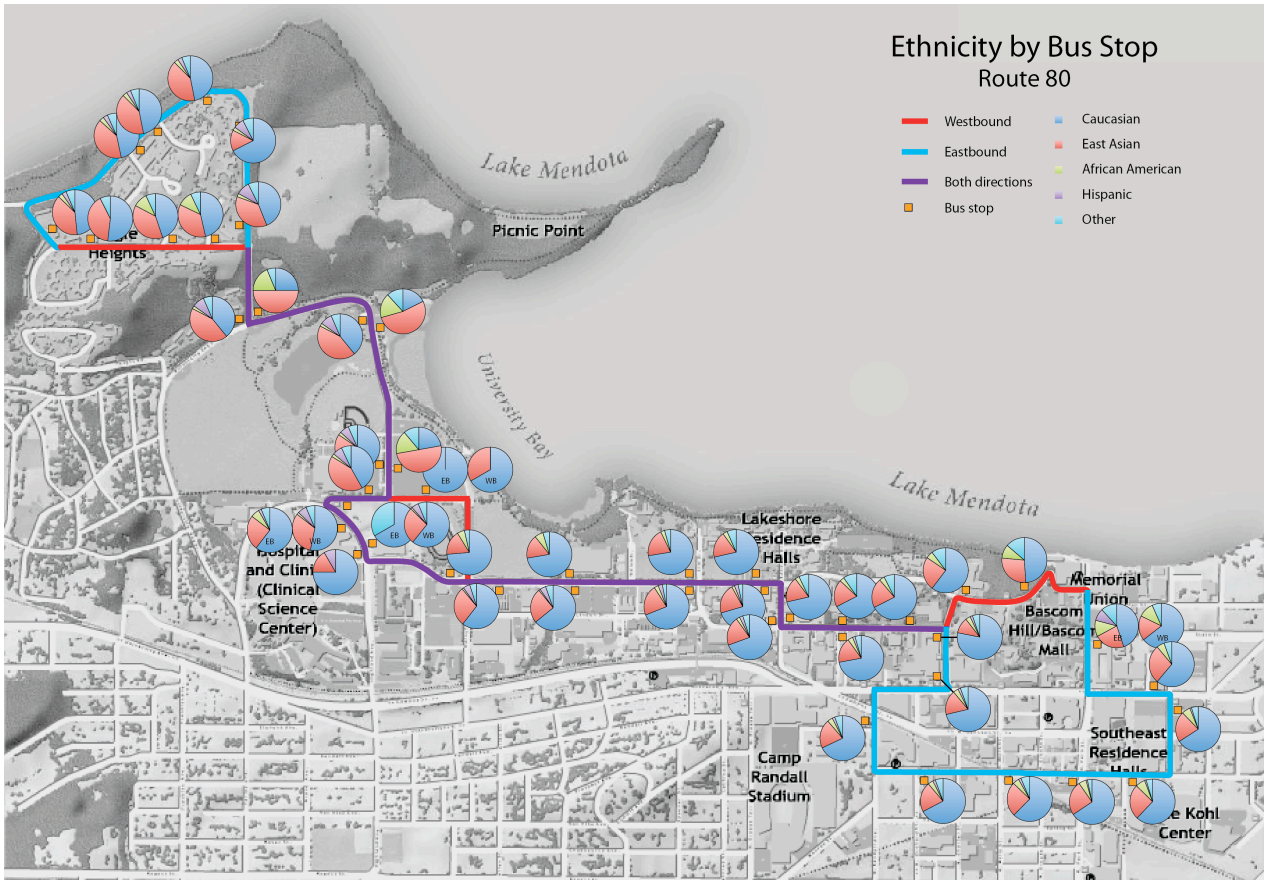


Figure 22. Jessica Shen. Base map: map.wisc.edu

Figure 22 presents ethnicity by bus stop, aggregated across all datasets collected. Ethnicity percentage of the total activity at the bus stop is shown with dark blue signifying Caucasian, red signifying East Asian, green as African American, purple as Hispanic, and light blue as Other.

The ethnic breakdown of ridership for the old 80 and the new 80 are very similar. Caucasians constituted the majority of busload at nearly every bus stop in the old 80 and new 80. The second largest ethnic ridership group is East Asian decent in both variations of the 80 route. Diversity increases in both the western, Eagle Heights portion of campus, as well at the eastern point of Park at State (formerly Memorial Union bus stop), signifying

increased household diversity in Eagle Heights area and reaffirming that Memorial Union area is a student union that draws all students.

Figure 23. Jessica Shen. 2012.

Figure 23 clearly shows that percent ethnicity by bus stop is over 50% Caucasian except in the Eagle Heights neighborhood (Eagle Heights at Shelter to Lake Mendota at University Bay). The sudden spike in Caucasian ridership at Observatory at Babcock is likely related to Caucasian students from the Lakeshore dorms boarding the bus. Greatest diversity is noticeable at Park at State, in the Memorial Union, student social hub area.

13.3 Route 6

Study Area: Madison Metro Route 6 Servicing East Washington, MATC, the Hayes/Portage neighborhood

Figure 24. General Map of Route 6. Base Map: ESRI/ArcGIS Online. Kelly Kohrs. 2012.

Figure 24 illustrates the path that Route 6 takes East Bound down East Washtington Avenue to Madison Area Technical College and then East Towne Mall. The purple line illustrates the path which Route 6 takes when it makes it to the Hayes neighborhood. The colored dots depict specific stops that will be explained later in the analysis. These stops are: Eastbound—Park and Johnson, Main and Carroll, East Wash and Marquette and Westbound—departing East Towne Mall, Hayes and Portage, East Wash and Marquette, and finally State and Gilman.

Comparison of Madison Metro Route 6 Data at Specific Bus Stops to the USA Diversity Index

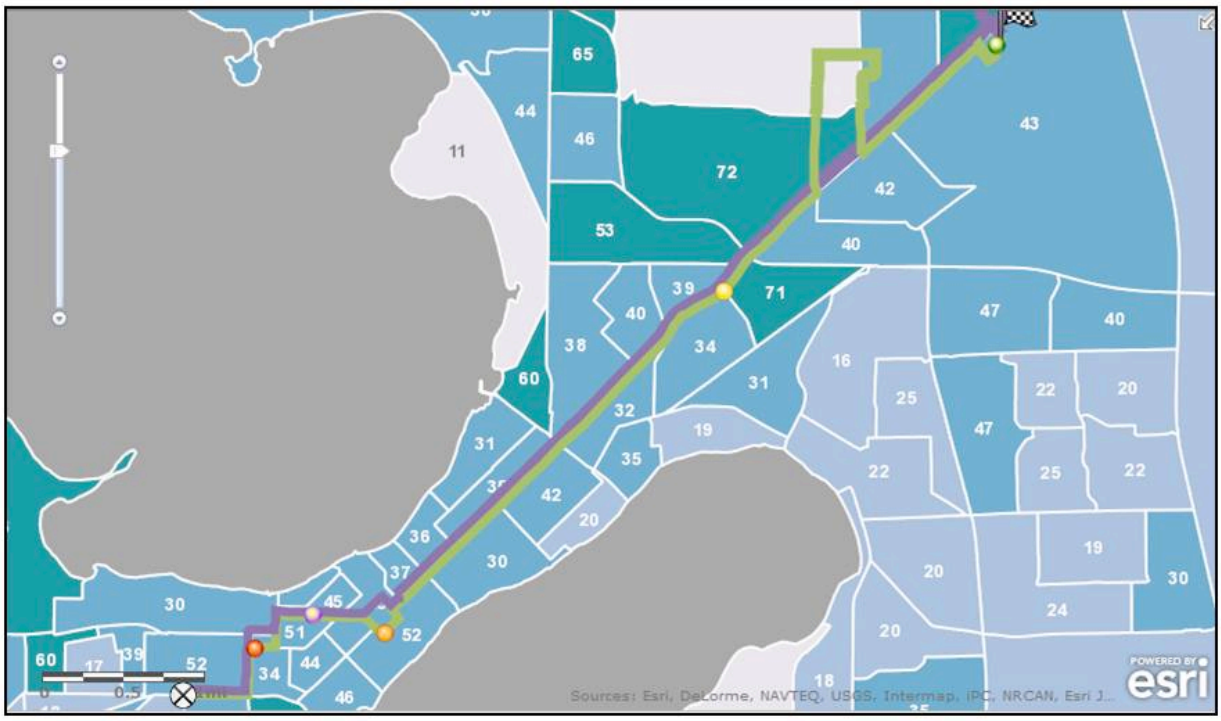


Figure 25. Map of Route 6 including Diversity Index. Base Map: ESRI/ArcGIS Online. Kelly Kohrs. 2012.

Figure 25 depicts the areas of Madison that route 6 services, divided into blocks, colored, and labeled with its corresponding Diversity Index. The Diversity Index is a thematic map that summarizes racial and ethnic diversity in the United States. The Diversity Index shows the likelihood that two persons chosen at random from the same area belong to different racial or ethnic groups. The index ranges from zero (no diversity) to 100 (complete diversity). For example, at the orange dot, the bus stop heading eastbound at Main Street and Carroll Street, there is a 52% chance that two persons chosen at random from this area belong to different races or ethnic groups. This material may be retrieved via ArcGIS Online.

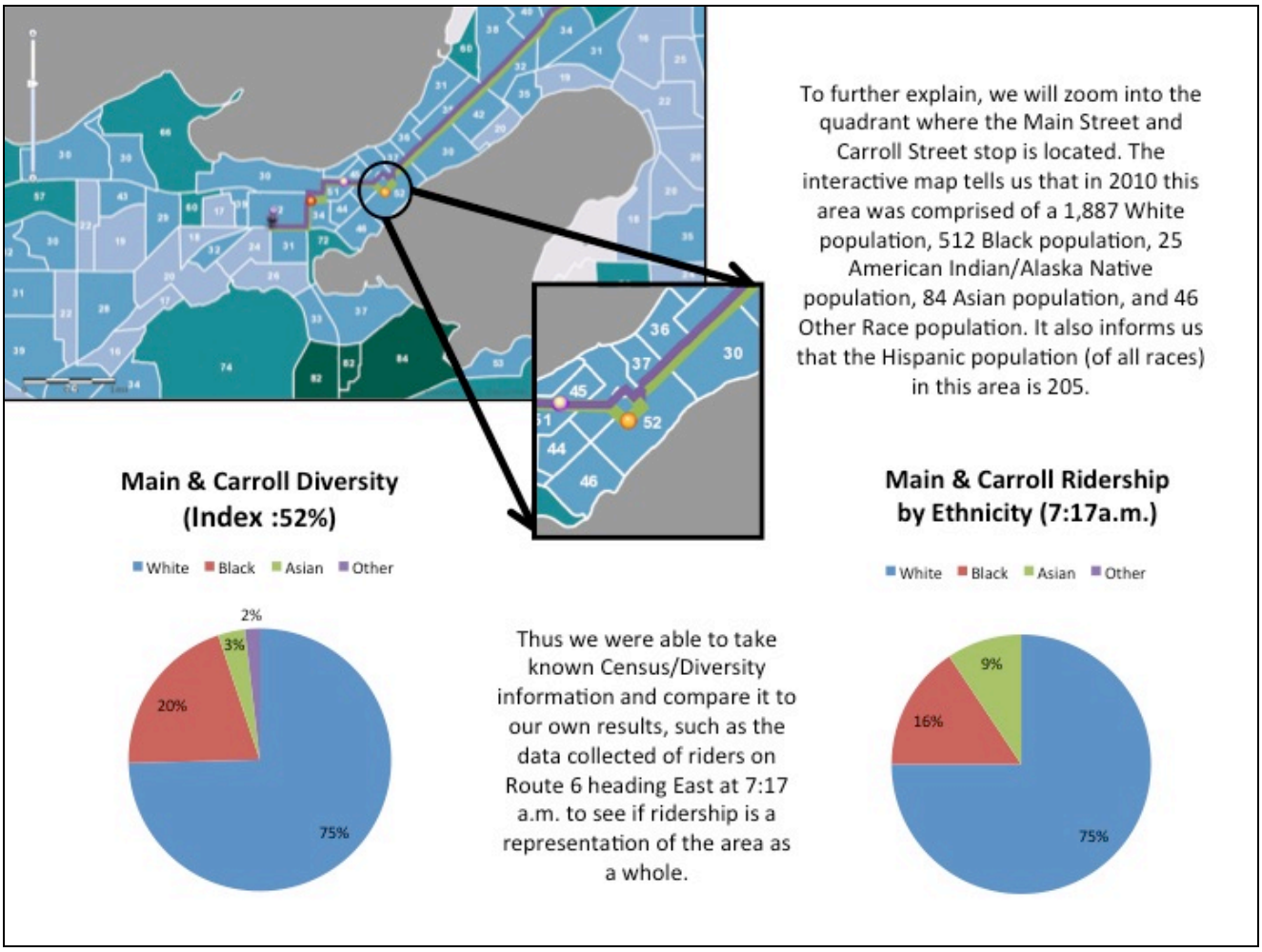


Figure 26. Map of Route 6 including Diversity Index. Base Map: ESRI/ArcGIS Online. Pie Charts: Microsoft Excel. Kelly Kohrs. 2012.

Figure 26 shows an example from the Main and Carroll Stop to help the reader better understand the comparison being made. It is also important to not that the 7:17am is when the bus picked up at the starting point of Regent and Randall (See Appendix Four for more timing information).

Figures 27-33 use the recorded data from the Madison Metro Route 6, at different times and on different dates, and compare the proportion of who is on the bus at the specific stop at that time and compare it to the USA Diversity Index to see if the ridership of the route is a good representation of the actual metropolitan population living in that

specific area. What we have found is that the vast majority of riders are Caucasian, which is in accordance with the overall population of Madison. The second greatest majority of riders are African American, which in many cases is the second most represented ethnicity for the different blocks. There appears to be many more African American riders than would be expected given the proportions given by the Diversity Indexes. Route 6 is known as "the backbone of the system" and thus should service all peoples of the Madison Area (Rathbun C1, 2008).

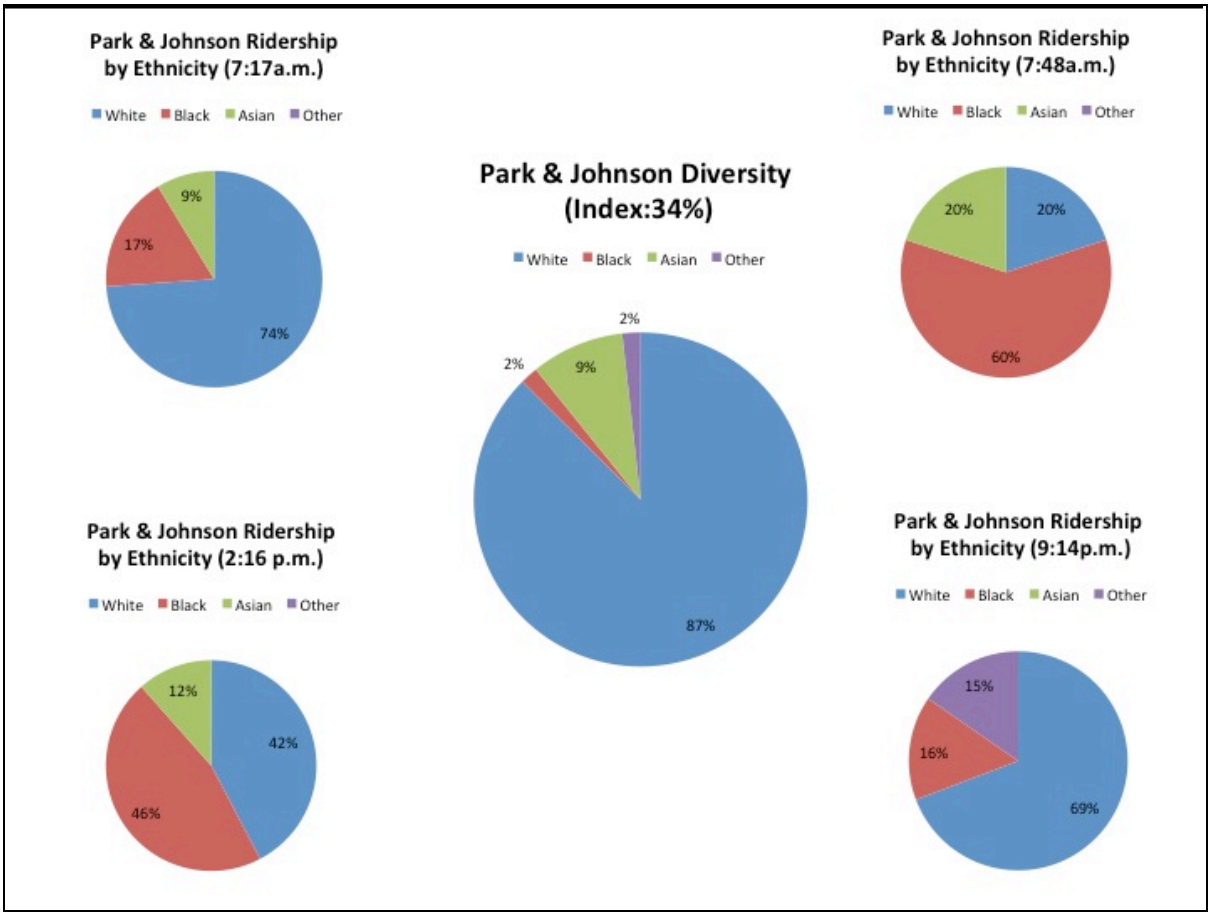


Figure 27. Diversity Index at the Park and Johnson stop. Kelly Kohrs. 2012.

Figure 27 demonstrates that the actual Diversity Index is 34%. This area is comprised of and 87% population of Caucasians, 9% Asians, 2% African Americans, and

2% Other. This demographic does not fully suit the actual riders of Route 6 at this stop. Only at 7:17am and 9:14pm is the majority held by Caucasian riders. Later in the morning the majority of riders are African American despite the fact that for this actual area only 2% of the population are African American. This may be due in part to riders with a destination on the East Side of Madison that primarily have higher diversity indexes than those found in the downtown campus and isthmus area (refer to Figure 25 to note the greater diversity indexes on the Eastern Side of Madison).

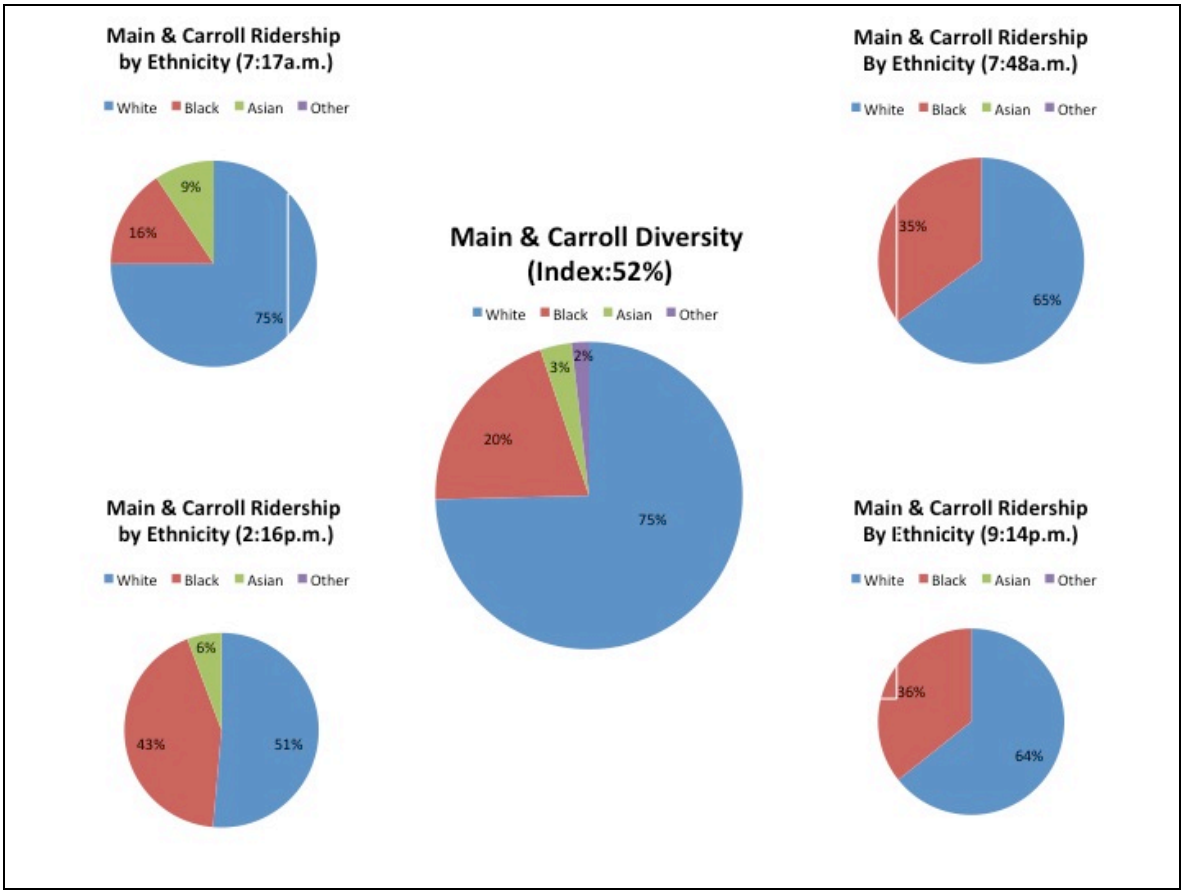


Figure 28. Diversity Index at the Main and Carroll stop. Kelly Kohrs. 2012.

Figure 28 illustrates that the actual Diversity Index for this area is 52%. 75% of the population residing in this area is Caucasian, 20% are African American, 3% are Asian, and 2% are of Other races. This stop is on the Capitol Square and is also headed East which,

looking through our data, match the fact that there is much more diversity heading eastbound and out of downtown than diversity heading west and back to the downtown campus area (see Appendix Section Four).

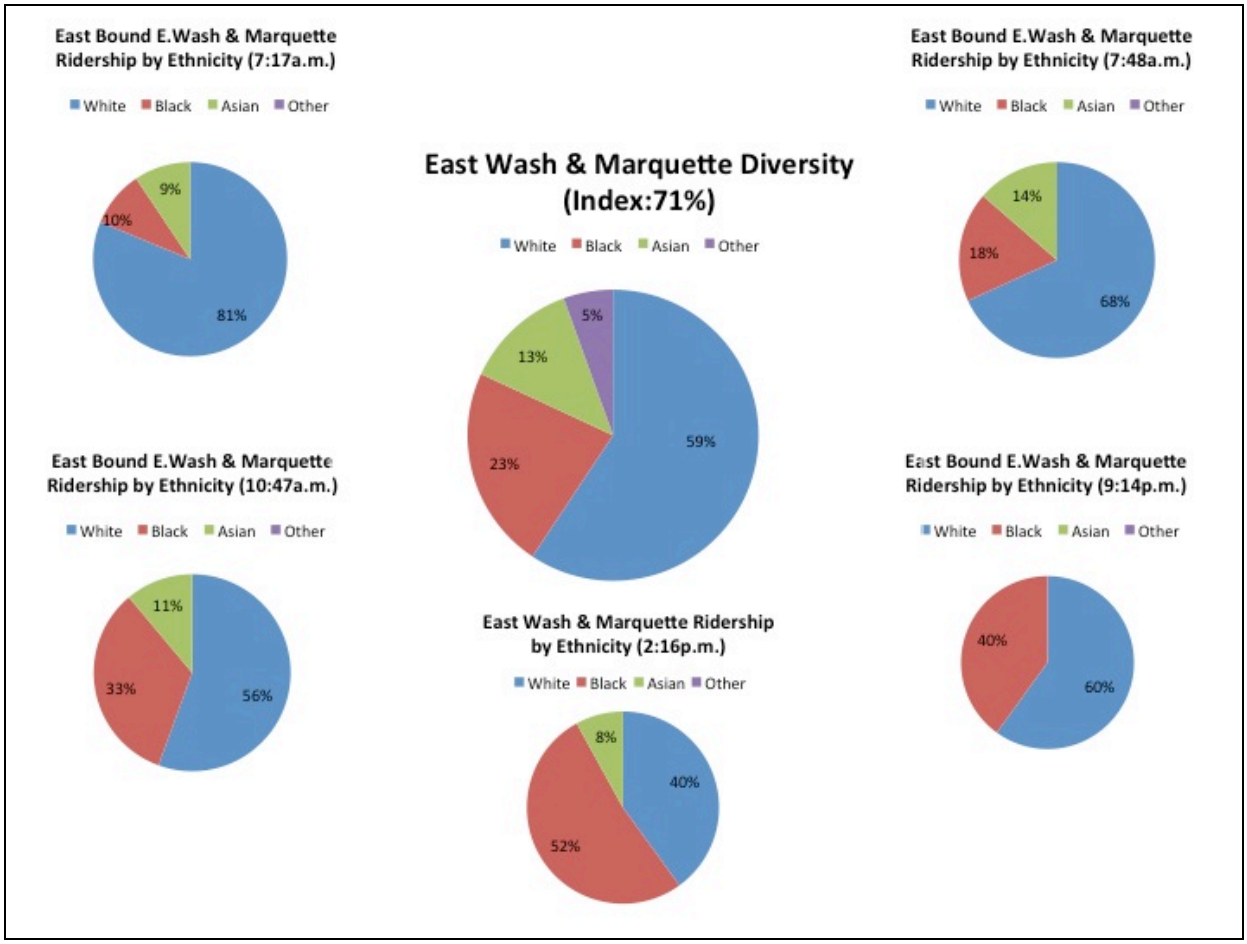


Figure 29. Diversity Index at the East bound East Washington and Marquette stop. Kelly Kohrs. 2012.

Figure 29 illustrates the Diversity Index is 71% for this area. This area is composed of a 59% population of Caucasians, 23% African American, 13% Asian, and 5% Other races. This is the most diverse area we looked at for the study of Route 6. This figure shows the eastbound routes that for the most part adequately represent the actual population for the area. There is also a recurring theme of only Caucasians and African Americans riding the bus on the 9:14pm route. It is also important to note that the "Other" category is

nonexistent despite accounting for about 5% of the population for this area. This may be due to human error in data collection, which will be mentioned in greater detail in Section 15.1 of this paper.

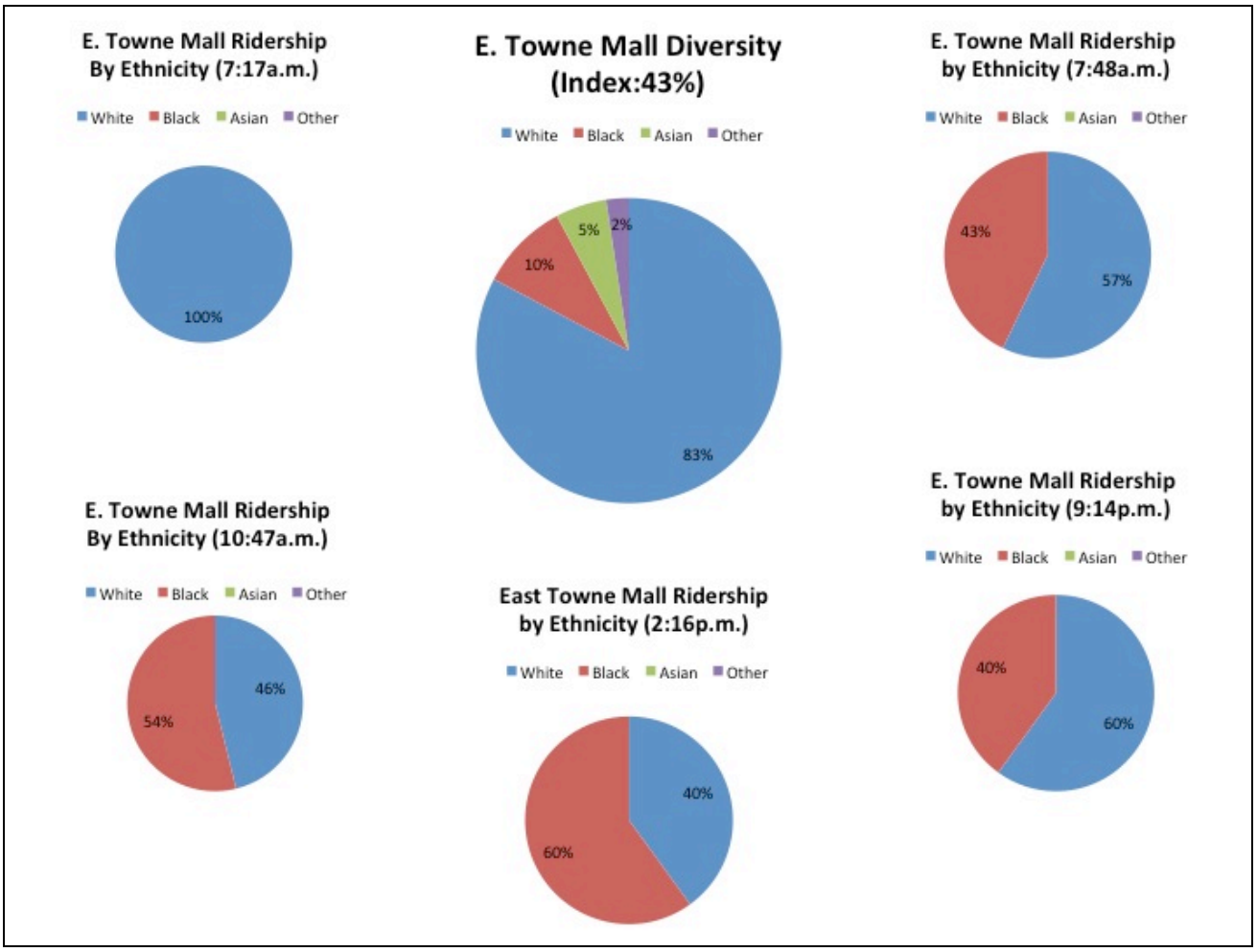


Figure 30. Diversity Index at the East Towne Mall stop. Kelly Kohrs. 2012.

Figure 30 demonstrates the Diversity Index for the East Towne Mall area is 43%. 83% of the population inhabiting this area is Caucasian, 10% is African American, 5% is Asian, and 2% is classified as Other. On the dates we collected data, only Caucasians and African Americans got on the bus at East Towne Mall to depart for the Hayes/Portage neighborhood or the West Transfer Point.

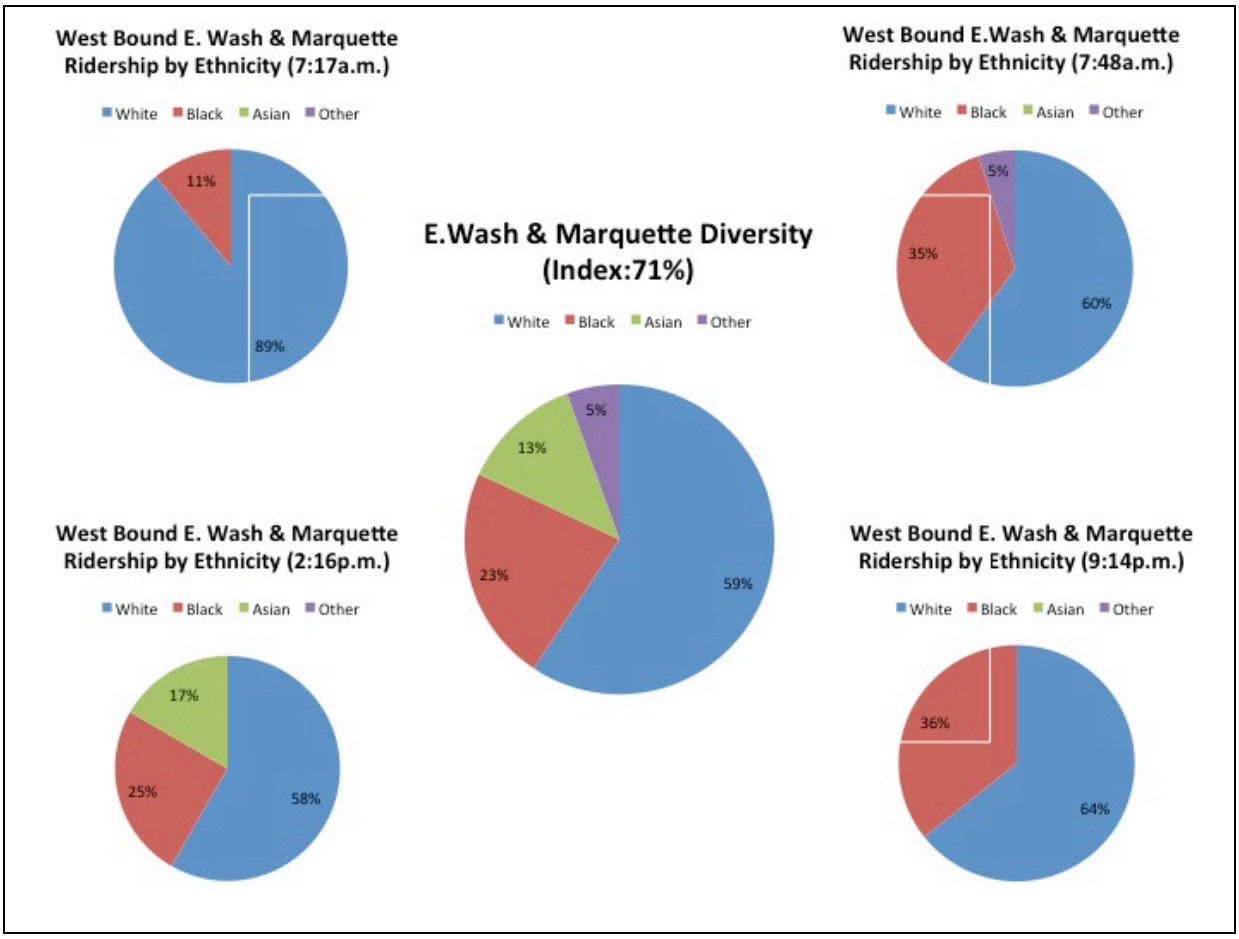


Figure 31. Diversity Index at the Hayes and Portage stop. Kelly Kohrs. 2012.

Figure 31 illustrates the Diversity Index for the Hayes area to be 55%. The population is 80% Caucasian, 8% African American, 6% Asian, and 6% Other. It should be noted that Route 6 does not always go to the Hayes/Portage neighborhood, which is why there are only two charts to compare the Diversity Index to. At 7:48am there is a slightly less percent of Caucasian riders, and far more African American riders. At 10:47am the percent of African American riders is much greater than the percent they compose of the population for this area, and in turn there is a much smaller percentage of Caucasian riders than one would expect from the population. On both dates of collection there were no Asian or Other ethnicity riders taking the bus.

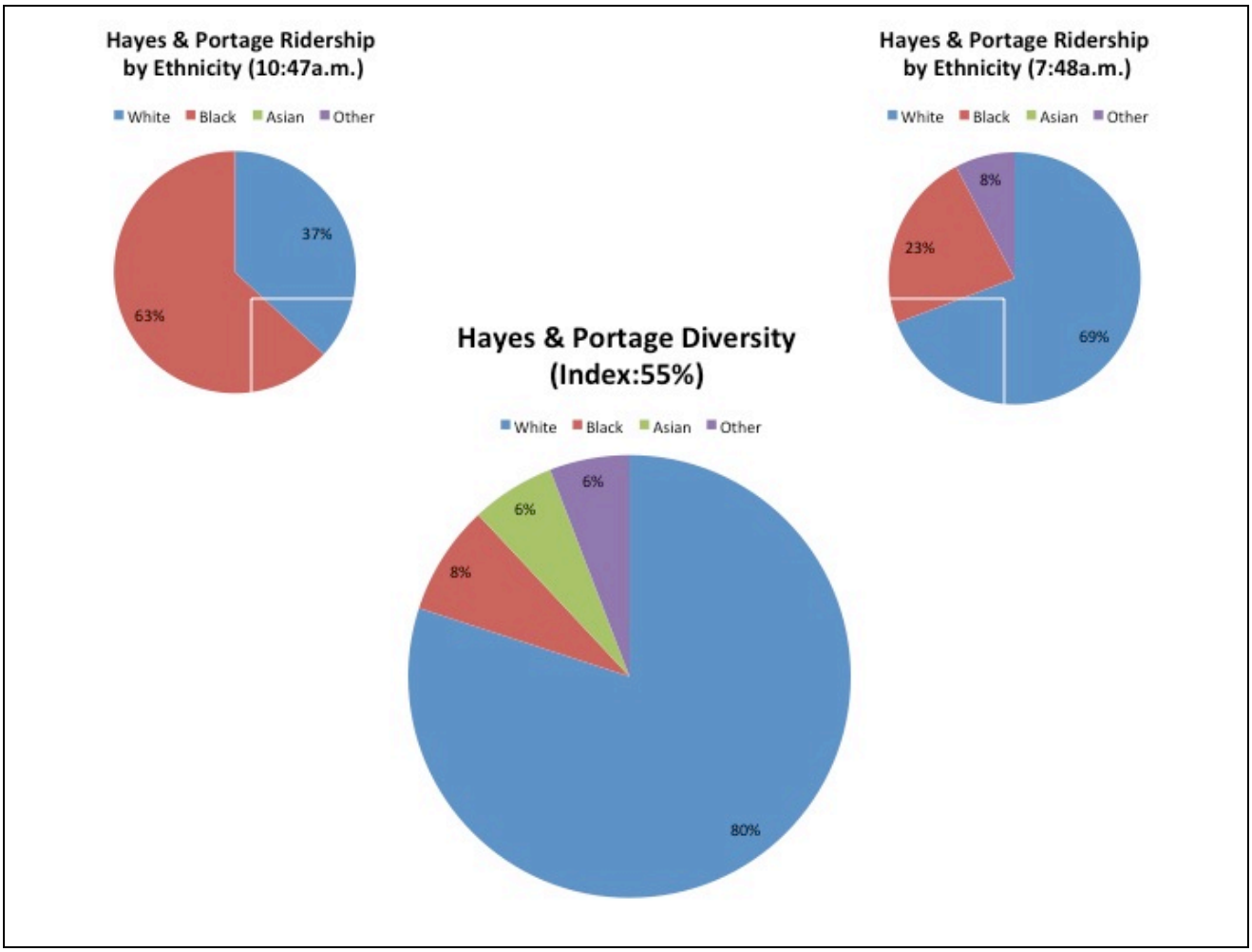


Figure 32. Diversity Index at the West Bound East Washington and Marquette stop. Kelly Kohrs. 2012.

Figure 32 illustrates the Diversity Index for the West bound Route 6, which is the same Diversity Index and composition of Caucasians, African Americans, Asians, and Others as mentioned in Figure 29. This index/compositions are 71%, 59%, 23%, 13%, and 5%, respectively. In comparison to Figure 29, when headed to the West Transfer Point and Madison's downtown, the proportion of riders appears to be slightly more dominated by Caucasian riders than when traveling eastbound. It properly shows that the second greatest proportion is African American riders, but only at 2:16pm does bus ridership

factor in the Asian population. 13% of the actual population of this area is Asian, so riders at most times do not adequately represent the populations.

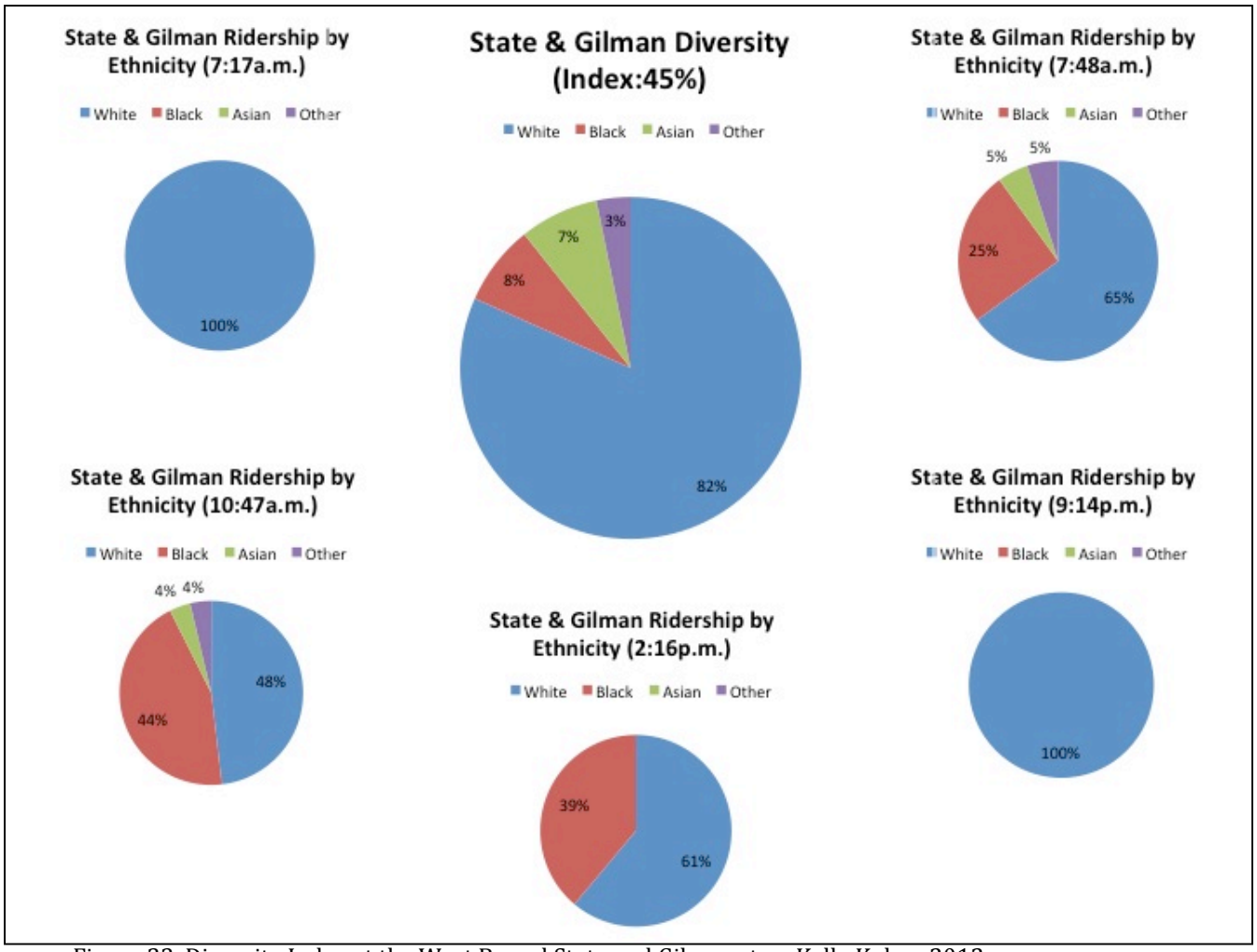


Figure 33. Diversity Index at the West Bound State and Gilman stop. Kelly Kohrs. 2012.

Figure 33 demonstrates the Diversity Index is 45% at State and Gilman when the bus is traveling west toward the West Transfer point. 82% of the inhabitants of this area are Caucasian, 8% are African American, 7% are Asian, and 3% are of Other ethnicity. On each point of data collection the majority of riders were Caucasian once the bus was at this stop, especially at the earliest and latest times of collection. As usual the second most represented ethnicity was African American riders and at 10:47am and 2:16pm African

Americans compose a greater percent of the riders despite only being 8% of the population for this area.

14. Survey Results

Surveys were distributed from November 1 to November 13, 2012. Respondents to our survey overwhelmingly identified as male and ethnically or racially identified as Caucasian: 69.69% responded as male and 87.87% responded as Caucasian (Figure 34 & 35). As the result of convenience sampling, respondents to our survey are not representative of the greater population. Surveys were distributed in UW-Madison classes, at a public hearing on proposed increase to fares on November 7, 2012, and with randomly met individuals. The target population, the group of individuals about whom we sought to draw conclusions (Jensen & Shumway 2010, 78), was bus riders in order to capture attitudes about the proposed cost increases that would affect individuals in the metropolitan area via the fare box and students via a potential increase in student segregated fees.

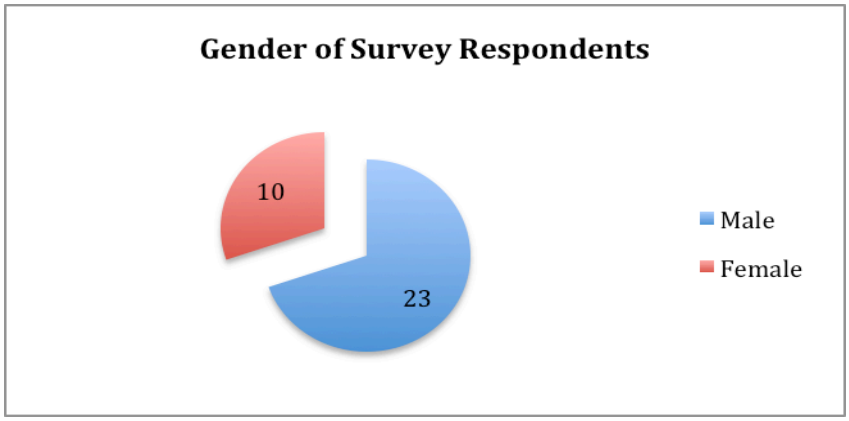


Figure 34. The survey was not equally distributed across the gendered population.

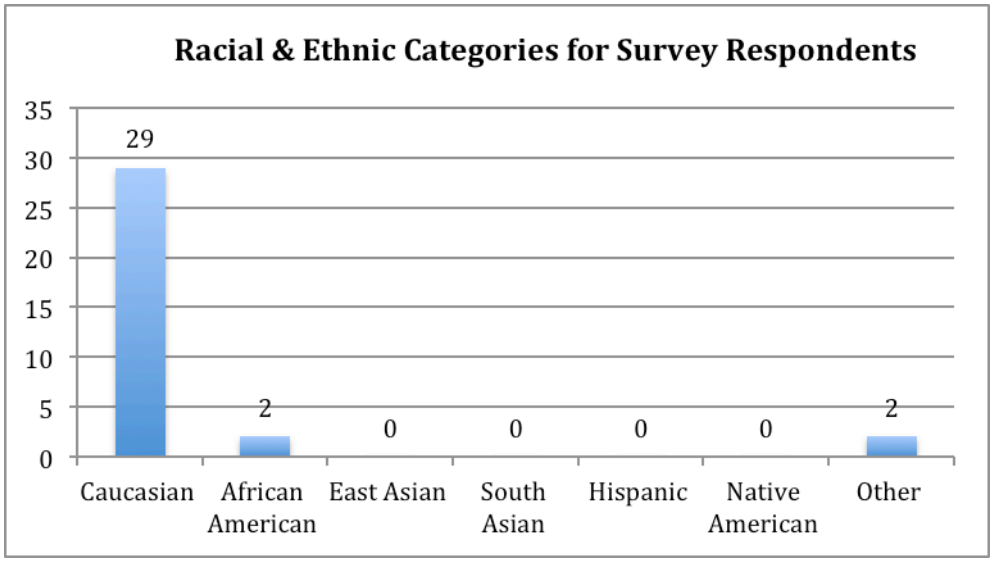


Figure 35. Survey respondents overwhelmingly identified ethnically or racially as Caucasian.

We stopped distributing our survey when Mayor Soglin eliminated the fare increase from the budget on November 13, 2012 (Mosiman 2012). Since several of our survey questions sought attitudes on the proposed fare increases, we felt that further distribution would confuse the public.

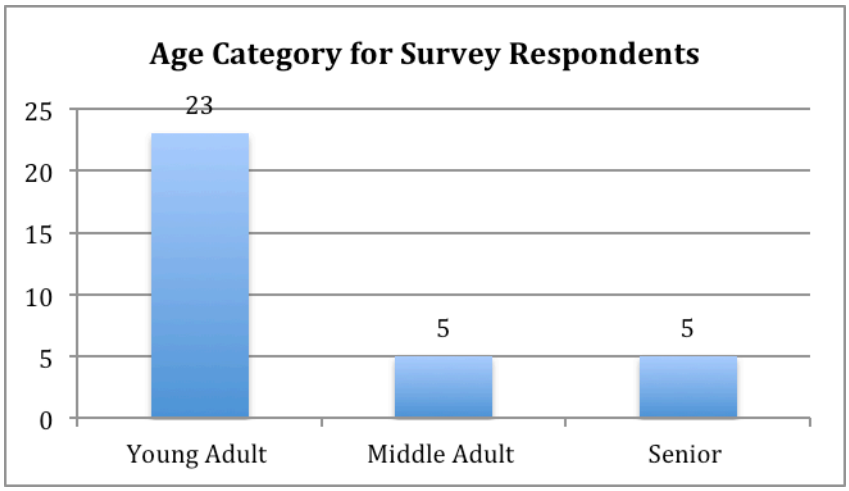


Figure 36. Age categories for survey respondents.

Young adult" was defined as individuals less than 30 years of age, "middle adult" as between 30 and 55 years of age, and "senior" as 55 years and above. We defined young adults as individuals less than 30 years of age because this is about the approximate age by which

individuals have finished technical, undergraduate, professional, and/or doctoral degrees. Middle adult was defined based on the average age range for workforce individuals. Seniors were defined at 55 years to the chagrin of many who disagreed. Due to our approach to sampling, many more respondents in the young adult category were reached (Figure 36). In an attempt to capture the attitudes of older individuals, who are less likely to have access to an unlimited bus pass, we handed out surveys at the public hearing on November 7, 2012. Some older individuals were less responsive and less willing to take a survey despite expressing strong opinions about the price increases in the public forum.

Through the surveys and attendance at the public hearing, we found that individuals who preferred non-public transit modes of transportation or who no longer rode the bus also had opinions about potential fare increases, suggesting that the topic transcends personal usage.

Our survey asked whether respondents ride the routes 80 and 6 buses, the two buses on which we have focused our study. We divided route 80 into two general portions: the western half that loops around Eagle Heights and the UW Hospital campus and the eastern, main portion of campus that edges into Madison's downtown central business district. Route 6 was similarly divided into three sections: the west Tokay area, the east MATC campus area, and downtown/geographically central portion of the route.

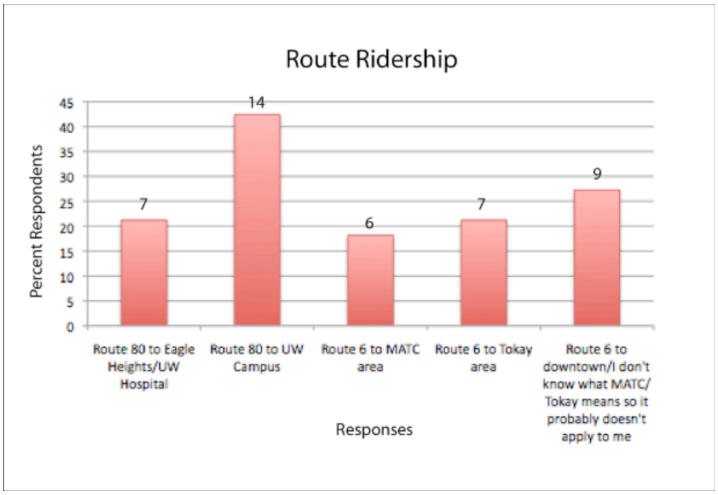


Figure 37. Respondents on which bus routes they ride.

Figures 37 illustrate the number of respondents and percentages of which rode the 6 and or 80. 21.21% of users reported riding route 80 in Eagle Heights and UW Hospital area and 42.42% on UW campus. 18.18% - 27.27% of respondents report using the route 6 on any given each section of the route.

Figures 38 illustrate purpose of bus use. When asked the reason for riding the bus, most respondents answered regarding work, errands, attending the UW, transfers to other bus routes, and as an alternative to expensive parking. 51.51% report riding the bus when the weather is subjectively bad, though our survey did not account for whether those same respondents also ride the bus when the weather is good. No respondents ride the bus in order to pick up kids or get to/from MATC campus, likely due to our convenience sampling on/around the UW campus and with young, unmarried adults and seniors.

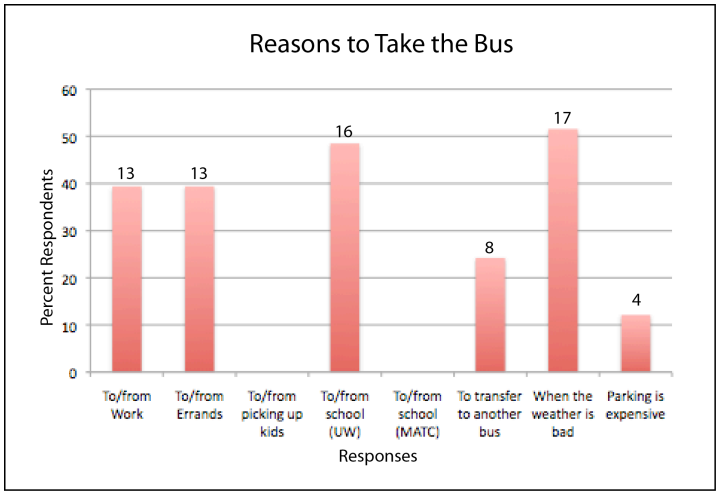


Figure 38. Respondents on why they take the bus.

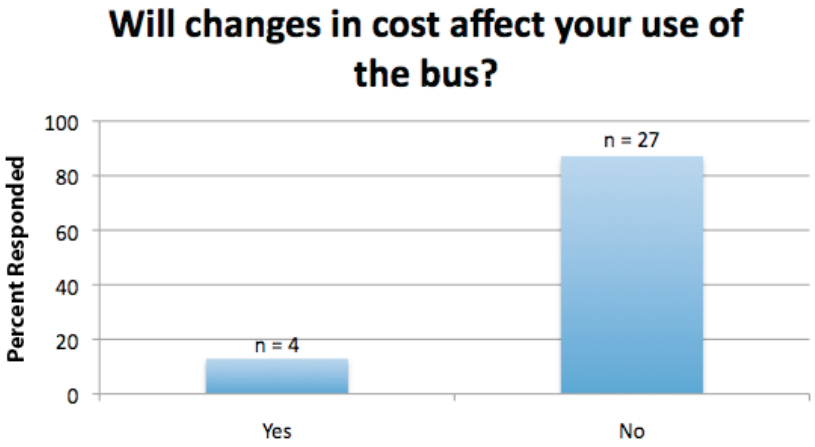


Figure 39. Respondents generally agreed that changes in cost would not affect their personal bus ridership.

The question posed in our survey, "Will changes in cost affect your use of the bus?" informs the importance of the bus as a mode of public transportation. Figure 39 informs that the majority of respondents replied that changes in cost would not affect their use of the bus. This can be interpreted to mean that either riders will not be affected by the cost change or that the bus is a necessary tool of mobility. The survey affirms the second interpretation. The majority of respondents were ardently opposed to cost increases. Thus the graphic informs a dialogue of necessity and mobility. Additionally, UW-Madison students receive unlimited ride bus passes and, as survey comments suggest, erroneously mistaken the bus pass as giving holders free rides.

UW-Madison students pay for the unlimited bus pass with a part of segregated fees. Unsurprisingly, students consider the bus pass basically free as the cost is essentially negligible compared to the rest of students' tuition and fees cost. For Wisconsin resident and full-time student, the $55.56 segregated fee for the unlimited bus pass accounts for 1.07% of tuition and fees. Minnesota residents paying reciprocal tuition spend 0.84% of tuition and fees on the unlimited bus pass and for out-of-state students, the bus pass accounts for 0.42% of tuition and fees (Registrar, Full-time 2012, and Registrar, Tuition 2012).

We asked if respondents had alternate modes of transportation for journeys for which respondents currently take the bus. As illustrated in Figure 40, 97% of respondents had at least one alternate mode of transportation, such as personal vehicles, carpooling, walking, or biking. Only 2 respondents, both of whom were not students, and indicated they did not use route 80 or route 6, reported having no other option.

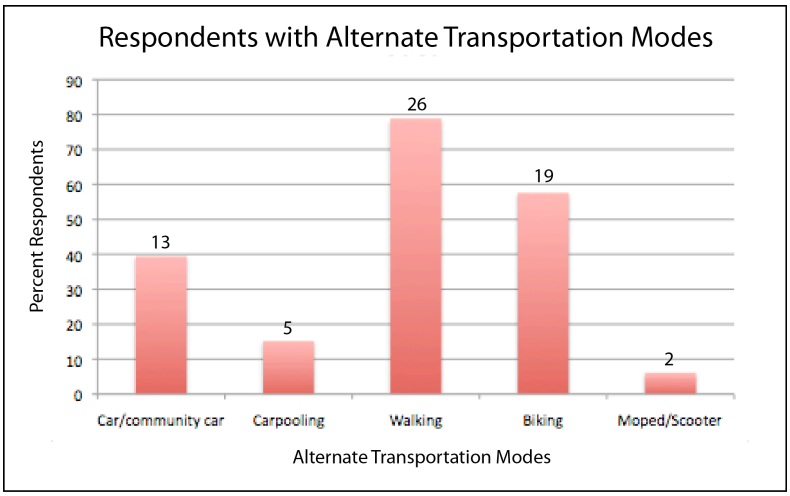


Figure 40. Respondents with alternate transportation modes rely most on walking and biking.

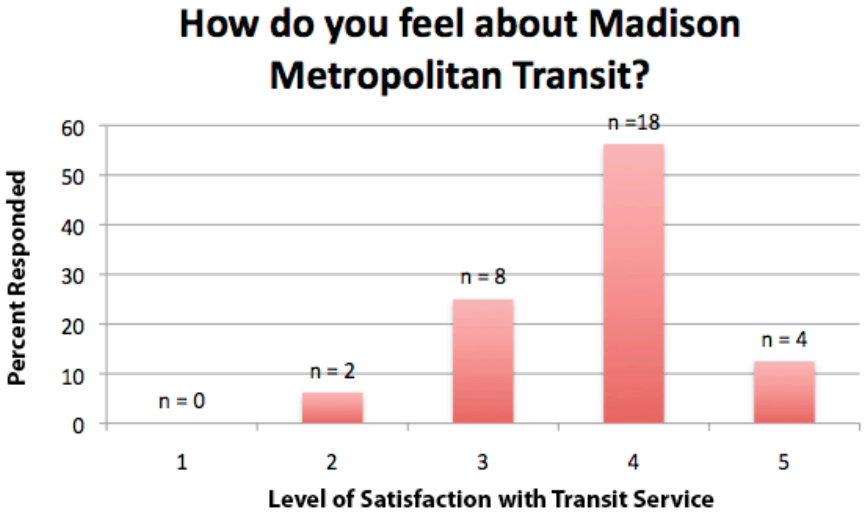


Figure 41. Overall opinion regarding Madison metropolitan transit is high.

The survey concluded that there is a collectively positive attitude towards Madison Metro Transit even while many individuals passionately opposed fare increases. In our survey, a score of 1 represented deep disappointment, 3 average satisfaction, and 5 excellent service. Figure 41 indicates that 69% of respondents had an above average attitude toward Madison Metropolitan Transit.

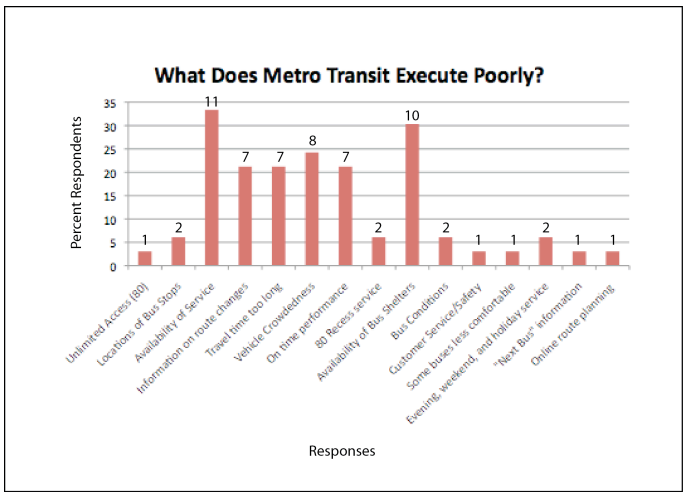


Figure 42. Opinions on what Madison Metro executes poorly is varied.

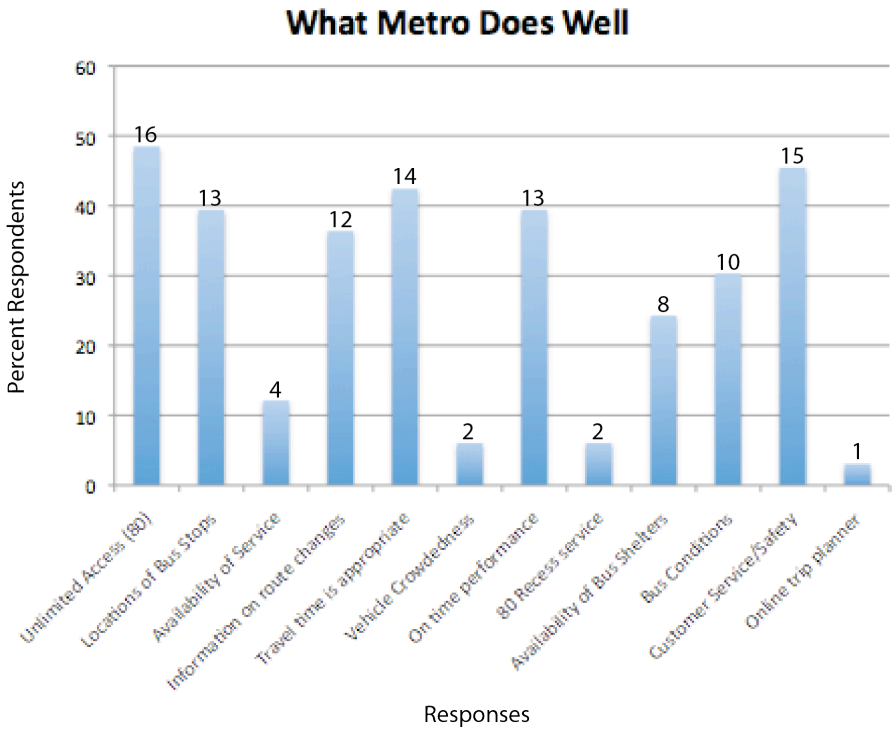


Figure 43. Opinions on what Madison Metro executes well.

A series of two opinion questions were included on the survey, illustrated in Figures 42 and 43. Respondents were given identical lists of attributes to mark whether respondents thought Madison Metro executed poorly or well. These lists were based on better bus practices included in the 2009 Florida Department of Transportation study (Mistretta et al. 2009; see literature review section 5: Better Bus Practices) Lack of a distinct mode in techniques that Metro performs poorly suggests that there is no area in which Metro lacks. The survey results also suggest that there are areas in which Metro performs well enough that at least 1/3 of respondents praised Metro, including unlimited route 80 access, locations of bus stops, distribution of information on route changes, appropriate travel time, on-time performance, and customer service/safety. These high marks reflect how 69% of respondents consider Madison Metro performance to be above average.

15. New Fare Increase

Fare Type	Current	New Fare	% Increase	Previous % Increase
Adult 31-Day Pass	$55.00	$58.00	5.45%	12.70%
Senior/Disabled 31-Day Pass	$27.50	$29.00	5.45%	45.50%
Paratransit Rides	$4.00 (peak) $3.00 (non-peak)	$3.25 (all rides)	-	-
Commute Card rate	$1.15	$1.25	8.70%	8.70%

Table 2. New fare established at the 12 December 2012 Transit and Parking Commission meeting.

The increase to all Metro fare items was expected to generate $218,000 in revenue. On 12 December 2012, the Transit and Parking Commission decide to pass smaller, targeted increases on select Metro fare items. The cost increase will go into effect 3 February 2013 and affect only four items, as opposed to all Metro fare items increasing an average of 15.91% on 1 January 2013 (see Table 1). This smaller cost increase is expected to generate $60,000 to be used for service improvement. A public hearing is to be held in March or April 2013 to discuss the possible service improvements.

Table 2 indicates that the four items to be affected are the 31-day passes, the longest pass term available, as well as the paratransit rides and pass program rides. Pass program rides include the small business Commute Card, an unlimited pass for employees of small businesses who agree to pay a set fee per swipe. These big ticket and specialized pass options will increase an average of 6.53% (Table 2).

The price adjustments were not publicized in news outlets, though posted in Madison Metro/City of Madison websites. We were not aware of the change until a Transit and Parking Commission member specifically informed us at our public presentation (Geography 565 Symposium, 14 December 2012). We sought out the information (City of Madison, *Metro Price Adjustments*, 2012) to elucidate expected changes.

16. Expanded Study Section

It is important to understand that there were multiple limitations to the research conducted in this study. We were constrained by having no budget, tackling the data collection and research alongside a full course load, and having a limited time frame of one semester or about three and a half months. If we could replicate our research, we would attempt to gather data on all of the Madison Metropolitan bus routes. This would enable the study to capture the demographics of the entirety of Madison Metro's service to see if those riding the bus are an accurate representation of Madison's population as a whole. We would also have to take into account the paratransit system that Madison Metro offers. Another factor to take into consideration is the seasonality of when we collected our data. From late September to early November we collected the demographic data, distributed surveys, and conducted an interview. These are just a few months out of the year and do not represent seasonal shifts. Our research period also could be qualified as a very dry year, with minimal seasonal precipitation or extreme temperatures; weather factors have a profound influence on ridership (NOAA, 2012). If there was more time put into the distribution of the surveys instead of convenience sampling then we also would be better able to extrapolate to the entire population of Madison. Nelson Nygaard, the company hired to evaluate the University of Wisconsin-Madison campus transit system, sent out 10,000 emails to randomly selected respondents, of which about 500 responded so they had a representative sample of those riding the campus transit buses (Campus Transit Evaluation, 13 November 2012). This would be a useful reference so that if we were to expand the study we would try to reach all areas of Madison to get a representative sample of respondents. Finally, the measures of connectivity mentioned in the methods section of the Mishra, Welch, and Jha article would come of use in this scenario because we could also expand our study to include other measures such as connectivity as a whole for the Madison area.

We found in our study that accurately capturing the sex, demographic, and age groups of bus riders was very difficult, especially when the vehicle was operating at high capacity. In addition, we agreed that the relative approach to identifying rider characteristics proved to generate substantial error across this study. There were conflicts between identifying age and racial or ethnic characteristics across riders. If the city sought to collect demographic data on the use of public transportation, it could link bus passes with identification cards and track ridership information through a database. The identification card does not necessarily have to be a driver's license, as the government makes alternative identification cards available to individuals. However, this approach would pose a massive infrastructural change to Madison Metro and other government agencies as it links state and local government jurisdictions.

In addition, linking the bus pass to identification cards would reduce the concern for fraudulent use of university bus passes or low-income/disability monthly passes.

16.1 Error

Due to the fact that our data collection was collected in an observational fashion, where no experimental conditions were manipulated there are elements of bias and error. We chose to collect data at the greatest peaks in the day, such as when people were commuting to/from work and school, which led to an abundance of data to be recorded at the moment collecting started. Thus the first few bus stops were generally incomplete in comparison to stops later on. Not only the sheer number of riders on the bus was challenge but also placement into subjective categories was challenging because there would be some discrepancies between each collector's placements into said categories. The data collector's position on the bus also created a challenge due to the fact that some observations may have been out of sight and therefore may be incorrectly identified by their age, sex, or ethnicity. In a few cases data collectors were approached with

questions or intervening human interactions and were unable to strictly record data simultaneously. Finally, inconsistencies based on ridership in specific areas can also contribute to human error. If considered in the context of where the collector may have gotten on the bus there could be error due to a location of a major dormitory nearby or place of employment that may cause the data to show increased ridership in an area.

Conclusion

Who rides the bus in Madison, Wisconsin and how will they be affected by fiscal policy? Public opinion, the political climate, fiscal responsibility, and the geographical landscape all mediate transit policy – it is clearly at the apex of a series of complex discourses.

Route 80 is the backbone of transit mobility on the University of Wisconsin-Madison campus. The route has been altered twice in the present academic year and is poised to change again in the future based on the findings of the study performed by the Nelson\Nygaard Consulting Associates. This transportation-planning group, hired by UW Transportation Services, laid out optimal solutions for addressing issues or temporality, safety and better bus practices (Nelson\\Nygaard: Campus Transit System Evaluation. 13 November 2012). Their study of ridership and load laid the foundation for our own study from which we expanded research to include demographic categories of age, sex, and ethnicity. The primary demographic of ridership on route 80 is young Caucasian individuals. With respect to the greater campus population of which 87 percent of students identify as Caucasian, this is to be expected (University of Wisconsin – Madison 2010). However, route 80 is not representative of the minority campus population. The second greatest category of ridership is young East Asian individuals. The proportional demographic characteristics of ridership and load change with the contexts of time and spatial location of bus stops. There was not a noticeable change in the demography of

ridership after the 80 changed on October 18th. During this study, route 80 was never consistently representative of the total demography of the University of Wisconsin-Madison campus community.

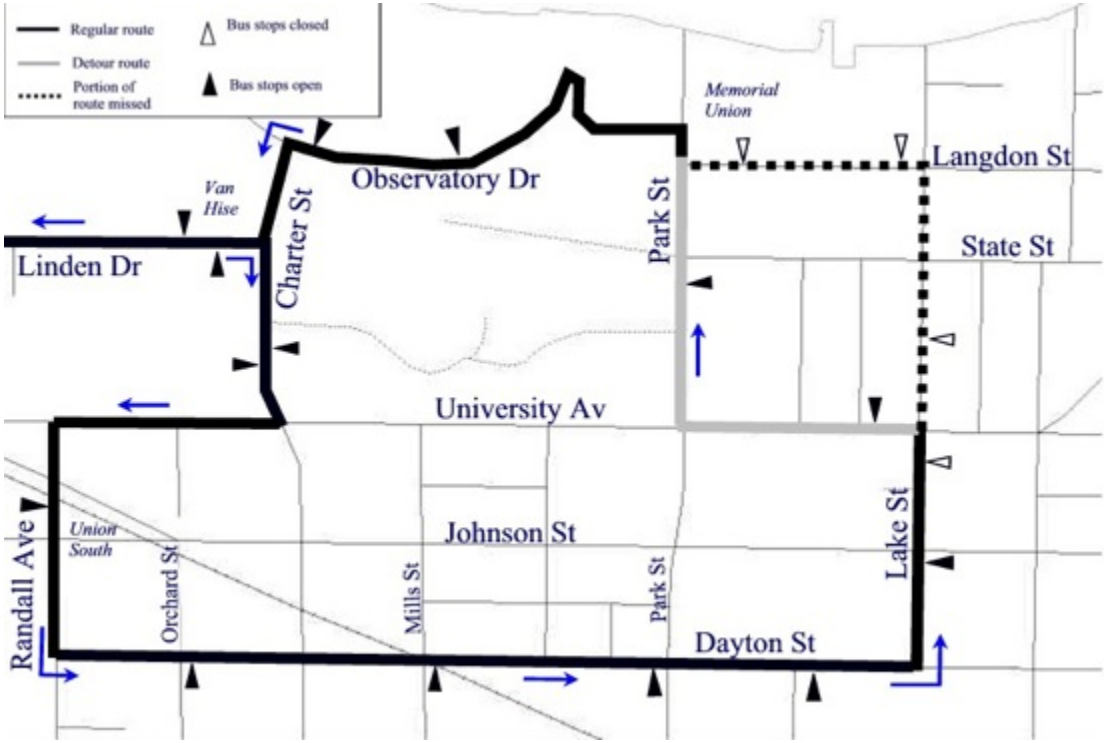
Route 6 is a pivotal element of mobility the Madison metropolitan community. We rode the 6 between the west edge of campus at the intersection of Regent and Randall to East Towne Mall. Our research indicates the route 6 primarily services Caucasian and African American Individuals. Caucasians comprise the majority of the population of Madison, and our research finds that overall this is the general trend of ridership as well (see Figures 26-33). The second greatest ethnic majority in the population of Madison as a whole is African American. This too corresponds with our research findings, but we can also conclude that in comparison to the demographics given by the Diversity Index, the percentage of African American riders is over represented. We have also found that route 6 is not an adequate representation of the Asian population of greater Madison.

On November 12th, Mayor Paul Soglin published a package of changes to the city operating budget taking fare increases off the table as a mechanism to meet the mandatory five percent tax levy (Wisconsin State Journal 2012). We were however informed on December 14th that the city of Madison Transit and Parking Commission voted to increase fares for a series of bus passes on December 12th (Geography 565 Symposium, 14 December 2012). The media has not publicized these fare increases. Thus in the present, the majority of individuals will not be affected by fare increases. Due to the principle of fare elasticity highlighted by Margaret Bergamini and in Neil Paulley's study on factors influencing the demand for public transport (see literature review), demand will continue to exist for public transit even as the cost of the social good increases. Figure 41 of the study survey results indicates that very few of

respondents would change their ridership practices even when faced with cost increases. The Public Hearing on Fare Increases on November 7th indicated that members of the metropolitan community would feel the effects of bus fare increases more harshly than students. Low income individuals, minorities, seniors and the disabled indicated that they would be disproportionately affected by increases in the cost of public transportation because they are on fixed incomes. Individuals cited minimum wage employment, Medicare, and disability as sources of income (Public Hearing on Fare Increases, 7 November 2012). Some fixed-income individuals will face reduced mobility when confronted with fare increases in the future. In some cases, raising the cost of a public good is a threat to mobility. In *Mobility and Transport-related Social Exclusion,* Preston and Rajé cited reducing transit costs, increasing social contacts through the use of technology, altering land use and promoting decentralization, increasing personal incomes and promoting civil society as mechanisms for limiting transit based social exclusion (2007, 151-52; see literature review section 3). However in the contemporary volatile political and economic climate, these are not all viable solutions for the citizens of Madison.

Appendix

Section One



Source: UW, 2012. http://www.news.wisc.edu/21168

The above map was found in a UW-News article informing students of the changes to route 80. This visually explained where stops will no longer be, such as the more northern part of Lake Street that turned onto Langdon and serviced the Memorial Union. Instead the route will turn on University Avenue and serve Park Street.

The following pages are the data collected measuring bus load, ethnicity, and relative age for the Old Route 80 (Section One), the New Route 80 (Section 2), and Route 6 (Section 3) traveling eastbound toward East Towne Mall. We hope to compare this data to census and campus demographic data to measure if ridership is representative of the greater population and if a particular segment of the research population is disadvantaged by bus services.

Section Two

Old Route 80 Servicing Lake to Langdon and the Memorial Union

7:14 AM	On	Off	Load	M	F	White	Asian (non-east)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child 6-15	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Langdon & Park	3	0	7	1	6	7	0	0	0	0	0	0	0	7	0	0
University (by Park)	0	0	7	1	6	7	0	0	0	0	0	0	0	7	0	0
University & Charter	1	0	8	2	6	8	0	0	0	0	0	0	0	7	1	0
Linden & North Charter	0	0	8	2	6	8	0	0	0	0	0	0	0	7	1	0
Linden & Henry Mall	0	3	5	1	4	5	0	0	0	0	0	0	0	4	1	0
Observatory & Babcock	5	0	10	2	8	10	0	0	0	0	0	0	0	8	1	1
Observatory & Elm	0	0	10	2	8	10	0	0	0	0	0	0	0	8	1	1
Observatory & Nat	1	0	11	2	9	10	1	0	0	0	0	0	0	8	2	1
Observatory & Walnut	0	0	11	2	9	10	1	0	0	0	0	0	0	8	2	1
Observatory & Highland	0	10	1	0	1	0	1	0	0	0	0	0	0	0	1	0
Highland & Marsh	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0
University Bay & Lot 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U Bay & Picnic Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. Mendota & U. Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eagle Heights & Lot E	1	0	2	1	1	1	1	0	0	0	0	0	0	1	1	0
Eagle Heights & Lot F	0	0	2	1	1	1	1	0	0	0	0	0	0	1	1	0
Eagle Heights & Shelter	4	1	5	4	1	2	0	1	1	1	0	0	0	1	4	0
Eagle Heights & Lot M	3	0	8	5	3	2	0	3	2	1	0	0	0	2	6	0
Lake Mendota & Lot N	3	0	11	7	4	2	0	6	2	1	0	0	0	2	9	0
Lake Mendota & Lot P	3	0	14	8	6	4	0	7	2	1	0	0	0	4	10	0
Lake Mendota & Lot Q	0	0	14	8	6	4	0	7	2	1	0	0	0	4	10	0
Lake Mendota & Lot R	2	0	16	8	8	4	0	9	2	1	0	0	0	6	10	0
Lake Mendota & Eagle Hts.	2	0	18	9	9	5	1	9	2	1	0	0	0	7	11	0
Lake Mendota & U Bay	1	0	19	10	9	6	1	9	2	1	0	0	0	8	11	0

U Bay & Picnic Point	0	0	19	10	9	6	1	9	2	1	0	0	0	8	11	0
U Bay & Lot 76	0	0	19	10	9	6	1	9	2	1	0	0	0	8	11	0
Highland & Marsh	0	2	17	9	8	5	1	8	2	1	0	0	0	7	11	0
Observatory & Highland	0	0	17	9	8	5	1	8	2	1	0	0	0	7	11	0
Observatory & Walnut	0	0	17	9	8	5	1	8	2	1	0	0	0	7	11	0
Observatory & Nat	0	1	16	8	8	4	1	8	2	1	0	0	0	7	10	0
Observatory & Elm	1	0	17	9	8	5	1	8	2	1	0	0	0	8	10	0
Observatory & Babcock	2	2	17	9	8	6	1	8	2	0	0	0	0	9	8	0
Linden & Henry Mall	0	3	14	8	6	6	1	5	2	0	0	0	0	7	7	0
Linden & North Charter	0	5	9	5	4	5	1	0	2	0	0	0	0	4	5	0
University & Charter	0	3	6	4	2	4	1	0	1	0	0	0	0	4	2	0
Randall & Engineering	4	1	9	8	1	8	0	0	1	0	0	0	0	8	1	0
Dayton & Orchard	0	2	7	7	0	6	0	0	1	0	0	0	0	7	0	0
Dayton & Mills	1	0	8	7	1	7	0	0	1	0	0	0	0	8	0	0
Dayton & Park	0	0	8	7	1	7	0	0	1	0	0	0	0	8	0	0
Dayton & East Campuse Mall	0	3	5	4	1	4	0	0	1	0	0	0	0	5	0	0
Lake & W. Johnson	0	1	4	3	1	4	0	0	1	0	0	0	0	4	0	0
Lake & University Ave.	2	0	6	3	3	6	0	0	0	0	0	0	0	5	1	0
Lake & State	2	3	5	1	4	3	0	0	1	1	0	0	0	3	2	0
Lake & Langdon	7	1	11	2	9	8	0	0	2	1	0	0	0	8	3	0

8:05am 10/17/12	On	Off	Load	M	F	White	Asian (non-east)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (16-30)	Middle Adult (31-55)	Senior (55+)
Langdon & Park	10	0	10	4	6	6	2	1	1	0	0	0	0	10	0	0
University (by Park)	0	0	10	4	6	6	2	1	1	0	0	0	0	10	0	0
University & Charter	0	2	8	3	5	5	2	1	0	0	0	0	0	8	0	0
Linden & North Charter	0	2	6	2	4	4	1	1	0	0	0	0	0	6	0	0
Linden & Henry Mall	1	1	6	2	4	5	0	1	0	0	0	0	0	5	1	0
Linden & Babcock	0	1	5	2	3	4	0	1	0	0	0	0	0	4	1	0
Observatory & Babcock	1	0	6	2	4	5	0	1	0	0	0	0	0	5	1	0
Observatory & Elm	0	1	5	1	4	4	0	1	0	0	0	0	0	5	1	0

Observatory & Nat	0	1	4	1	3	3	0	1	0	0	0	0	0	3	1	0
Observatory & Walnut	0	0	4	1	3	3	0	1	0	0	0	0	0	3	1	0
Observatory & Highland	0	3	1	0	1	0	0	1	0	0	0	0	0	1	0	0
Highland & Marsh	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
University Bay & Lot 60	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
U Bay & Picnic Point	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
L. Mendota & U. Bay	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
Eagle Heights & Lot E	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
Eagle Heights & Lot F	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0
Eagle Heights & Shelter	6	1	6	3	3	2	0	4	0	0	0	0	0	3	3	0
Eagle Heights & Lot M	10	0	16	9	7	7	1	8	0	0	0	1	0	7	8	0
Lake Mendota & Lot N	0	0	16	9	7	7	1	8	0	0	0	1	0	7	8	0
Lake Mendota & Lot P	1	0	17	10	7	7	1	9	0	0	0	1	0	8	8	0
Lake Mendota & Lot Q	0	0	17	10	7	7	1	9	0	0	0	1	0	8	8	0
Lake Mendota & Lot R	0	0	17	10	7	7	1	9	0	0	0	1	0	8	8	0
Lake Mendota & Eagle Hts.	2	0	19	12	7	8	1	9	0	0	0	1	0	8	10	0
Lake Mendota & U Bay	3	0	22	14	8	9	1	10	0	0	0	1	0	8	13	0
U Bay & Picnic Point	0	0	22	14	8	9	1	10	0	0	0	1	0	8	13	0
U Bay & Lot 76	1	1	22	13	9	9	1	10	0	0	0	1	0	8	13	0
Highland & Marsh	0	2	20	12	8	9	1	9	0	0	0	1	0	8	11	0
Observatory & Highland	0	0	20	12	8	9	1	9	0	0	0	1	0	8	11	0
Observatory & Walnut	1	0	21	13	8	10	1	9	0	0	0	1	0	9	11	0
Observatory & Nat	2	0	23	13	10	12	1	9	0	0	0	1	0	11	11	0
Observatory & Elm	6	0	29	15	14	16	1	10	1	0	0	1	0	17	11	0
Observatory & Babcock	1	0	30	15	15	17	1	10	1	0	0	1	0	18	12	0
Linden & Babcock	0	5	25	11	14	14	0	9	1	0	0	1	0	18	7	0
Linden & Henry Mall	0	6	19	13	11	11	1	7	1	0	0	0	0	13	6	0
Linden & North Charter	0	7	12	7	5	6	1	5	0	0	0	0	0	8	4	0
University & Charter	0	4	8	5	3	5	1	2	0	0	0	0	0	4	4	0
Randall & Engineering	0	2	6	4	2	4	0	2	0	0	0	0	0	4	2	0
Dayton & Orchard	0	1	5	3	2	3	0	2	0	0	0	0	0	3	2	0
Dayton & Mills	0	1	4	3	1	3	0	2	0	0	0	0	0	2	2	0

Dayton & Park	1	2	3	3	0	2	0	1	0	0	0	0	0	1	2	0
Dayton & East Campus Mall	2	0	5	3	2	4	0	1	0	0	0	0	0	3	2	0
Lake & W. Johnson	2	0	7	3	4	4	0	2	1	0	0	0	0	5	2	0
Lake & University Ave.	6	1	13	2	10	9	0	3	1	0	0	0	0	12	1	0
Lake & State	4	1	16	1	15	13	0	2	1	0	0	0	0	15	1	0
Lake & Langdon	22	0	38	11	27	23	0	12	3	0	0	0	0	37	1	0

10:23am 10/17/12	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Langdon & Park	0	0	9	1	8	7	0	0	2	0	0	0	0	8	1	0
University (by Park)	3	0	12	2	10	9	1	0	2	0	0	0	0	10	1	0
University & Charter	2	0	14	3	11	11	1	0	2	0	0	0	0	13	1	0
Linden & North Charter	1	3	12	3	9	10	1	1	0	0	0	0	0	11	1	0
Linden & Henry Mall	2	3	11	4	7	7	2	2	0	0	0	0	0	11	0	0
Linden & Babcock	0	0	11	4	7	7	2	2	0	0	0	0	0	11	0	0
Observatory & Babcock	0	0	11	4	7	7	2	2	0	0	0	0	0	11	0	0
Observatory & Elm	0	4	8	1	6	6	1	1	0	0	0	0	0	8	0	0
Observatory & Nat	0	4	4	1	3	2	1	1	0	0	0	0	0	4	0	0
Observatory & Walnut	0	0	4	1	3	2	1	1	0	0	0	0	0	4	0	0
Observatory & Highland	0	0	4	1	3	2	1	1	0	0	0	0	0	4	0	0
Highland & Marsh	0	0	4	1	3	2	1	1	0	0	0	0	0	4	0	0
Marsh & Lot 60	0	2	2	0	2	1	1	0	0	0	0	0	0	2	0	0
Marsh & Lot 76	1	2	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Highland & Marsh	4	0	6	3	3	6	0	0	0	0	0	0	0	5	1	0
Observatory & Highland	1	0	7	4	3	7	0	0	0	0	0	0	0	5	1	1
Observatory & Walnut	1	0	8	4	4	7	0	1	0	0	0	0	0	5	2	1
Observatory & Nat	6	1	13	7	6	11	0	2	0	0	0	0	0	10	2	1
Observatory & Elm	25	1	37	12	25		0		4	0	0	0	0	34	2	1
Observatory & Babcock	6	0	43						6	0		0	0	42	0	1
Linden & Babcock	1	1	43							0		0	0	42	0	1
Linden & Henry Mall	5	0	48							0				47	0	1

Linden & North Charter	6	26	28							0		0	0	28	0	1
University & Charter	4	6	26			18	0	9	1	0	0	0	0	25	0	1
Randall & Engineering	12	1	37			22	0	14	2	1	0	0	0	34	1	2
Dayton & Orchard	0	2	35											32	1	2
Dayton & Mills	0	4	31											28	1	2
Dayton & Park	0	2	29											26	1	2
Dayton & East Campus Mall	0	6	23											22	0	1
Lake & W. Johnson		6	17											17	0	0
Lake & University Ave.	1	1	17											17	0	0
Lake & State	2	8	11											11	0	0
Lake & Langdon	0	1	10			8	1	1	0	0	0	0	0	10	0	0

3:04-3:48 PM (10/12/12)	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Langdon & Park	3	0	18	5	13	6	2	1	5	1	3	0	0	6	10	2
University (by Park)	6	0	24	9	15	12	2	1	5	1	3	0	0	10	12	2
University & Charter	3	0	27	11	16	14	3	1	5	1	3	0	0	11	14	2
Linden & North Charter	7	1	33	14	19	16	2	1	9	1	3	0	0	15	16	2
Linden & Henry Mall	0	0	33	14	19	16	2	1	9	1	3	0	0	15	16	2
Linden & Babcock	0	2	31	12	19	14	2	1	9	1	3	0	0	13	16	2
Observatory & Babcock	0	0	31	12	19	14	2	1	9	1	3	0	0	13	16	2
Observatory & Elm	1	6	26	11	15							0	0	11	13	2
Observatory & Nat	0	1	25	11	14	9	5	0	6	0		0	0	10	13	2
Observatory & Walnut	0	7	18	7	11	7	3	0	6	0	2	0	0	9	8	1
Observatory & Highland	0	8	11	5	6	5	4	0	1	0	1	0	0	2	8	1
Highland & Marsh	0	1	10	4	6	4	4	1	1	0	0	0	0	2	7	1
University Bay & Lot 60	0	1	9	4	5	4	3	1	1	0	0	0	0	1	7	1
U Bay & Picnic Point	0	0	9	4	5	4	3	1	1	0	0	0	0	1	7	1
L. Mendota & U. Bay	0	2	7	4	3	4	1	1	1	0	0	0	0	1	6	0
Eagle Heights & Lot E	0	1	6	3	3	3	1	1	1	0	0	0	0	1	5	0
Eagle Heights & Lot F	0	0	6	3	3	3	1	1	1	0	0	0	0	1	5	0

Eagle Heights & Shelter	0	4	2	2	0	2	0	0	0	0	0	0	0	1	1	0
Eagle Heights & Lot M	0	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0
Lake Mendota & Lot N	0	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0
Lake Mendota & Lot P	2	1	2	2	0	2	0	0	0	0	0	1	0	0	1	0
Lake Mendota & Lot Q	0	0	2	2	0	2	0	0	0	0	0	1	0	0	1	0
Lake Mendota & Lot R	0	0	2	2	0	2	0	0	0	0	0	1	0	0	1	0
Lake Mendota & Eagle Hts.	2	0	4	3	1	2	1	0	1	0	0	1	0	1	2	0
Lake Mendota & U Bay	0	0	4	3	1	2	1	0	1	0	0	1	0	1	2	0
U Bay & Picnic Point	0	0	4	3	1	2	1	0	1	0	0	1	0	1	2	0
U Bay & Lot 76	0	0	4	3	1	2	1	0	1	0	0	1	0	1	2	0
Highland & Marsh	1	2	3	2	1	0	1	1	1	0	0	0	0	2	1	0
Observatory & Highland	1	0	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Observatory & Walnut	0	0	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Observatory & Nat	0	0	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Observatory & Elm	0	0	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Observatory & Babcock	1	0	5	3	2	2	1	1	1	0	0	0	0	3	2	0
Linden & Babcock	0	1	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Linden & Henry Mall	0	0	4	2	2	1	1	1	1	0	0	0	0	3	1	0
Linden & North Charter	1	0	5	2	3	3	0	1	1	0	0	0	0	4	1	0
University & Charter	0	0	5	2	3	3	0	1	1	0	0	0	0	4	1	0
Randall & Engineering	1	2	4	1	3	4	0	0	0	0	0	0	0	4	0	0
Dayton & Orchard	2	0	6	2	4	5	0	1	0	0	0	0	0	6	0	0
Dayton & Mills	0	0	6	2	4	5	0	1	0	0	0	0	0	6	0	0
Dayton & Park	0	1	5	2	3	4	0	1	0	0	0	0	0	5	0	0
Dayton & East Campus Mall	6	0	11	2	9	10	0	1	0	0	0	0	0	11	0	0
Lake & W. Johnson	0	0	11	2	9	10	0	1	0	0	0	0	0	11	0	0
Lake & University Ave.	1	0	12	2	10	10	0	1	1	0	0	0	0	12	0	0
Lake & State	1	2	11	1	10	9	0	1	1	0	0	0	0	11	0	0
Lake & Langdon	0	1	10	1	9	8	0	1	1	0	0	0	0	10	0	

9:05PM 10/12/12	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Langdon & Park	6	1	16	5	11	12	0	4	0	0	0	0	0	12	3	1
University (by Park)	4	0	20	7	13	13	0	7	0	0	0	0	0	16	3	1
University & Charter	3	0	23	7	16	16	0	7	0	0	0	0	2	15	5	1
Linden & North Charter	3	0	26	10	16	16	1	7	0	0	2	0	2	15	8	1
Linden & Henry Mall	0	0	26	10	16	16	1	7	0	0	2	0	2	15	8	1
Linden & Babcock	7	0	33	14	19	16	2	13	0	0	2	0	2	15	15	1
Observatory & Babcock	1	0	34	15	19	16	2	14	0	0	2	0	2	15	16	1
Observatory & Elm	0	7	27	14	13	9	2	14	0	0	2	0	2	11	13	1
Observatory & Nat	0	7	20	10	10	2	2	14	0	0	2	0	2	5	13	0
Observatory & Walnut	0	0	20	10	10	2	2	14	0	0	2	0	2	5	13	0
Observatory & Highland	5	1	24	10	14	5	0	17	0	0	2	0	2	6	16	0
Highland & Marsh	0	1	23	10	13	5	0	17	0	0	1	0	2	5	16	0
University Bay & Lot 60	1	0	24	11	13	6	0	17	0	0	1	0	2	5	16	1
U Bay & Picnic Point	0	0	24	11	13	6	0	17	0	0	1	0	2	5	16	1
L. Mendota & U. Bay	0	3	23	10	13	6	0	16	0	0	1	0	2	5	15	1
Eagle Heights & Lot E	3	2	25	10	15	5	0	15	4	0	1	0	2	9	13	1
Eagle Heights & Lot F	1	5	21	10	11	5	0	9	4	0	2	0	2	9	9	1
Eagle Heights & Shelter	0	4	15	8	7	3	0	8	4	0	0	0	0	7	7	1
Eagle Heights & Lot M	0	0	15	8	7	3	0	8	4	0	0	0	0	7	7	1
Lake Mendota & Lot N	0	1	14	7	7	3	0	7	4	0	0	0	0	7	6	1
Lake Mendota & Lot P	0	3	11	6	5	3	0	4	4	0	0	0	0	7	3	1
Lake Mendota & Lot Q	0	3	8	4	4	3	0	1	4	0	0	0	0	7	1	0
Lake Mendota & Lot R	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
Lake Mendota & Eagle Hts.	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
Lake Mendota & U Bay	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
U Bay & Picnic Point	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
U Bay & Lot 76	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
Highland & Marsh	0	0	8	4	4	3	0	1	4	0	0	0	0	7	1	0
Observatory & Highland	1	0	9	4	5	4	0	1	4	0	0	0	0	8	1	0
Observatory & Walnut	2	0	11	5	6	6	0	1	4	0	0	0	0	10	1	0

Observatory & Nat	0	0	11	5	6	6	0	1	4	0	0	0	0	10	1	0
Observatory & Elm	24	6	35	16	19	26	0	2	5	0	0	2	0	34	1	0
Observatory & Babcock	5	0	40	17	23	30	0	3	5	0	2	0	0	39	1	0
Linden & Babcock	0	0	40	17	23	30	0	3	5	0	2	0	0	39	1	0
Linden & Henry Mall	0	0	40	17	23	30	0	3	5	0	2	0	0	39	1	0
Linden & North Charter	0	0	40	17	23	30	0	3	5	0	2	0	0	39	1	0
University & Charter	0	2	38	16	22	28	0	3	5	0	2	0	0	37	1	0
Randall & Engineering	1	0	39	17	22	28	1	3	5	0	2	0	0	37	2	0
Dayton & Orchard	0	10	29	11	22	22	1	2	4	0	0	0	0	27	2	0
Dayton & Mills	0	5	24	10	14	14	1	1	4	0	0	0	0	22	2	0
Dayton & Park	0	0	24	10	14	14	1	1	4	0	0	0	0	22	2	0
Dayton & East Campus Mall	0	4	20	7	13	15	1	0	4	0	0	0	0	18	2	0
Lake & W. Johnson	4	6	18	7	11											
Lake & University Ave.	0	3	15	5	10	4	0	1	0	0	0	0	0	14	0	1
Lake & State	2	9	7	3	4	6	0	1	0	0	0	0	0	6	10	1
Lake & Langdon	0	1	6	2	4	5	0	1	0	0	0	0	0	5	0	1

Section Three

New Route 80 Excluding Langdon & Memorial Union, now servicing University and Park

11/2/2012 7:14a.m.	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State	3	0	3	2	1	1	2	0	0	0	0	0	0	2	1	0
Observatory at Bascom	0	0	3	2	1	1	2	0	0	0	0	0	0	2	1	0
Observatory at Charter	0	2	1	1	0	0	1	0	0	0	0	0	0	0	1	0
Linden at Charter	1	0	2	1	1	1	1	0	0	0	0	0	0	1	1	0
Linden at Henry	1	0	3	1	2	2	1	0	0	0	0	0	0	2	1	0
Linden at Babcock	3	0	6	2	4	5	1	0	0	0	0	0	0	2	3	1
Observatory at Babcock	0	0	6	2	4	5	1	0	0	0	0	0	0	2	3	1
Observatory at Elm	1	1	6	2	4	6	0	0	0	0	0	0	0	3	2	1

Observatory at Nat	1	0	7	2	5	7	0	0	0	0	0	0	0	4	2	1
Observatory at Walnut	0	0	7	2	5	7	0	0	0	0	0	0	0	4	2	1
Highland & Observatory	0	6	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Highland at Marsh	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
University Bay at Lot 60	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
U Bay at Picnic Point	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Lake Mendota @ Ubay	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Eagle Heights at Lot E	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Eagle Heights at Lot F	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Eagle Heights at Shelter	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0
Eagle Heights Lot M	3	0	4	2	2	1	0	1	1	1	0	0	0	4	0	0
Lake Mendota at Lot N	0	1	3	2	1	0	0	1	1	1	0	0	0	3	0	0
Lake Mendota at Lot P	1	0	4	3	1	1	0	1	1	1	0	0	0	4	0	0
Lae Mendota at Lot Q	1	0	5	3	2	1	0	1	1	1	0	0	0	5	0	0
Lake Mendota at Lot R	4	0	9	3	6	2	0	3	1	2	1	0	0	9	0	0
L. Mendota at Eagle Hts	0	0	9	3	6	2	0	3	1	2	1	0	0	9	0	0
Lake Mendota at Ubay	2	0	11	4	7	2	0	5	1	2	1	0	0	11	0	0
Ubay and Picnic Point	0	0	11	4	7	2	0	5	1	2	1	0	0	11	0	0
Ubay & Lot 76	0	0	11	4	7	2	0	5	1	2	1	0	0	11	0	0
Marsh at Lot 76	1	2	10	3	7	3	0	3	1	2	1	0	0	9	1	0
Highland at Marsh	1	0	11	4	7	3	1	3	1	2	1	0	0	9	2	0
Observatory at Highland	0	0	11	4	7	3	1	3	1	2	1	0	0	9	2	0
Observatory at Walnut	0	1	10	4	6	3	1	3	1	2	0	0	0	8	2	0
Observatory at Nat	1	1	10	5	5	3	1	3	1	2	0	0	0	8	2	0
Observatory at Elm	0	1	9	4	5	3	0	3	1	2	0	0	0	8	1	0
Observatory at Babcock	0	0	9	4	5	3	0	3	1	2	0	0	0	8	1	0
Linden at Babcock	0	1	8	3	5	3	0	3	1	1	0	0	0	7	1	0
Linden at Henry	0	2	6	3	3	2	0	2	1	1	0	0	0	6	0	0
Linden at Charter	0	1	5	2	3	1	0	2	1	1	0	0	0	5	0	0
University at Charter	0	2	3	1	2	1	0	1	0	1	0	0	0	3	0	0
Randall at Engineering	1	1	3	0	3	1	0	1	0	1	0	0	0	3	0	0
Dayton at Orchard	6	1	8	3	5	6	0	1	0	1	0	0	0	8	0	0

Dayton at Mills	1	0	9	3	6	7	0	1	0	1	0	0	0	9	0	0
Dayton at Park	0	1	8	3	5	6	0	1	0	1	0	0	0	8	0	0
Dayton at East Campus	1	1	8	3	5	7	0	1	0	0	0	0	0	7	1	0
Johnson & Lake	2	0	10	4	6	9	0	1	0	0	0	0	0	9	1	0
University at East Campus	2	5	7	1	6	6	0	1	0	0	0	0	0	6	1	0
Park at State	3	2	8	1	7	6	0	1	1	0	0	0	0	7	1	0

oct 18 2012, 10:28. About 45F, overcast but no rain.	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State	-	2	11	2	9		1	1	1	-	-	-	-	8	1	2
Observatory at Bascom	0	6	5	0	5	5	0	0	0	0	0	0	0	5	0	0
Observatory at Charter	0	1	4	0	4	4	0	0	0	0	0	0	0	4	0	0
Linden at Charter	0	0	4	0	4	4	0	0	0	0	0	0	0	4	0	0
Linden at Henry	5	1	8	1	7	7	1	0	0	0	0	0	0	8	0	0
Linden at Babcock	3	0	11	2	9	10	1	0	0	0	0	0	0	11	0	0
Observatory at Babcock	1	0	12	2	10	11	1	0	0	0	0	0	0	12	0	0
Observatory at Elm	0	0	12	2	10	11	1	0	0	0	0	0	0	12	0	0
Observatory at Nat	0	2	10	2	8	9	1	0	0	0	0	0	0	10	0	0
Observatory at Walnut	0	2	8	2	6	7	1	0	0	0	0	0	0	8	0	0
Highland & Observatory	0	6	2	1	1	1	1	0	0	0	0	0	0	2	0	0
Highland at Marsh	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0
University Bay at Lot 60	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0
U Bay at Picnic Point	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0
Lake Mendota @ Ubay	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0
Eagle Heights at Lot E	1	0	2	2	0	0	1	1	0	0	0	0	0	2	0	0
Eagle Heights at Lot F	1	0	2	2	0	0	1	1	0	0	0	0	0	2	0	0
Eagle Heights at Shelter	8	1	9	8	1	2	0	7	0	0	0	0	0	8	1	0
Eagle Heights Lot M	2	0	11	10	1	3	0	8	0	0	0	0	0	10	1	0
Lake Mendota at Lot N	1	0	12	10	2	3	1	8	0	0	0	0	0	11	1	0
Lake Mendota at Lot P	2	0	14	12	2	4	1	9	0	0	0	0	0	13	1	0
Lae Mendota at Lot Q	2	0	14	12	2	4	1	9	0	0	0	0	0	13	1	0
Lake Mendota at Lot R	3	0	17	14	3	6	1	9	0	1	0	0	0	15	2	0

L. Mendota at Eagle Hts	1	0	18	14	4	6	1	9	0	2	0	0	0	16	2	0
Lake Mendota at Ubay	2	0	20	14	6	6	1	12	0	2	0	0	0	18	2	0
Ubay and Picnic Point	2	0	20	14	6	6	1	12	0	2	0	0	0	18	2	0
Ubay & Lot 76	0	2	18	13	5	5	1	12	0	1	0	0	0	16	2	0
Marsh at Lot 76	0	2	16	12	4	4	1	12	0	1	0	0	0	14	2	0
Highland at Marsh	0	2	24	11	3	3	0	12	0	1	0	0	0	22	2	0
Observatory at Highland	7	2	22	17	5	7	2	12	0	1	0	0	0	20	2	0
Observatory at Walnut	2	0	24	17	7	8	2	13	0	1	0	0	0	22	2	0
Observatory at Nat	1	0	25	17	8	9	2	13	0	1	0	0	0	23	2	0
Observatory at Elm	2	1	26	16	10	9	2	14	1	1	0	0	0	24	2	0
Observatory at Babcock	1	1	26	17	9	9	2	14	0	1	0	0	0	24	2	0
Linden at Babcock	0	4	22	17	5	9	2	10	0	1	0	0	0	20	2	0
Linden at Henry	1	3	20	15	9	7	1	7	0	1	0	0	0	17	2	1
Linden at Charter	0	7	13	0	4	0	1	0	0	1	0	0	0	11	1	1
University at Charter	2	4	11	7	4	7	1	3	0	1	0	0	0	9	1	1
Randall at Engineering	2	0	13	9	4	7	1	4	0	1	0	0	0	11	1	1
Dayton at Orchard	1	2	12	7	5	6	1	4	0	1	0	0	0	10	1	1
Dayton at Mills	1	2	12	7	5	6	1	4	0	1	0	0	0	10	1	1
Dayton at Park	1	2	12	7	5	6	1	4	0	1	0	0	0	10	1	1
Dayton at East Campus	0	4	8	6	2	3	1	3	0	1	0	0	0	7	0	1
Johnson & Lake	0	4	8	6	2	3	1	3	0	1	0	0	0	7	0	1
University at East Campus	0	5	3	2	1	1	0	2	0	0	0	0	0	2	0	1
Park at State	0	1						1	0	0	0	0	0	1	0	0

10/18/12 11:47am overcast	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State	3	0	18	6	12	9	2	5	2	0	0	0	0	18	0	0
Observatory at Bascom	0	0	18	6	12	9	2	5	2	0	0	0	0	18	0	0
Observatory at Charter	3	4	17	6	6	10	2	4	1	0	0	0	0	17	0	0
Linden at Charter	8	4	25	8	17	19	2	3	1	0	0	0	0	25	0	0
Linden at Henry	3	0	28	8	20	22	2	3	1	0	0	0	0	28	0	0
Linden at Babcock	1	1	28	9	19	21	2	3	1	0	0	0	0	28	0	0

Observatory at Babcock	1	6	23	7	16	18	1	3	1	0	0	0	0	23	0	0
Observatory at Elm	0	11	12	4	8	10	0	2	0	0	0	0	0	12	0	0
Observatory at Nat	1	4	9	3	6	8	0	1	0	0	0	0	0	9	0	0
Observatory at Walnut	0	1	8	2	6	8	0	0	0	0	0	0	0	8	0	0
Marsh at Lot 60	0	0	8	2	6	8	0	0	0	0	0	0	0	8	0	0
Marsh at Lot 76	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U Bay at Picnic Point	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake Mendota @ Ubay	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0
Eagle Heights at Lot E	11	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Eagle Heights at Lot F	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Eagle Heights at Shelter	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Eagle Heights Lot M	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Lake Mendota at Lot N	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Lake Mendota at Lot P	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Lae Mendota at Lot Q	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Lake Mendota at Lot R	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
L. Mendota at Eagle Hts	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Lake Mendota at Ubay	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Ubay and Picnic Point	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Ubay & Lot 76	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Marsh at Lot 76	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Highland at Marsh	0	0	12	6	6	10	0	1	0	0	1	0	0	11	1	0
Observatory at Highland	6	0	18	9	9	16	0	1	0	0	1	0	0	17	1	0
Observatory at Walnut	1	0	19	9	10	16	0	2	0	0	1	0	0	18	1	0
Observatory at Nat	6	0	25	11	14	22	0	2	0	0	1	0	0	22	2	1
Observatory at Elm	2	0	27	13	14	24	0	2	0	0	1	0	0	24	2	1
Observatory at Babcock	1	0	28	13	15	24	0	3	0	0	1	0	0	25	2	1
Linden at Babcock	3	1	30	12	18	25	1	3	0	0	1	0	0	27	2	1
Linden at Henry	1	1	30	12	18	25	1	3	0	0	1	0	0	27	2	1
Linden at Charter	2	3	29	9	20	24	1	2	0	0	2	0	0	28	1	0
University at Charter	3	8	23	9	14	18	1	2	0	0	3	0	0	22	1	0
Randall at Engineering	1	3	21	9	12	16	1	2	0	0	2	0	0	20	1	0
Dayton at Orchard	0	3	18	6	12	14	1	2	0	0	1	0	0	17	1	0

Dayton at Mills	6	2	22	8	14	13	1	6	0	0	2	0	0	21	1	0
Dayton at Park	0	1	21	7	14	13	1	6	0	0	1	0	0	20	1	0
Dayton at East Campus	0	1	20	6	14	12	1	6	0	0	1	0	0	19	1	0
Johnson & Lake	1	9	12	3	9	8	1	3	0	0	0	0	0	12	0	0
University at Lake	1	8	5	2	3	2	1	2	0	0	0	0	0	5	0	0
Park at State	14	1	18	3	15	8	3	4	3	0	0	0	0	18	0	0

10/18/12 12:24pm overcast	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State	/	/	20	6	14	9	3	4	4	0	0	0	0	18	2	0
Observatory at Bascom	2	3	18	7	11	9	3	4	2	0	0	0	0	17	1	0
Observatory at Charter	1	1	18	6	12	10	3	4	1	0	0	0	0	17	1	0
Linden at Charter	9	0	27	7	20	18	3	5	1	0	0	0	0	26	1	0
Linden at Henry	1	0	28	7	21	19	3	5	1	0	0	0	0	27	1	0
Linden at Babcock	2	3	27	8	19	21	1	4	1	0	0	0	0	26	1	0
Observatory at Babcock	3	1	29	8	21	23	1	4	1	0	0	0	0	27	2	0
Observatory at Elm	0	7	22	4	18	16	1	4	1	0	0	0	0	20	2	0
Observatory at Nat	1	2	21	4	17	17	1	2	1	0	0	0	0	19	2	0
Observatory at Walnut	0	3	18	3	15	16	0	2	0	0	0	0	0	16	2	0
Highland at Marsh	0	2	16	2	14	12	0	2	0	0	0	0	0	15	1	0
Marsh at Lot 60	1	14	3	1	2	2	0	1	0	0	0	0	0	3	0	0
Highland at Marsh	7	0	10	6	4	9	0	1	0	0	0	0	0	10	0	0
Observatory at Highland	2	1	11	6	5	10	0	1	0	0	0	0	0	11	0	0
Observatory at Walnut	0	0	11	6	5	10	0	1	0	0	0	0	0	11	0	0
Observatory at Nat	3	2	12	6	6	10	1	1	0	0	0	0	0	11	1	0
Observatory at Elm	16	1	27	17	10	22	1	4	0	0	0	0	0	26	1	0
Observatory at Babcock	7	0	34	21	13	29	1	4	0	0	0	0	0	33	1	0
Linden at Babcock	0	1	33	20	13	28	1	4	0	0	0	0	0	32	1	0

Linden at Henry	1	2	32	21	11	27	1	4	0	0	0	0	0	31	1	0
Linden at Charter	3	10	25	11	14	23	1	1	0	0	0	0	0	24	1	0
University at Charter	2	9	18	9	9	15	0	2	1	0	0	0	0	17	1	0
Randall at Engineering	2	3	17	8	9	13	0	3	1	0	0	0	0	17	0	0
Dayton at Orchard	2	2	17	8	9	12	0	3	1	0	0	0	0	17	0	0
Dayton at Mills	1	2	16	8	8	11	0	3	2	0	0	0	0	16	0	0
Dayton at Park	1	2	15	7	8	10	0	3	2	0	0	0	0	15	0	0
Dayton at East Campus	1	2	14	6	8	8	0	3	3	0	0	0	0	14	0	0
Johnson & Lake	4	2	16	6	10	12	0	2	2	0	0	0	0	16	0	0
University at Lake	1	8	9	4	5	6	0	2	1	0	0	0	0	9	0	0

10/26/12 3:00pm	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State	7	1	12	4	8	9	0	2	1	0	0	0	0	12	0	0
Observatory at Bascom	1	1	12	5	7	9	0	2	1	0	0	0	0	11	0	1
Observatory at Charter	1	1	12	6	6	9	0	2	1	0	0	0	0	11	0	1
Linden at Charter	0	0	12	6	6	9	0	2	1	0	0	0	0	11	0	1
Linden at Henry	1	0	13	7	6	10	0	2	1	0	0	0	0	12	0	1
Linden at Babcock	0	0	13	7	6	10	0	2	1	0	0	0	0	12	0	1
Observatory at Babcock	1	5	9	4	5	7	0	1	1	0	0	0	0	8	0	1
Observatory at Elm	0	3	6	3	3	5	0	0	1	0	0	0	0	5	0	1
Observatory at Nat	0	1	5	3	2	4	0	0	1	0	0	0	0	4	0	1
Observatory at Walnut	0	2	3	1	2	2	0	0	1	0	0	0	0	3	0	0
Marsh at Lot 76	0	2	1	1	0	1	0	0	0	0	0	0	0	1	0	0
Highland at Marsh	8	0	9	3	6	6	0	1	0	1	1	0	0	7	2	0
Highland at UW Hospital	4	1	12	2	10	9	0	2	0	1	0	0	0	9	3	0
Observatory at Highland	0	0	12	2	10	9	0	2	0	1	0	0	0	9	3	0
Observatory at Walnut	0	0	12	2	10	9	0	2	0	1	0	0	0	9	3	0
Observatory at Nat	2	0	14	3	11	11	0	2	0	1	0	0	0	11	3	0
Observatory at Elm	20	0	34	5	29	27	0	4	2	1	0	0	0	31	3	0

Observatory at Babcock	7	1	40	7	33	33	0	4	2	1	0	0	0	38	2	0
Linden at Babcock	1	0	41	7	34	34	0	4	2	1	0	0	0	39	2	0
Linden at Henry	2	2	41	6	35	34	0	4	3	0	0	0	0	39	2	0
Linden at Charter	6	5	42	6	36	34	0	5	3	0	0	0	0	39	3	0
University at Charter	3	5	40	9	34	29	0	8	3	0	0	0	1	35	4	0
Randall at Engineering	6	5	41	11	30	29	0	9	3	0	0	0	1	36	3	1
Dayton at Orchard	7	6	42	13	29	29	1	10	3	0	0	0	1	37	3	1
Dayton at Mills	3	0	39	13	26	26	1	10	3	0	0	0	1	37	3	1
Dayton at Park	0	7	32	12	20	21	0	8	3	0	0	0	1	28	2	1
Dayton at East Campus	0	3	29	12	17	18	0	8	3	0	0	0	1	25	2	1
Johnson & Lake	4	4	29	12	17	18	0	8	3	0	0	0	0	26	2	1
University at East Campus	2	23	8	4	4	5	0	2	1	0	0	0	0	5	2	1
Park at State	14	4	18	6	12	15	0	2	1	0	0	0	0	15	2	1

10/22/12 9:04pm no rain, foggy 59F	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Park and State							1				0					
Observatory at Bascom							1									
Observatory at Charter							1									
Linden at Charter							1									
Linden at Henry	4	0	14	2	2		1									
Linden at Babcock			16				1									
Observatory at Babcock	0	2	14	5	5		1									
Observatory at Elm	0	3	11	6	5	2	1	8	0	0	0	0	0	11	0	
Observatory at Nat	2	0	13	6	7	2	1	8	2	0	0	0	0	13	2	
Observatory at Walnut	0	0	13	6	7	2	1	8	2	0	0	0	0	11	2	
Highland at Marsh	3	0	16	8	8	3	1	9	3	0	0	0	0	13	3	
University Bay at Lot 60	0	0	16	8	8	3	1	9	3	0	0	0	0	13	3	
U Bay at Picnic Point	0	1	15	8	7	2	1	9	3	0	0	0	0	12	3	
Lake Mendota @ Ubay	0	2	13	7	6	2	0	8	3	0	0	0	0	11	2	
Eagle Heights at Lot E	0	0	13	7	6	2	0	8	3	0	0	0	0	11	2	
Eagle Heights at Lot F	1	0	14	8	6	2	0	9	3	0	0	0	0	12	2	
Eagle Heights at Shelter	0	9	5	3	2	1	0	3	0	0	1	0	0	3	2	

Eagle Heights Lot M	1	2	4	3	1	1	0	2	0	0	1	0	0	4	0
Lake Mendota at Lot N	0	1	3	2	1	1	0	2	0	0	0	0	0	3	0
Lake Mendota at Lot P	0	1	2	2	0	0	0	2	0	0	0	0	0	2	0
Lae Mendota at Lot Q	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
Lake Mendota at Lot R	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
L. Mendota at Eagle Hts	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
Lake Mendota at Ubay	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
Ubay and Picnic Point	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
University Bay at Lot 76	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
Marsh at Lot 76	0	0	2	2	0	0	0	2	0	0	0	0	0	2	0
Highland at Marsh	2	0	4	2	2	2	0	2	0	0	0	0	0	4	0
Observatory at Highland	1	0	5	3	2	3	0	2	0	0	0	0	0	5	0
Observatory at Walnut	0	0	5	3	2	3	0	2	0	0	0	0	0	5	0
Observatory at Nat	1	0	6	4	2	4	0	2	0	0	0	0	0	6	0
Observatory at Elm	2	0	8	4	4	6	0	2	0	0	0	0	0	8	0
Observatory at Babcock	4	0	12	4	8	7	1	4	0	0	0	0	0	12	0
Linden at Babcock	0	0	12	4	8	7	1	4	0	0	0	0	0	12	0
Linden at Henry	0	1	11	3	8	7	1	3	0	0	0	0	0	11	0
Linden at Charter	0	0	11	3	8	7	1	3	0	0	0	0	0	11	0
University at Charter	0	0	11	3	8	7	1	3	0	0	0	0	0	11	0
Randall at Engineering	2	2	11	5	6	6	2	3	0	0	0	0	0	11	0
Dayton at Orchard	0	2	9	5	4	5	1	3	0	0	0	0	0	9	0
Dayton at Mills	0	0	9	5	4	5	1	3	0	0	0	0	0	9	0
Dayton at Park	0	2	7	5	2	5	1	1	0	0	0	0	0	7	0
Dayton at East Campus	2	1	9	7	2	6	2	1	0	0	0	0	0	9	0
Johnson & Lake	0	2	7	6	1	4	2	1	0	0	0	0	0	7	0
University at Lake	0	3	4	3	1	2	1	1	0	0	0	0	0	4	0

*note: no seniors on this entire trip

Section Four

Route 6 Eastbound to East Towne: MATC/Hayes

Note: Stops highlighted in yellow are where the data for Figures 26-33 were drawn from

E.Town:Tokay:MATC:Hayes	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Regent & Randall (7:17am)	2	0	25			17	0	2	4	2	0	0	0			
Regent & Orchard	0	2	27	17	9	19	0	2	4	2	0	0	0			
Regent & Mills	1	2	26	16	10	18	0	2	4	2	0	0	0			
Regent& Park	1	1	26	17	9	18	0	2	4	2	0	0	0			
Park & Spring	1	2	25	15	10	17	0	2	4	2	0	0	0			
Park & Dayton	0	0	25	15	10	17	0	2	4	2	0	0	0			
Park & Johnson	0	0	25	15	10	17	0	2	4	2	0	0	0			
Lake & University	1	0	26			18	0	2	4	2	0	0	0			
State and Lake	2	1	27			18	0	3	4	2	0	0	0			
State and Gilman	0	0	27			18	0	3	4	2	0	0	0			
State and Gorham	0	0	27			18	0	3	4	2	0	0	0			
State & Fairchild	1	1	27			18	0	3	4	2	0	0	0	15	7	5
Carroll & Mifflin	1	0	28	19	9	19	0	3	5	1	0	0	0	15	7	6
Main Street & Carroll Street	9	4	33			24	0	3	5	1	0	0	0			
Main & Pickney	1	0	34			25	0	3	5	1	0	0	0			
E.Wash & Webster	1	1	34			25	0	3	5	1	0	0	0			
E.Wash and Blair	1	0	35			26	0	3	5	1	0	0	0			
E. Wash and Blount	1	0	36			27	0	3	5	1	0	0	0			
E.Wash & Paterson	0	0	36			27	0	3	5	1	0	0	0			
E. Wash & Ingersoll	0	1	35			26	0	3	5	1	0	0	0			
E. Wash & Baldwin	0	0	35			26	0	3	5	1	0	0	0			
E. Wash & Dickinson	0	0	35			26	0	3	5	1	0	0	0			
E. Wash & Yahara	0	0	35			26	0	3	5	1	0	0	0			
E. Wash & First	0	2	33			26	0	3	3	1	0	0	0			
E. Wash & Second	0	0	33			26	0	3	3	1	0	0	0			
E. Wash @ 4th (East High School)	1	2	32			25	0	3	3	1	0	0	0			
E. Wash @ 6th	0	0	32			25	0	3	3	1	0	0	0			
E. Wash @ Milwaukee	1	0	33			26	0	3	3	1	0	0	0			
E. Wash & E. Johnson St.	0	0	33			26	0	3	3	1	0	0	0			
E. Wash @ Marquette	2	2	33			26	0	3	3	1	0	0	0			
E. Wash @ Aberg	0	1	32			26	0	2	3	1	0	0	0			
E. Wash @ Melvin	0	1	31		-1	25	0	2	3	1	0	0	0			
Wright & Carpenter	0	1	30	-1		25	0	2	3	1	0	0	0			
Wright & Straubel	0	0	30			25	0	2	3	1	0	0	0			

Wright & Anderson/MATC	0	24	6	3	3	4	0	0	2	0	0	0	0	3	1	2
Kinsman & Wright	1	3	4	1	3	3	0	0	1	0	0	0	0	2	0	2
Kinsman @ Soughton	0	0	4	1	3	3	0	0	1	0	0	0	0	2	0	2
Kinsman & Bartillon	0	0	4	1	3	3	0	0	1	0	0	0	0	2	0	2
Stoughton & Hwy 51	0	1	3	1	2	3	0	0	0	0	0	0	0	2	0	1
E. Wash @ Mendota	0	0	3	1	2	3	0	0	0	0	0	0	0	2	0	1
E. Wash @ Lien	0	0	3	1	2	3	0	0	0	0	0	0	0	2	0	1
E. Wash @ Portage	0	1	2	1	1	2	0	0	0	0	0	0	0	1	0	1
E. Wash @ Egan	0	0	2	1	1	2	0	0	0	0	0	0	0	1	0	1
Melody & Independence	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1
Melody & Portage	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1
Portage & Tomscot	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1
Portage & Village	1	0	2	2	0	2	0	0	0	0	0	0	0	1	0	1
Hayes & Portage	0	0	2	2	0	2	0	0	0	0	0	0	0	1	0	1
Hayes & Dawn	1	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
Forest Run & Hayes	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
Forest Run & Anniversary	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
Anniversary & Hayes	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
E. Wash & Frontage	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
E. Town & Zier	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
E. Town & Independence	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
E. Town Mall (arrived at 8:16)	0	0	3	2	1	2	0	0	1	0	0	0	0	2	0	1
left for W. Transfer pt at 8:31	1	2	1	0	1	1	0	0	0	0	0	0	0	0	0	1
E Wash @ Egan	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
E. Wash at Portage	1	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2
E. Wash at Lien	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	2
E. Wash at Mendota	1	0	3	1	2	3	0	0	0	0	0	0	0	1	0	2
E. Wash at Stoughton	0	0	3	1	2	3	0	0	0	0	0	0	0	1	0	2
Stoughton & Stoughton	0	0	3	1	2	3	0	0	0	0	0	0	0	1	0	2
Stoughton & Orin	0	0	3	1	2	3	0	0	0	0	0	0	0	1	0	2
Bartillon & Kinsman	0	0	3	1	2	3	0	0	0	0	0	0	0	1	0	2
Kinsman & Stoughton	1	0	4	1	3	4	0	0	0	0	0	0	0	2	0	2
Wright & Kinsman	0	0	4	1	3	4	0	0	0	0	0	0	0	2	0	2
Wright & Anderson:MATC	0	0	4	1	3	4	0	0	0	0	0	0	0	2	0	2
Wright & Carpenter	0	0	4	1	3	4	0	0	0	0	0	0	0	2	0	2
E. Wash & Wright	1	0	5	2	3	5	0	0	0	0	0	0	0	2	1	2
E. Wash & Carpenter	2	0	7	3	4	6	0	0	1	0	0	0	0	4	1	2
E. Wash at Melvin	4	0	11	7	4	9	0	0	1	1	0	0	0	7	1	3
E. Wash at Aberg	0	0	11	7	4	9	0	0	1	1	0	0	0	7	1	3

E. Wash at Marquette	0	1	10	7	3	8	0	0	1	1	0	0	0	7	1	2
E. Wash at Johnson	1	0	11	7	4	9	0	0	1	1	0	0	0	7	2	2
E. Wash at Milwaukee	0	0	11	7	4	9	0	0	1	1	0	0	0	7	2	2
E. Wash at 6th	0	0	11	7	4	9	0	0	1	1	0	0	0	7	2	2
E. Wash at 4th (E. High School)	3	1	13	10	3	12	0	0	0	1	0	0	0	6	5	2
E. Wash at 1st	0	0	13	10	3	12	0	0	0	1	0	0	0	6	5	2
E. Wash at Yahara	0	0	13	10	3	12	0	0	0	1	0	0	0	6	5	2
E. Wash at Dickinson	0	0	13	10	3	12	0	0	0	1	0	0	0	6	5	2
E. Wash at Baldwin	0	0	13	10	3	12	0	0	0	1	0	0	0	6	5	2
E. Wash at Ingersoll	2	0	15	11	4	14	0	0	0	1	0	0	0	7	5	3
E. Wash at Brearly	0	0	15	11	4	14	0	0	0	1	0	0	0	7	5	3
E. Wash at Paterson	0	1	14	10	4	13	0	0	0	1	0	0	0	6	5	3
E. Wash at Blount	0	0	14	10	4	13	0	0	0	1	0	0	0	6	5	3
E. Wash at Blair	1	0	15	10	5	14	0	0	0	1	0	0	0	7	5	3
E. Wash at Webster	1	2	14	10	4	12	0	0	0	2	0	0	0	7	5	2
Mifflin at Pinckney	3	0	17	12	5	15	0	0	0	2	0	0	0	10	5	2
Mifflin at Carroll	1	2	16	11	5	14	0	0	0	2	0	0	0	9	5	2
State at Dayton	0	0	16	11	5	15	0	0	0	2	0	0	0	9	5	2
State & Johnson	2	1	17	11	6	15	0	0	0	2	0	0	0	9	6	2
State at Gorham	1	0	18	12	6	16	0	0	0	2	0	0	0	10	6	2
State at Gilman	2	1	19	12	7	18	0	0	0	1	0	0	0	11	5	3
State at Frances	0	3	16	11	5	15	0	0	0	1	0	0	0	10	4	2
State at Lake	0	0	16	11	5	15	0	0	0	1	0	0	0	10	4	2
Park at University	0	6	10	6	4	9	0	0	0	1	0	0	0	7	2	3
Park at Dayton	2	0	12	8	4	11	0	0	0	1	0	0	0	8	2	3
Park at Spring	1	0	13	8	5	12	0	0	0	1	0	0	0	8	1	2
Regent at Park	0	2	11	6	5	10	0	0	0	1	0	0	2	8	1	2
Regent at Mills	2	0	13	8	5	12	0	0	0	1	0	0	2	8	1	2
Regent at Orcharrd	0	0	13	8	5	12	0	0	0	1	0	0	2	8	1	2
Regent at Randall	0	0	13	8	5	12	0	0	0	1	0	0	2	8	1	2

E.Town:Tokay:MATC	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Regent & Randall (7:48am)	4	0	13	7	6	8	0			0	0	0	0	8	3	2
Regent & Orchard	0	0	13	7	6		0			0	0	0	0	8		
Regent & Mills	0	0	13	7	6		0			0	0	0	0	8		
Regent& Park	1	2	12	6	6		0			0	0	0	0			
Regent & Spring	0	0	12	6	6		0			0	0	0	0			
Regent & Dayton	0	0	12	6	6		0			0	0	0	0			
Park & Johnson	0	2	10	6	4	2	0	2	6	0	0	0	0	6	2	2
State and Lake	2	1	11	6	5	4	0	2	5	0	0	0	0	7	2	2
State and Gilman	0	1	10	5	5	4	0	0	4	0	0	0	0	6	2	2
State and Gorham	0	0	11	7	4	6	0	0	5	0	0	0	0	7	3	1
State & Fairchild	0	0	11	7	4	6	0	0	5	0	0	0	0	7	3	1
Carroll & Mifflin	0	0	11	7	4	6	0	0	5	0	0	0	0	7	3	1
Main Street & Carroll Street	9	0	20	12	8	13	0	0	7	0	0	0	0	14	5	1
Main & Pickney	1	0	21	13	8	14	0	0	7	0	0	0	0	15	5	1
E. Wash & Webster	2	0	23	15	8	14	0	0	7	0	0	0	0	17	5	1
E.Wash & Blair	0	0	23	15	8	14	0	0	7	0	0	0	0	17	5	1
E.Wash & Blount	0	0	23	15	8	14	0	0	7	0	0	0	0	18	5	1
E.Wash & Paterson	1	0	24	16	8	15	2	0	7	0	0	0	0	18	5	1
E. Wash & Ingersoll	2	1	25	17	8	15	2	0	8	0	0	1	0	18	5	1
E.Wash & Dickinson	0	0	25	17	8	15	2	0	7	0	0	1	0	18	5	1
E.Wash & Yahara	0	0	25	17	8	15	2	0	7	0	0	1	0	18	5	1
E.Wash & First	1	1	25	17	8	15	2	1	7	0	0	1	0	18	5	1
E. Wash & Second	1	1	25	16	9	15	2	1	7	0	0	1	0	18	5	1
E. Wash @ 4th (East High School)	1	0	26	16	10	16	2	1	7	0	0	1	0	18	6	1
E. Wash @ 6th	0	0	26	16	10	16	2	1	7	0	0	1	0	18	6	1
E. Wash @ Milwaukee	0	2	24	15	9	16	2	1	5	0	0	0	0	17	6	1
E. Washington Ave. & E. Johnson St.	0	2	22	13	9	15	2	1	4	0	0	0	0	17	4	1
E. Wash @ Marquette	0	0	22	13	9	15	2	1	4	0	0	0	0	17	4	1
E. Wash @ Aberg	0	1	21	12	9	15	2	1	3	0	0	0	0	17	4	0

Wright & Carpenter	0	0	21	12	9	15	2	1	3	0	0	0	0	17	4	0
Wright @ Anderson/MATC Truax	0	14	7	3	4	4	0	0	3	0	0	0	0	4	3	0
Kinsman @ Wright	0	2	5	2	3	2	0	0	3	0	0	0	0	3	2	0
Kinsman @ Soughton	0	0	5	2	3	2	0	0	3	0	0	0	0	3	2	0
E. Wash @ Mendota	0	1	4	2	2	2	0	0	2	0	0	0	0	2	2	0
E. Wash @ Lien	0	0	4	2	2	2	0	0	2	0	0	0	0	2	2	0
E. Wash @ Portage	0	1	3	2	1	2	0	0	1	0	0	0	0	2	1	0
E. Wash @ Egan	0	1	2	1	1	1	0	0	1	0	0	0	0	1	1	0
E. Town Mall (arrived at 8:31)	6	1	7	3	4	4	0	0	3	0	0	0	0	5	2	0
left for W. Transfer pt at 8:47	6	1	7	3	4	4	0	0	3	0	0	0	0	5	2	0
E Wash @ E springs	6	1	7	3	4	4	0	0	3	0	0	0	0	5	2	0
Anniversary @ Hayes	6	1	7	3	4	4	0	0	3	0	0	0	0	5	2	0
Forest Run & Anniversery Ln.	2	0	9	5	4	6	0	0	3	0	0	0	0	7	2	0
Forest Run & Hayes	3	0	12	8	4	9	0	0	3	0	0	0	0	8	3	0
Hayes at Portage	1	0	13	9	4	9	0	0	3	0	1	0	0			
Portage at Old Gate	0	1	12	8	5	9	0	0	2	1	1	0	0			
Portage at Tomscot	1	0	14	8	6	10	0	0	2	1	1	0	0			
Melody at Independence	1	0	15	8	7	11	0	0	3	1	1	0	0			
E. Wash at Independence	0	2	13	7	6	10	0	0	2	1	1	0	0			
E. Wash at Egan	0	1	12	7	5	10	0	0	2	0	1	0	0			
E. Wash at Portage	0	0	12	7	5	9	0	0	2	0	1	0	0			
E. Wash at Lien	2	1	13	9	4	9	0	0	3	0	1	0	0	10	2	1
E. Wash at Mendota	1	0	14	9	5	10	0	0	3	0	1	0	0	11	2	1
E. Wash at Stoughton	3	0	17	11	6	11	0	0	4	1	1	0	0	13	3	1
E. Wash at Schmedeman	3	0	20	13	7	12	0	0	5	2	1	0	0	14	4	2
E. Wash at Reindahl	1	0	21	14	7	12	0	0	6	2	1	0	0	14	5	2
E. Wash at Carpenter	0	0	21	14	7	12	0	0	6	2	1	0	0	14	5	2
E. Wash at Melvin	0	0	21	14	7	12	0	0	6	2	1	0	0	14	5	2
E. Wash at Aberg	0	0	21	14	7	12	0	0	6	2	1	0	0	14	5	2
E. Wash at Marquette	1	0	22	14	8	12	0	0	7	2	1	0	0	15	5	2
E. Wash at Johnson	1	1	22	14	8	12	0	0	7	2	1	0	0	15	5	2
E. Wash at Milwaukee	0	0	22	14	8	12	0	0	7	2	1	0	0	15	5	2

E. Wash at 6th	0	0	22	14	8	12	0	0	7	2	1	0	0	15	5	2
E. Wash at 4th (E. High School)	2	4	20	14	6	12	0	0	7	0	1	0	0	12	5	3
E. Wash at 1st	1	0	21	14	7	13	0	0	7	0	1	0	0	12	5	4
E. Wash at Yahara	0	0	21	14	7	13	0	0	7	0	1	0	0	12	5	4
E. Wash at Dickinson	0	0	21	14	7	13	0	0	7	0	1	0	0	12	5	4
E. Wash at Baldwin	0	1	20	13	7	13	0	0	6	0	1	0	0	12	5	3
E. Wash at Ingersoll	1	0	21	14	7	14	0	0	6	0	1	0	0	12	6	3
E. Wash at Brearly	0	0	21	14	7	14	0	0	6	0	1	0	0	12	6	3
E. Wash at Paterson	0	1	20	13	7	14	0	0	5	0	1	0	0	12	5	3
E. Wash at Blount	0	0	20	13	7	14	0	0	5	0	1	0	0	12	5	3
E. Wash at Blair	1	1	20	12	8	15	0	0	4	0	1	0	0	12	4	4
E. Wash at Webster	0	0	20	12	8	15	0	0	4	0	1	0	0	12	4	4
Mifflin at Pinckney	2	2	20	13	7	15	0	0	4	0	1	0	0	12	3	5
Mifflin at Carroll	2	3	19	11	8	13	0	1	4	0	1	0	0	11	3	5
State at Dayton	0	0	19	11	8	13	0	1	4	0	1	0	0	11	3	5
State at Gorham	1	0	20	12	8	13	0	1	5	0	1	0	0	12	3	5
State at Gilman	0	0	20	12	8	13	0	1	5	0	1	0	0	12	3	5
State at Frances	0	3	17	10	7	12	0	1	4	0	1	0	0	9	3	5
State at Lake	1	5	13	8	5	9	0	1	4	0	0	0	0			
Park at University	1	4	10	7	4		0	0	3	0	0	0	0			
Park at Dayton		1	9	7			0	0	2	0	0	0	0			
Park at Spring			9	7			0	0	1	0	0	0	0			
Regent at Park		2	7	5	3		0	0	1	0	0	0	0			
Regent at Mills	2		9	6	3		0	0		0	0	0	0			
Regent at Orchard			9	6	3		0	0		0	0	0	0			
Regent at Randall	0	1	8	7	2		0	0		0	0	0	0			

E.Town:MATC	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Regent & Randall (10:47AM)	1	0		1					1					1		
Regent & Orchard	3	3	24													

Regent & Mills	2	1	25														
Regent& Park	3	0	28														
Park & Spring	0	0	28														
Park & Dayton																	
Park & Johnson	3	6	21														
Lake & University	0	1	20	10	10	11	0	2	3	0	0	0	0				
State and Lake	4	1	23	12	11												
State and Gilman	1	1	23	12	11												
State and Gorham	0	1	22	12	10	13	0	2	6								
State & Fairchild	7	1	28														
State & Mifflin	0	1	27	15	12	14								18	4	5	
Main St & Carroll	2	2	27	14	13	14								18	4	5	
Main & Pickney	0	1	26	14	12	16	0	2	8	0	0	0	0	18	4	4	
E.Wash & Webster	0	0	26	14	12	16	0	2	8	0	0	0	0	18	4	4	
E.Wash and Blair	1	0	27	14	13	16	0	2	9	0	0	0	0	19	4	4	
E. Wash and Blount	2	0	29	15	14	18	0	2	9	0	0	0	0	21	4	4	
E.Wash & Paterson	0	0	29	15	14	18	0	2	9	0	0	0	0	21	4	4	
E. Wash & Ingersoll	1	2	28	14	14	16	0	2	10	0	0	0	0	21	4	3	
E. Wash & Baldwin	1	0	29	14	15	17	0	2	10	0	0	0	0	22	4	3	
E. Wash & Dickinson	0	0	29	14	15	17	0	2	10	0	0	0	0	22	4	3	
E. Wash & Yahara	0	0	29	14	15	17	0	2	10	0	0	0	0	22	4	3	
E. Wash & First	1	1	29	15	14	17	0	3	9	0	0	0	0	22	4	3	
E. Wash & Second	1	2	28	15	13	16	0	3	9	0	0	0	0	22	4	2	
E. Wash @ 4th (East High School)	0	0	28	15	13	16	0	3	9	0	0	0	0	22	4	2	
E. Wash @ 6th	1	0	29	16	13	16	0	3	10	0	0	0	0	23	4	2	
E. Wash @ Milwaukee	0	1	28	15	13	16	0	3	9	0	0	0	0	23	3	2	
E. Wash & E. Johnson St.	1	1	28	14	14	17	0	3	8	0	0	0	0	22	4	2	
E. Wash @ Marquette	2	3	27	14	13	15	0	3	9	0	0	0	0	22	4	1	
E. Wash @ Aberg	0	1	26	13	13	14	0	3	9	0	0	0	0	21	4	1	
E. Wash @ Melvin	0	2	24	13	11	12	0	3	9	0	0	0	0	19	4	1	
Wright & E.Wash	2	0	26	13	13	12	0	3	11	0	0	1	0	20	4	1	

Wright & Straubel	0	0	26	13	13	12	0	3	11	0	0	1	0	20	4	1
Wright & Anderson/MATC	0	14	12	6	6	4	0	0	8	0	0	1	0	7	2	2
Kinsman & Wright	0	0	12	6	6	4	0	0	8	0	0	1	0	7	2	2
Kinsman @ Soughton	0	0	12	6	6	4	0	0	8	0	0	1	0	7	2	2
Kinsman & Bartillon	0	0	12	6	6	4	0	0	8	0	0	1	0	7	2	2
Stoughton & Hwy 51	0	0	12	6	6	4	0	0	8	0	0	1	0	7	2	2
E. Wash @ Mendota	0	0	12	6	6	4	0	0	8	0	0	1	0	7	2	2
E. Wash @ Lien	0	2	10	4	6	3	0	0	7	0	0	1	0	7	1	1
E. Wash @ Portage	0	1	9	3	6	2	0	0	7	0	0	1	0	6	1	1
E. Wash @ Egan	2	0	11	3	8	4	0	0	7	0	0	2	0	7	1	1
E. Town Mall arrived 11:41		6	5	3	2	2	0	0	3	0	0	1	0	4	0	0
left for W. Transfer pt at 11:50	8	0	13	8	5	6	0	0	7	0	0	2	0	9	0	2
E.Wash at Independence	0	0	13	8	5	6	0	0	7	0	0	2	0	9	0	2
E.WashFrontage at E. Springs	0	1	12	7	5	6	0	0	6	0	0	2	0	8	0	2
E.Wash at Frontage	0	0	12	7	5	6	0	0	6	0	0	2	0	8	0	2
Anniversary at Hayes	6	0	18	11	7	6	0	0	12	0	0	3	0	13	0	2
Forest Run at Anniversary	0	0	18	11	7	6	0	0	12	0	0	3	0	13	0	2
Forest Run at Hayes	0	0	18	11	7	6	0	0	12	0	0	3	0	13	0	2
Hayes at Dawn	1	0	19	11	8	6	0	0	13	0	0	3	0	14	0	2
Hayes at Morningside	0	2	17	9	8	5	0	0	12	0	0	3	0	12	0	2
Hayes at Portage	2	0	19	10	9	7	0	0	12	0	0	3	0	14	0	2
Portage at Tomscot	0	0	19	10	9	7	0	0	12	0	0	3	0	14	0	2
Melody at Portage	0	0	19	10	9	7	0	0	12	0	0	3	0	14	0	2
Melody at Independence	2	0	21	12	9	8	0	1	12	0	0	3	0	15	0	3
E Wash @ Egan	1	0	22	12	10	8	0	1	13	0	0	3	0	15	1	3
E. Wash at Portage	1	2	21	12	9	8	0	1	12	0	0	2	0	14	1	3
E. Wash at Lien	1	0	22	13	9	8	0	1	12	0	1	2	0	15	1	3
E. Wash at Mendota	4	1	25	16	9	10	0	1	12	1	1	2	0	16	2	4
E. Wash at Stoughton	0	1	24	15	9	10	0	1	11	1	1	2	0	15	2	4
Wright & Schmedeman	1	0	25	15	10	10	0	1	12	1	1	2	0	16	2	4
E. Wash & Wright	1FBY															

	+school Group (45?)																
E. Wash & Carpenter	0	0															
E. Wash at Melvin	0	0															
E. Wash at Aberg	0	0															
E. Wash at Marquette	0	2															
E. Wash at Johnson	1	45?	24	17	7	8	0	1	14	0	1	0	0	18	3	3	
E. Wash at Milwaukee	0	0	24	17	7	8	0	1	14	0	1	0	0	18	3	3	
E. Wash at 6th	0	1	23	16	7	7	0	1	14	0	1	0	0	17	3	3	
E. Wash at 4th (E. High School)	2	0	25	17	8	8	0	1	14	1	1	0	0	18	3	4	
E. Wash at 1st	0	0	25	17	8	8	0	1	14	1	1	0	0	18	3	4	
E. Wash at Yahara	0	1	24	17	7	8	0	1	14	0	1	0	0	17	3	4	
E. Wash at Dickinson	0	0	24	17	7	8	0	1	14	0	1	0	0	17	3	4	
E. Wash at Baldwin	1	0	25	18	7	8	0	1	14	1	1	0	0	18	3	4	
E. Wash at Ingersoll	4	0	29	21	8	12	0	1	14	1	1	0	0	19	5	5	
E. Wash at Brearly	0	0	29	21	8	12	0	1	14	1	1	0	0	19	5	5	
E. Wash at Paterson	2	1	30	20	10	14	0	1	13	1	1	0	0	19	5	6	
E. Wash at Blount	1	0	31	20	11	14	0	1	14	1	1	0	0	20	5	6	
E. Wash at Blair	1	1	31	20	11	15	0	1	13	1	1	0	0	20	5	6	
E. Wash at Webster	3	4	30	17	13	15	0	1	12	1	1	0	0	21	4	5	
Mifflin at Pinckney	2	2	30	17	13	15	0	1	12	1	1	0	0	20	4	6	
Mifflin at Carroll	0	1	29	16	13	14	0	1	12	1	1	0	0	20	3	6	
State at Dayton	0	0	29	16	13	14	0	1	12	1	1	0	0	20	3	6	
State & Johnson	4	4	29	15	14	15	0	1	12	0	1	0	0	22	3	4	
State at Gorham	0	1	28	14	14	14	0	1	12	0	1	0	0	22	3	3	
State at Gilman	0	1	27	13	14	13	0	1	12	0	1	0	0	22	2	3	
State at Frances	4	1	30	15	15	15	0	1	13	0	1	0	0	23	4	3	
State at Lake	5	2	33	15	18	15	0	3	14	0	1	0	0	27	4	2	
Park at University	4	6	31	16	15	12	0	4	14	0	1	0	0	23	5	3	
Park at Dayton	0	0	31	16	15	12	0	4	14	0	1	0	0	23	5	3	
Park at Spring	0	0	31	16	15	12	0	4	14	0	1	0	0	23	5	3	

Regent at Park	5	0	36	20	16	15	0	4	14	0	1	0	0	26	5	5
Regent at Mills	1	0	37	21	16	15	0	4	15	0	1	0	0	27	5	5
Regent at Orchard	0	0	37	21	16	15	0	4	15	0	1	0	0	27	5	5
Regent at Randall	0	0	37	21	16	15	0	4	15	0	1	0	0	27	5	5

E.Town:	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Regent & Randall (2:16 PM)	0	0	21	12	9											3
Regent & Orchard	0	1	20	11	9	6	0	4	9	1	0	1	0	16	0	3
Regent & Mills	2	3	19	10	9	6	6	3	11	1	0	0	0	15	1	3
Regent& Park	3	0	22	12	10	8	0	4	11	1	0	0	0	15	4	3
Park & Spring	0	0	22	12	10	8	0	4	11	1	0	0	0	15	4	3
Park & Dayton	0	2	20	12	8	7	0	3	11	1	0	0	0	14	3	3
Park & Johnson	6	1	25	13	12	11	0	3	12	1	0	0	0	18	4	3
Lake & University	1	3	23	10	13	11	0	3	10	1	0	0	0	16	4	3
State and Lake	6	2	27	11				2	11	1	0	0	0	19	5	3
State and Gilman	3	0	30	13	17	15	0	2	11	2	0	0	0	22	5	3
State and Gorham	2	0	32	14	18	17	0	2	11	2	0	0	0	22	6	4
State & Fairchild	0	0	32	14	18	17	0	2	11	2	0	0	0	22	6	4
State & Mifflin	3	4	33	15	18	17	0	2	12	2	0	0	0	23	7	4
Main Street & Carroll Street	7	1	37	18	22	18	0	2	15	2	0	1	0	24	8	4
Main & Pickney	3	2	38	19	19	19	0	2	15	2	0	1	0	25	8	2
E.Wash & Webster	1	1	38	18	23	19	0	2	15	1	0	1	0	25	8	2
E.Wash and Blair	1	1	38	17	24	20	0	2	15	1	0	1	0	25	8	2
E. Wash and Blount	0	1	37	17	23	19	0	2	15	1	0	1	0	25	7	2
E.Wash & Paterson	0	1	36	16	20	19	0	2	14	1	0	1	0	25	6	2
E. Wash & Ingersoll	0	0	36	16	20	19	0	2	14	1	0	1	0	25	6	2
E. Wash & Baldwin	0	2	34	15	19	18	0	2	14	0	0	1	0	23	6	2
E. Wash & Dickinson	0	0	34	15	19	18	0	2	14	0	0	1	0	23	6	2
E. Wash & Yahara	0	0	34	15	19	18	0	2	14	0	0	1	0	23	6	2

E. Wash & First	0	1	33	14	19	17	0	2	14	0	0	1	0	22	6	2
E. Wash & Second	0	0	33	14	19	17	0	2	14	0	0	1	0	22	6	2
E. Wash @ 4th (East High School)	0	0	33	14	19	17	0	2	14	0	0	1	0	22	6	2
E. Wash @ 6th	2	1	34	15	19	17	0	2	16	0	0	1	0	24	6	2
E. Wash @ Milwaukee	0	0	34	15	19	17	0	2	16	0	0	1	0	24	6	2
E. Wash & E. Johnson St.	0	5	29	10	19	12	0	2	16	0	0	1	0	22	5	0
E. Wash @ Marquette	2	7	34	8	16	10	0	2	13	0	0	1	0	17	5	0
E. Wash @ Aberg	0	0	34	8	16	10	0	2	13	0	0	1	0	17	5	0
E. Wash @ Melvin																
Wright & Carpenter																
Wright & Straubel																
Wright & Anderson/MATC	4	2				8			13	1	0	1			4	1
Kinsman & Wright																
Kinsman @ Soughton																
Kinsman & Bartillon																
Stoughton & Hwy 51																
E. Wash @ Mendota	0	1	22	11	11	8	0	0	11	1	0	0	0	17	4	1
E. Wash @ Lien	0	5	17	10	7	4	0	0	10	1	0	0	0	13	4	0
E. Wash @ Portage	0	1	16	9	7	4	0	0	9	1	0	0	0	12	4	0
E. Wash @ Egan	0	1	15	9	6	4	0	0	8	1	0	0	0	11	4	0
???	0	8	8	4	4	2	0	0	5	1	0	0	0	6	2	0
Melody & Independence	0	0	8	4	4	2	0	0	5	1	0	0	0	6	2	0
Melody & Portage	0	0	8	4	4	2	0	0	5	1	0	0	0	6	2	0
Portage & Tomscot	0	0	8	4	4	2	0	0	5	1	0	0	0	6	2	0
Portage & Village	0	0	8	4	4	2	0	0	5	1	0	0	0	6	2	0
Hayes & Portage	0	1	7	4	3	1	0	0	5	1	0	0	0	6	1	0
Hayes & Dawn	0	0	7	4	3	1	0	0	5	1	0	0	0	6	1	0
Forest Run & Hayes	0	0	7	4	3	1	0	0	5	1	0	0	0	6	1	0
Forest Run & Anniversary	0	0	7	4	3	1	0	0	5	1	0	0	0	6	1	0
Anniversary & Hayes	0	1	6	4	2	1	0	0	4	1	0	0	0	5	1	0

E. Wash & Frontage	0	0	6	4	2	1	0	0	4	1	0	0	0	5	1	0
E. Town & Zier	0	0	6	4	2	1	0	0	4	1	0	0	0	5	1	0
E. Town & Independence	0	0	6	4	2	1	0	0	4	1	0	0	0	5	1	0
E. Town Mall (arrived at 3:14)																
left for W. Transfer pt at 3:21pm	5	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
E Wash @ Egan	0	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
E. Wash at Portage	0	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
E. Wash at Lien	0	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
E. Wash at Mendota	0	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
E. Wash at Stoughton	0	0	5	1	4	2	0	0	3	0	0	0	0	3	1	1
Stoughton & Stoughton	1	0	6	2	4	3	0	0	3	0	0	0	0	3	2	1
Stoughton & Orin	2	0	8	3	5	3	0	0	3	2	0	0	0	5	2	1
Bartillon & Kinsman	0	0	8	3	5	3	0	0	3	2	0	0	0	5	2	1
Kinsman & Stoughton	0	0	8	3	5	3	0	0	3	2	0	0	0	5	2	1
Wright & Kinsman	0	0	8	3	5	3	0	0	3	2	0	0	0	5	2	1
Wright & Anderson:MATC	6	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
Wright & Carpenter	0	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
E. Wash & Wright	0	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
E. Wash & Carpenter	0	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
E. Wash at Melvin	0	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
E. Wash at Aberg	0	0	14	6	8	7	0	1	4	2	0	0	0	11	2	1
E. Wash at Marquette	0	1	13	6	7	7	0	1	3	2	0	0	0	11	2	1
E. Wash at Johnson	3	1	15	6	9	8	0	1	4	2	0	0	0	13	2	1
E. Wash at Milwaukee	0	1	14	6	8	8	0	1	3	2	0	0	0	13	1	1
E. Wash at 6th	0	0	14	6	8	8	0	1	3	2	0	0	0	13	1	1
E. Wash at 4th (E. High School)	7	0	21	8	13	9	0	1	9	2	0	0	0	20	1	1
E. Wash at 1st	1	0	22	8	14	10	0	1	9	2	0	0	0	21	1	1
E. Wash at Yahara	0	0	22	8	14	10	0	1	9	2	0	0	0	21	1	1
E. Wash at Dickinson	1	0	23	8	15	11	0	1	9	2	0	0	0	22	1	1
E. Wash at Baldwin	0	2	21	8	13	11	0	1	7	2	0	0	0	20	1	1

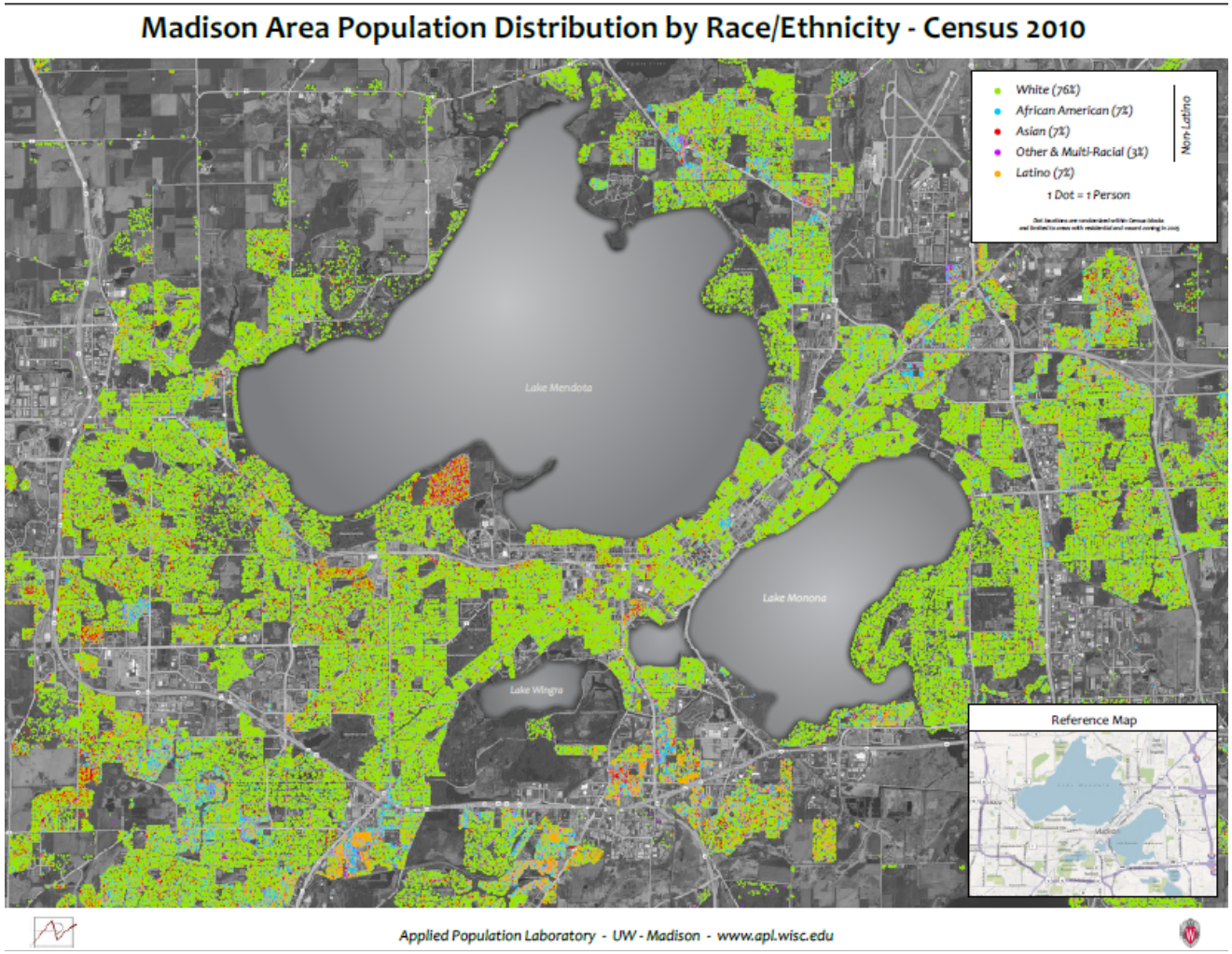
E. Wash at Ingersoll	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
E. Wash at Brearly	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
E. Wash at Paterson	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
E. Wash at Blount	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
E. Wash at Blair	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
E. Wash at Webster	0	0	21	8	13	11	0	1	7	2	0	0	0	20	1	1
Mifflin at Pinckney	3	4	22	8	12	12	0	1	7	0	0	0	0	19	1	1
Mifflin at Carroll	3	2	23	8	15	12	0	1	7	1	0	0	0	20	2	1
State at Dayton	0	0	23	8	15	12	0	1	7	1	0	0	0	20	2	1
State & Johnson	2	4	18	7	12	11	0	1	7	1	0	0	0	17	1	0
State at Gorham	0	1	17	7	10	10	0	1	7	1	0	0	0	16	1	0
State at Gilman	1	0	18	8	10	11	0	0	7	0	0	0	0	17	1	0
State at Frances	6	1	25	12	13	15	0	0	10	0	0	0	0	23	2	0
State at Lake	3	2	28	13	15	16	0	1	11	0	0	0	0	26	2	0
Park at University	17	0	45	20	25	21	0	13	11	0	0	0	0	43	2	0
Park at Dayton	1	0	46	20	26	21	0	14	11	0	0	0	0	43	3	0
Park at Spring	0	1	45	20	25	20	0	14	11	0	0	0	0	42	3	0
Regent at Park	2	1	46	20	26	20	0	14	12	0	1	0	0	42	3	1
Regent at Mills	1	0	47	20	27	21	0	14	12	0	1	0	0	42	4	1
Regent at Orchard	1	0	48	21	27	22	0	14	12	0	1	0	0	43	4	1
Regent at Randall																

E.Town:	On	Off	Load	M	F	White	Asian (not E)	Asian (East)	Black	Hisp.	Other/ Intl	Child (-5)	Child (6-15)	Young Adult (15-30)	Middle Adult (31-55)	Senior (55+)
Regent & Randall (9:14PM)	1	0	14	11	3	10	0	0	2	0	2	0	0			3
Regent & Orchard	0	0	14	11	3	10	0	0	2	0	2	0	0			3
Regent & Mills	0	1	13	11	2	9	0	0	2	0	2	0	0	0	0	2
Regent& Park	0	0	13	11	2	9	0	0	2	0	2	0	0	0	0	2

Park & Spring	0	0	13	11	2	9	0	0	2	0	2	0	0	0	0	2
Park & Dayton	0	0	13	11	2	9	0	0	2	0	2	0	0	0	0	2
Park & Johnson	1	1	13	10	3	9	0	0	2	0	2	0	0	9	2	2
Lake & University	0	1	12	9	3	8	0	0	2	0	2	0	0	8	2	2
State and Lake	2	2	12	8	4	7	0	0	2	1	2	0	0	8	2	2
State and Gilman	0	1	11	7	4	8	0	0								
State and Gorham	2	1	0	5												1
State & Fairchild			12	7	5											1
Carroll & Mifflin	1	0	13	8	5	1			3	1						2
Main St & Carroll St	5	1	17	10	7	9	0	0	5	3						1
Main & Pickney	0	2	15	8	7	7	0	0	5	3	0	0	0			1
E.Wash & Webster	2	1	16	8	8	7	0	1	5	3	0	0	0			2
E.Wash and Blair	0	0	16	8	8	7	0	1	5	3	0	0	0			2
E. Wash and Blount	0	2	14	7	7	6	0	1	4	3	0	0	0	-2	0	2
E.Wash & Paterson	0	1	13	6	7	5	0	1	4	3	0	0	0	-1		2
E. Wash & Ingersoll	1	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash & Baldwin	0	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash & Dickinson	0	1	13	7	6	5	0	1	4	3	0	0	0	9	2	2
E. Wash & Yahara	0	0	13	7	6	5	0	1	4	3	0	0	0	9	2	2
E. Wash & First	1	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash & Second	0	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash @ 4th (East High School)	0	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash @ 6th	0	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash @ Milwaukee	0	0	14	7	7	6	0	1	4	3	0	0	0	10	2	2
E. Wash & E. Johnson St.	1	1	14	7	7	6	0	1	4	3	0	0	0	10	1	3
E. Wash @ Marquette	0	1	13	7	6	6	0	0	4	3	0	0	0	10	1	2
E. Wash @ Aberg	0	0	13	7	6	6	0	0	4	3	0	0	0	10	1	2
E. Wash @ Melvin	0	2	11	5	6	5	0	0	4	2	0	0	0	8	1	2
Wright & E.Wash	0	1	10	4	6	4	0	0	4	2	0	0	0	8	1	1
Wright & Straubel	0	1	9	4	5	4	0	0	3	2	0	0	0	7	1	1
Wright & Anderson/MATC	0	0	9	4	5	4	0	0	3	2	0	0	0	7	1	1

Kinsman & Wright	0	0	9	4	5	4	0	0	3	2	0	0	0	7	1	1
Kinsman @ Soughton	0	0	9	4	5	4	0	0	3	2	0	0	0	7	1	1
Kinsman & Bartillon	0	0	9	4	5	4	0	0	3	2	0	0	0	7	1	1
Stoughton & Hwy 51	0	2	7	3	4	3	0	0	3	1	0	0	0	6	0	1
E. Wash @ Mendota	0	0	7	3	4	3	0	0	3	1	0	0	0	6	0	1
E. Wash @ Lien	0	0	7	3	4	3	0	0	3	1	0	0	0	6	0	1
E. Wash @ Portage	0	1	6	3	3	3	0	0	2	1	0	0	0	5	0	1
E. Wash @ Egan	0	0	6	3	3	3	0	0	2	1	0	0	0	5	0	1
E. Town & Independence	0	0	6	3	3	3	0	0	2	1	0	0	0	5	0	1
E. Town Mall (arrived at 9:53)	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1
left for W. Transfer pt at 10:04	-	-	5	1	4	3	0	0	2	0	0	0	0	5	0	0
E Wash @ Egan	1	0	6	1	5	4	0	0	2	0	0	0	0	6	0	0
E. Wash at Portage	0	0	6	1	5	4	0	0	2	0	0	0	0	6	0	0
E. Wash at Lien	0	0	6	1	5	4	0	0	2	0	0	0	0	6	0	0
E. Wash at Mendota	0	0	6	1	5	4	0	0	2	0	0	0	0	6	0	0
E. Wash at Stoughton	0	0	6	1	5	4	0	0	2	0	0	0	0	6	0	0
StoughtonFrontage & Stoughton	1	0	7	2	5	5	0	0	2	0	0	0	0	6	1	0
Stoughton & Orin	0	0	7	2	5	5	0	0	2	0	0	0	0	6	1	0
Bartillon & Kinsman	0	0	7	2	5	5	0	0	2	0	0	0	0	6	1	0
Kinsman & Stoughton	6	0	13	6	7	7	0	0	5	1	0	0	0	8	2	3
Wright & Kinsman	0	0	13	6	7	7	0	0	5	1	0	0	0	8	2	3
Wright & Anderson:MATC	1	0	14	6	8	8	0	0	5	1	0	0	0	9	2	3
Wright & Carpenter	0	0	14	6	8	8	0	0	5	1	0	0	0	9	2	3
E. Wash & Wright	2	1	15	6	9	9	0	0	5	1	0	0	0	8	3	3
E. Wash & Carpenter	1	0	16	7	9	10	0	0	5	1	0	0	0	8	4	3
E. Wash at Melvin	0	0	16	7	9	10	0	0	5	1	0	0	0	8	4	3
E. Wash at Aberg	0	0	16	7	9	10	0	0	5	1	0	0	0	8	4	3
E. Wash at Marquette	0	1	15	7	8	9	0	0	5	1	0	0	0	8	4	2
E. Wash at Johnson	0	2	13	6	7	8	0	0	4	1	0	0	0	7	3	2
E. Wash at Milwaukee	0	0	13	6	7	8	0	0	4	1	0	0	0	7	3	2
E. Wash at 6th	0	3	10	4	6	5	0	0	4	1	0	0	0	6	2	1

E. Wash at 4th (E. High School)	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at 1st	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Yahara	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Dickinson	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Baldwin	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Ingersoll	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Brearly	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Paterson	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Blount	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Blair	0	0	10	4	6	5	0	0	4	1	0	0	0	6	2	1
E. Wash at Webster	0	2	8	4	4	3	0	0	4	1	0	0	0	4	2	1
Mifflin at Pinckney	0	1	7	4	3	3	0	0	3	1	0	0	0	4	2	0
Mifflin at Carroll	0	3	4	3	1	3	0	0	0	1	0	0	0	3	1	0
State at Dayton	0	0	4	3	1	3	0	0	0	1	0	0	0	3	1	0
State & Johnson	0	0	4	3	1	3	0	0	0	1	0	0	0	3	1	0
State at Gorham	3	0	7	6	1	6	0	0	0	1	0			5	2	0
State at Gilman	0	1	6	5	1	5	0	0	0	1	0			5	1	0
State at Frances	2	0	8	6	2	7	0	0	0	1	0	0	0	6	1	1
State at Lake	2	1	9	7	2	8	0	0	0	1	0	0	0	5	2	2
Park at University	1	0	10	8	2	9	0	0	0	1	0	0	0	6	2	2
Park at Dayton	0	0	10	8	2	9	0	0	0	1	0	0	0	6	2	2
Park at Spring	0	0	10	8	2	9	0	0	0	1	0	0	0	6	2	2
Regent at Park	0	0	10	8	2	9	0	0	0	1	0	0	0	6	2	2
Regent at Mills	0	0	10	8	2	9	0	0	0	1	0	0	0	6	2	2
Regent at Orchard	0	1	9	7	2	8	0	0	0	1	0	0	0	5	2	2
Regent at Randall	1	3	7	6	1	8	0	0	0	1	0	0	0	3	2	2



Source: UW-Madison Applied Population Laboratory, http://www.apl.wisc.edu/publications/2010Census_Madison.pdf. 2011.

Our data from riding the bus shows primarily Caucasians and East Asians using the bus, reflecting campus overall. Other ethnic groups, including Asian-Non East, Hispanic, and African-American and other/international, were significantly seen less and for our study, aggregated into an overall "Other" category to reflect the dominance of Caucasian and East Asian ridership.

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