Moving Toward Completion:

Barriers to Complete Streets Implementation in Metropolitan Boston

A thesis

submitted by

Nicholas Downing

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Barbara Parmenter

Abstract

"Complete streets" are roadways designed for multiple modes of transportation and their users, giving each mode the space it requires. Complete streets are also intended to provide traffic, safety, and public health benefits. Often, Complete Streets are created by retrofitting roads that have been designed primarily for automobiles. Transportation trends show that car use has peaked, and consumer preferences indicate that many Americans want to live in walkable neighborhoods and communities. Given this context, why have more cities and towns not adopted Complete Streets policies? Using the Boston-metro region as a study area, this thesis examines potential benefits of and barriers to adoption of Complete Streets policies and design standards. It then assesses whether legislative or regulatory action can be implemented that would overcome these barriers. The thesis concludes that while legislative and regulatory efforts can each address certain barriers to Complete Streets implementation, other efforts need to be undertaken to overcome and address all of the perceived and actual barriers.

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Chapter 1. Introduction

A "complete street" is a roadway on which users have choices among transportation options, all of which have been given sufficient space to operate. This includes providing sidewalks and safe crossings for pedestrians; bicycle lanes, sharrows, or other bicycle facilities for cyclists; transit facilities for buses (bus shelters, curb bump outs, etc.) or other mass transit for riders of public transportation where applicable; and travel and parking lanes for automobiles and motorists.

A complete street provides residents the ability to choose whichever mode of transportation serves them best, rather than being pushed towards one mode or another due to long-standing infrastructure development. Complete streets policies are designed to reorient the decision-making process behind allocating space on streets for different uses.

Complete streets policies can reduce traffic congestion and lead to more active, healthy communities and can be an effective tool in meeting local, state, and national policy goals geared towards reducing obesity and improving air quality.

While major cities across the country are adopting complete streets policies and the planning community has been a proponent of such policies for a number of years, many municipalities still have not taken action to address automobile dependence and a lack of modal choice. Looking at the issue on a regional basis, while Boston has been working on a complete streets policy and design guide, most other municipalites in the Boston-metro region have not done so.

This thesis answers the following questions: What are the barriers to more municipalities in the Boston metropolitan region adopting a complete streets policy? How might proponents of Complete Streets address some of these barriers via legislation and regulation?

Understanding the lack of complete streets programs is important for planners who are considering such programs and for planners already involved in the implementation of such programs. There is significant literature devoted to examining the benefits of complete streets. According to their advocates, these benefits range from increased mode share for walking and bicycling to lower obesity rates to increased economic activity for local businesses. Complete streets programs seem to be almost a panacea for issues in cities and towns across the country.

Given this level of advocacy, it is curious that more cities and towns have not adopted these programs. Understanding what is holding these cities and towns back may highlight shortcomings in complete streets programs, more clearly refine what the actual benefits of these programs are, and identify barriers to implementing programs beyond the obvious issue of cost.

1.1 Transportation Trends

It is important to consider the context within which efforts are being made to implement Complete Streets. Transportation trends have shifted in recent years away from automobile use, and this combined with changing demographics may be creating a new normal within which Complete Streets fits comfortably.

A study conducted by Todd Litman indicates that a number of different transportation metrics are changing in ways that suggest less reliance on the automobile. The general completion of the Interstate Highway System in the 1980s brought to a close the decades long expansion of highways in the United States, and little new highway mileage has been added since (Litman, 2013). Additionally, both per capita vehicle ownership and average motor vehicle mileage per capita grew through the 1990s but have seemed to peak around the year 2000, compared with travel via public transit with grew by 34% from 1995 to 2011 (Litman, 2013).

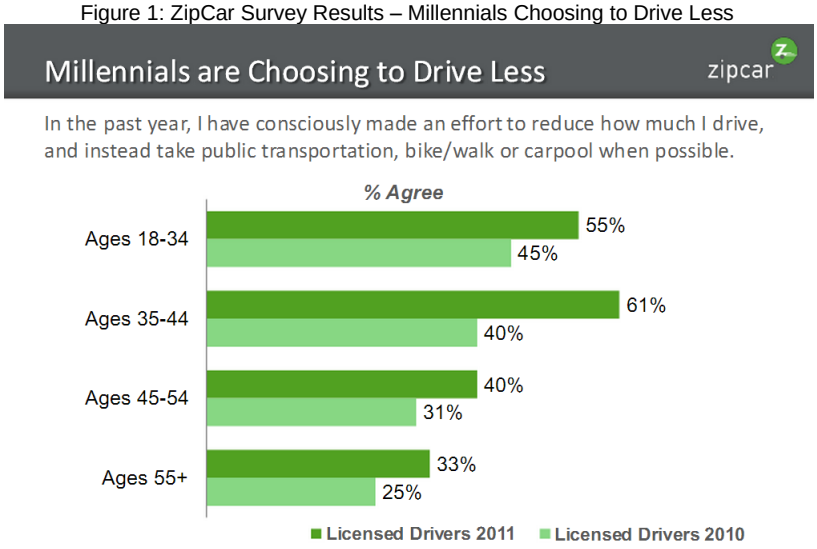
It is within this time of transition that Complete Streets has emerged as an alternative to

automobile-centric planning and engineering.

1.2 Demographic Trends

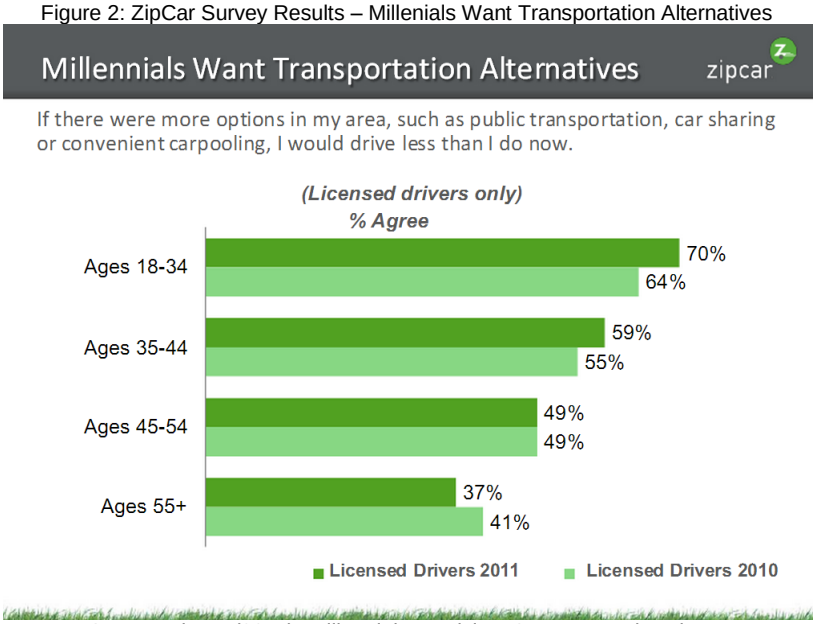
It is not only trends in transportation planning that are important to consider, but also demographic trends. A study conducted by ZipCar found that younger people are choosing to drive less and they want transportation options other than an automobile.

Figure 1: ZipCar Survey Results – Millennials Choosing to Drive Less



Source: Zipcar (2011), *Millennials & Driving: Survey Results*, Zipcar www.slideshare.net/Zipcar_Inc/millennial-slide-share-final

Figure 2: ZipCar Survey Results – Millenials Want Transportation Alternatives



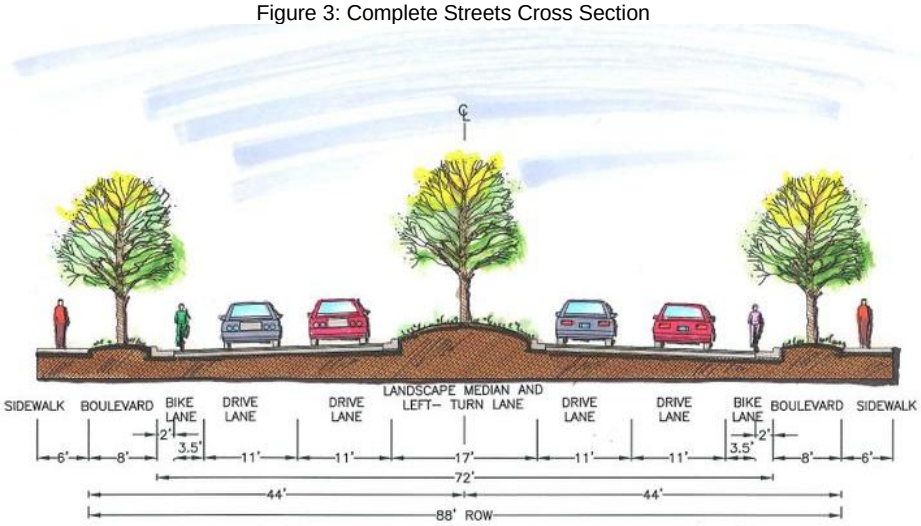
Source: Zipcar (2011), *Millennials & Driving: Survey Results*, Zipcar www.slideshare.net/Zipcar_Inc/millennial-slide-share-final

These results indicate that changes identified by Litman are likely to be trends that will become permanent. If younger generations maintain their expressed desires, the demand for investments in auto-oriented transportation infrastructure is likely to be reduced and per capita car ownership and vehicle mileage are likely to decline as well. These findings all point to a new paradigm within which advocates for Complete Streets are apt to see increased support from the general public for their efforts.

1.3 History of Complete Streets

According to Smart Growth America's National Complete Streets Coalition, Complete Streets are "streets for everyone" (Smart Growth America, 2010). A street is considered complete if it safely accommodates all transportation modes and all users of those modes. This means that pedestrians, children, people with disabilities, bicyclists, public transportation riders and motorists can all use a street and that all transportation modes have been included in the design of that street.

Figure 3: Complete Streets Cross Section



Source: Huckleberry Bicycles. 3 July 2012. http://www.huckleberrybicycles.com/879/weekly-readings-2

The term was first coined in 2003 by Barbara McCann, who was at the time working for the American Bikes Board (Smart Growth America, 2010). It was an evolution of the term

"routine accommodations" which had been used previously by advocates attempting to have bicycle, pedestrian and public transportation infrastructure more regularly included in street design and construction projects.

Figure 4: Complete Streets Design Proposal

Source: New York Bicycling Coalition. 2012. http://www.nybc.net/advocacy/complete-streets

Recently, there has been movement towards a further refinement of the idea of Complete Streets. Writing for the Project for Public Spaces, a supporter of Complete Streets, Gary Toth asked, "Are Complete Streets Incomplete?" His main concern was that a focus solely on the transportation aspect of completing a street may move people efficiently and safely from Point A to Point B, but it will not necessarily improve the sense of place surrounding that street. For Toth, a street is only actually complete if its transportation design is married with its urban design moving all transportation modes safely and efficiently while simultaneously creating a destination worth traveling to and a sense of place.

While cities and towns in Massachusetts may not have a complete streets policy, state government has passed legislation and implemented programs aimed at achieving the same goals as complete streets, if by other names.

The Massachusetts Department of Transportation (MassDOT) issued a Project Development and Design Guide in 2006. The Guide received many awards, from the Institute of Transportation Engineers (ITE), and Federal Highway Administration (FHA) to the New

England Chapter of American Public Works Association. While never explicitly using the term complete streets, the Guide's goals and design guidelines are the same. The Guide's first principle is multimodal consideration, "to ensure that the safety and mobility of all users of the transportation system (pedestrians, bicyclists and drivers) are considered equally through all phases of a project so that even the most vulnerable (e.g., children and the elderly) can feel and be safe within the public right of way" (Massachusetts Highway Department, 2006).

Figure 5: Complete Streets Project in Charlotte, NC

Source: Smart Growth for America. 2012. http://www.smartgrowthamerica.org/complete-streets

While having a statewide policy is likely to yield results for complete streets advocates, the Project Development and Design Guide is only applicable when a project is initiated by the state highway division, the state is funding the project directly, or the project is being implemented on a state controlled infrastructure asset, such as a state route or bridge.

Most roadway infrastructure projects are initiated by city and town governments and do not fall into a category that would trigger use of MassDOT's Project Development and Design Guide. Municipal transportation departments and departments of public works are regularly building new roads and resurfacing current roads. While there is state funding available for these projects through the Chapter 90 Program, it is considered a local aid program and does not trigger use of MassDOT's development and design guide.

Further, the Chapter 90 Program requires an annual authorization of funding (Massachusetts Municipal Association, 2012). This has resulted in the authorization amount varying from year to year as state government looks for ways to reduce costs during fiscally uncertain times. With the exact amount of funding left uncertain from year to year, cities and towns may be less likely to designate some of those funds for complete streets programs if they have other pressing infrastructure needs or are worried they will face increased costs in the future.

With all of the preceding as context, this thesis examines the literature on Complete Streets to identify support for Complete Streets and barriers to implementation. This literature review is supplemented with the results from a survey conducted by the Metropolitan Area Planning Council regarding Complete Streets. The plans, policies, and ordinances in place in the region are discussed, and implementation via legislation and regulation are each analyzed to determine the effectiveness of each approach in addressing the barriers to Complete Streets implementation.

Chapter 2. Methods

For this thesis, the Boston metropolitan region is considered to consist of the cities and towns that are members of the Metropolitan Area Planning Council and the Boston Metropolitan Planning Organization. MAPC and the Boston MPO have the same members: 101 cities and towns surrounding Boston, with Interstate 495 serving as a general border. This region extends from Ipswich in the North, to Duxbury in the South, to Bolton in the West. This area has been selected for its proximity to a clear regional center in Boston and as a region that is somewhat organized under a single regional planning entity.

A review of the relevant literature identifies potential barriers to the implementation of Complete Streets policies in general. Cities and towns in the region that have already adopted a Complete Streets plan or policy or are in the process of doing so are discussed, followed by an analysis of a Complete Streets survey conducted by MAPC and administered to a significant portion of cities and towns in the region. This survey will be discussed in more detail in Chapter 4.

This body of research identifies a number of different barriers to the implementation of Complete Streets policies in the region. One method to overcome some of these barriers – a piece of legislation currently being considered in the Massachusetts State House of Representatives and State Senate – is assessed for its ability to address these barriers. Powers granted to municipal boards of health will also be examined as a potential means by which barriers to Complete Streets implementation can be overcome.

The concluding discussion assesses what the true barriers to Complete Streets implementation are in the region, and how those barriers can be overcome, either through methods currently being considered or other means.

Chapter 3. Literature Review

There is significant literature about complete streets which has been published and researched by complete streets advocates. This literature focuses primarily on the benefits of complete streets and argues for more cities, towns, and states to implement these policies. What is lacking in the literature is abundant research that examines complete streets more neutrally or more critically.

Most likely, this lack of more analytical literature regarding complete streets is due to it being a relatively new notion and that advocates are unlikely to discuss the limitations of or problems with the concept they are promoting. Only introduced as a planning principle ten years ago and becoming more commonly known in more recent years, there has not yet been sufficient time to conduct in-depth analyses of complete streets policies and projects.

3.1 Support for Complete Streets

The large quantity of advocacy literature for complete streets is very quick to argue that complete streets policies are always beneficial for communities. The National Complete Streets Coalition's "Introduction to Complete Streets" lists all the following as benefits of complete streets: increased capacity, improved safety, better health, economic growth, lower emissions, reduced road maintenance costs, smart growth, and better choices (Smart Growth for America, 2010). By providing more choices for users, complete streets programs could lead to reduced driving, thus lowering emissions and mobile source pollution that contributes to climate change (LaPlante, 2010).

The capacity benefits would come from shifting people from single occupancy vehicles to other modes. In 2010, 72.5% of Massachusetts residents commuted to work in a single occupancy vehicle, 9.1% took public transportation, 8.3% carpooled and 4.6% walked (U.S.

Census Bureau, 2011). If enough users can be shifted from single occupancy vehicles to other modes, capacity on streets would be increased by moving the same number of people along the same distance but with less space required.

The safety benefits of complete streets are thought to come primarily by improving pedestrian infrastructure. In 2010 in the United States, 4,280 pedestrians were killed in automobile related accidents (NHTSA, 2010). Of those pedestrian fatalities: 13.7% were caused by a lack of visibility (dark clothing or insufficient lighting), 13% were caused by an improper crossing of a roadway or intersection and 2.3% were caused by a pedestrian's physical impairment (such as use of a wheelchair or crutches). While not claiming that complete streets could avert all of these fatalities, these three categories are three issues addressed by complete streets. Providing sufficient lighting, ample opportunities to cross streets and ample time to make those crossings would likely reduce the number of fatalities in these and other categories.

Advocates also cite that the current transportation infrastructure is not adequately serving the needs and desires of residents. The historical trend started in the middle twentieth century with policies that focused transportation infrastructure primarily around the automobile. Robin Smith argues that this "has failed to meet the travel needs and preferences of large segments of the country's population" (Smith, 2010). Such a system favors those who can afford to drive in terms of the actual vehicle itself and all the associated costs – insurance, maintenance, gasoline, and parking. Thus, segments of the population being left out would include the less affluent, children, seniors, and those living in denser communities that lack public transportation.

The advocacy literature also argues that complete streets are a means of shifting the paradigm of transportation planning. Instead of focusing on levels of service, efficiency and moving as many cars through a place as possible which has failed to meet the needs of many

segments of the population, complete streets focuses on providing space for all modes and users (Smith, 2010). This shift may seem to fly in the face of traditional transportation planning and engineering, but that is not necessarily the case. While reducing space for automobiles and giving it to pedestrians, cyclists and public transportation riders may reduce the street's automobile capacity, it may need less capacity as users choose these other newly accommodated modes.

It is not only Complete Streets advocates who realize the importance of providing modal choice to residents. A 2011 survey conducted for the National Realtors' Association provided unique insight regarding Americans' preferences for community attributes and amenities.

Survey respondents indicated an overwhelming desire for walkable neighborhoods in "The 2011 Community Preference Survey: What Americans are looking for when deciding where to live" (National Realtors' Association, 2011). Over three-quarters of the respondents answered that the presence of sidewalks and places to walk was important to them in deciding where to live. The respondents indicated they want to be able to walk to a variety of businesses and cultural resources, including grocery stores, pharmacies, theatres, and doctors' offices (National Realtors' Association, 2011).

The range of benefits that advocates argue complete streets can bring seems to point to a potential barrier to implementation. For complete streets to adequately address the above issues and more, they need to be designed to a high standard with extensive community input and research into the needs of each particular community. This additional time and effort above and beyond simple resurfacing projects would very likely lead to higher costs. But is cost the only barrier?

3.2 Concerns Regarding Equity

One interesting argument in the non-advocacy literature regarding complete streets is that these projects aimed at bringing a more equitable distribution of street space to all transportation modes may create other issues related to social equity.

Julian Agyeman writes that, "caution is needed because some low income [residents] and neighborhoods of color worry that singular, and seemingly broader *public interest* [author's emphasis] changes such as bicycle lane additions, street accessibility improvements, transit upgrades and pedestrian zone placements may foster gentrification, further diminishing their voice, rights and roles in the community" (Agyeman, 2012). By investing in complete streets, a municipality may be inadvertently attracting a more affluent population to the area, displacing current residents.

Agyeman continues, "'Decisions' to implement Complete Streets schemes, to construct or locate what might be considered *beneficial amenities* [author's emphasis] like bike lanes in traditionally disadvantaged neighborhoods, can be seen as part of a privileged, dominant narrative which drowns out other voices." This goes to the earlier point made by Toth, that if transportation is the only lens through which complete streets are viewed, the areas surrounding the improved streets will not see the benefits. Complete streets needs to be about more than efficiency and user choice; it needs to incorporate elements of urban design and social justice to be truly complete.

The modes that Complete Streets policies seek to reintroduce or reemphasize in cities are modes that should be more accessible to low income residents – walking, cycling, and public transit. However, if this reintroduction happens in a top-down method, with the infrastructure seeming to be prescribed to the residents, it is likely to meet resistance. Interventions meant to

"improve" a community or neighborhood can and often do lead to increased property taxes or rents, thus pricing out residents for whom the intervention was meant to serve. Complete Streets should serve the residents that surround them, not merely function as a throughway for residents from other areas. This seems to be Agyeman's point, that a Complete Street can only be complete if it is implemented with the support of the neighborhood through which it passes, not if it is completed solely as a piece of a larger effort.

3.3 Other Barriers to Implementation

Along with concerns about social justice, there are other barriers to complete streets policy implementation. One barrier is current infrastructure and the low density of both population and destinations in suburban environments. The emergence of the automobile in the mid-twentieth century as the dominant form of transportation in the United States "has impacted American lifestyles on multiple scales, from encouraging sprawling suburbs and metro-regions to privatizing the common public space of the street" (Judge, 2011). Many areas in the United States are just not developed in such a way as to allow complete streets to be effective. Adding sidewalks to a six-lane road does not immediately make the area more livable, especially if the distances between origins and destinations (work and home, work and retail centers) are too great to walk.

An additional barrier may be city and town governments themselves. In an interview with the journal Planning and Environmental Law, Sara Zimmerman from the Public Health Law and Policy Center said, "Cities… may be institutionally in opposition… it's partly inertia and partly that cities, transportation engineers, and transportation planners have been thinking about streets as a way of moving vehicles for a long time, and getting them to change that mindset requires

some work and some hard conversations" (Dunham, 2011). It's a matter of something new seeming to be difficult because it is unknown.

Zimmerman also pointed to legal concerns as being a potential barrier. Complete streets policies must be relatively extensive to be effective, thus many changes may be needed in local zoning codes and other policies. The concern of running up against other laws may deter some cities and towns from pursuing complete streets (Dunham, 2011). For example, zoning may call for certain setbacks for homes and buildings, and widening a street to add sidewalks or bike lanes could mean the setback is no longer sufficient. Zimmerman also mentions cities and towns being worried Complete Streets policies will make it more difficult for emergency response vehicles to reach all points in the municipality (Dunham, 2011). The concern is that in further dividing the right-of-way among more modes, travel lanes used by automobiles and emergency response vehicles will be reduced to a point that ambulances, fire engines and police cars will not be able to get through in an emergency situation. This concern can be addressed by using less solid infrastructure (e.g. flexible bollards to delineate a cycle track as opposed to a new curb) but it is still very much a legitimate concern. While Zimmerman addresses this concern along with the others, she does indicate that any one of these could prevent a city or town from moving forward with a complete streets policy.

An additional barrier is the type of housing that Americans have indicated they prefer. While the survey conducted for the National Realtors' Association revealed a desire among respondents for walkable neighborhoods, it also revealed that the vast majority of respondents (80%) prefer single-family detached homes over other types of dwelling units such as condominiums and apartments (National Realtors' Association, 2011). The very nature of single-family detached houses is that they are the least dense option for housing, and density is

necessary for the infrastructure provided by Complete Streets policies to be successful. Even if sidewalks and bicycle lanes are available, residents are much less likely to use them if the distances between homes and business and cultural attractions are too great.

This creates something of a paradox: there is a preference for more walkable communities, which require a higher density of housing and businesses than can be accommodated using the preferred type of dwelling unit. The successful advocate will have to bridge the gap between walkability and housing preference if they want to see dramatic shifts towards successful implementation of Complete Streets policies in all community types.

3.4 Effectiveness of Infrastructure Investments

While there is limited literature related specifically to the effectiveness of complete streets interventions, literature regarding infrastructure investments for bicycle and pedestrian accommodations may provide insight into barriers for complete streets.

According to research performed at Portland State University, investments in bicycle infrastructure are "positively and significantly correlated with higher rates of bicycle commuting" (Dill, 2003). While the study did not indicate the direction of this cause-effect relationship – meaning the researchers were unsure if more commuters were cycling because of additional infrastructure, or if additional infrastructure was built because more commuters are cycling – they did confirm earlier findings that at least some portion of the bicycle commuters were cycling due to increased infrastructure investments.

3.5 Connections Between Infrastructure and Public Health Outcomes

The connection between infrastructure and utilization of the infrastructure is supported by additional research from Portland State University. This second study examined the connection between bicycle infrastructure and public health. It concluded that while bicycling can help

adults reach active living goals, it can only do so if the infrastructure is in place for a complete network of bicycle facilities, such as that found in the Portland, OR region (Dill, 2009). This finding may point to another barrier to complete streets implementation, namely that these policies can only achieve their health related goals if the infrastructure is sufficient. Completing one street is not enough, so cities and towns may be reluctant to embark on completing their entire street network.

Other studies indicate that there are connections between infrastructure and public health outcomes. A 2006 study found that "…traffic and pedestrian infrastructure…influence activity among older adults" and that respondents chose to move to certain areas due to their ability to walk to certain businesses and cultural attractions (Michael et al, 2006). Individuals who live in walkable neighborhoods are much more likely to lead active lifestyles (Sallis and Glanz, 2006). In Australia, Europe, and North America, areas where active transportation was most common had the lowest obesity rates whereas the highest obesity rates were found in areas with the highest rates of automobile use (Bassett et al, 2008).

While these studies do not explicitly mention Complete Streets, the type of active transportation infrastructure discussed and suggested in each is exactly that which would be implemented under a Complete Streets policy or plan. The research generally seems to indicate a connection between infrastructure and public health outcomes, but the results are not definitive.

3.6 Barriers Identified in the Literature

A study in San Francisco from 2005 identified a number of barriers to implementation of complete streets that may be applicable to other regions of the country. The first barrier identified was a lack of interagency coordination (Lee et al, 2005, p.20). With multiple municipal

agencies being responsible for various aspects of street design and construction projects, a lack of coordination leads to a lack of consistently applied policies.

The second barrier identified in the San Francisco study was a lack of standards (Lee et al, 2005, p. 26). Without a policy that applies to each and every agency, it is impossible to truly implement complete streets. All agencies must be using the same guiding documents aimed at achieving the same goals.

The third barrier was priority being given to cars (Lee et al, 2005, p. 29). Likely a barrier in most municipalities, transportation planning since the mid-twentieth century has favored automobiles above all other modes. Until all modes are put on the same level, this prioritization will be a significant barrier to adoption of complete streets policies.

The fourth barrier identified was the issue of "unaccepted streets" (Lee et al, 2005, p. 30). While the term may be unique to San Francisco, the general problem may be more widely applicable. Unaccepted streets are those which do not meet certain minimum requirements to fall under the jurisdiction of the department of public works. The city is consequently not responsible for the upkeep of these streets and the responsibility falls to the abutting property owners. More likely than not, these are the small, neighborhood streets on which complete streets infrastructure is vital to create a complete network. Having to assess the condition of streets such as these would be a large undertaking in and of itself and would be a considerable barrier to complete streets implementation.

Not surprisingly, the final barrier identified by the study was cost (Lee et al, 2005, p. 30). Retrofitting a city or town's entire street network is a huge project in terms of scope and cost. This is true for large cities as well as small towns. While it is the most obvious barrier, it may in the end prove to be the most difficult to overcome. Municipal budgets have tightened as federal

and state aid has been reduced, and complete streets projects have not yet become ubiquitous enough to be protected from being eliminated to reduce cost.

3.7 The Cost of Complete Streets

As indicated by the literature and as further discussed below, cost is often cited as a major barrier to the implementation of Complete Streets. It is important to attempt to determine what Complete Streets actually cost.

As with any infrastructure investment, the cost of Complete Streets is related to the size and scope of the project. Many transportation projects are measured on a cost per mile basis. Information provided by the Michigan Department of Community Health shows a range from $8,000 per mile to $550,000 per mile (Madill, 2009). The lower end of that spectrum is the cost per mile of Complete Streets projects that would only require restriping of an existing road. Installing sidewalks costs approximately $120,000 per mile, and adding bicycle lanes to roads via widening the road tops the list at $550,000 per mile.

While MassDOT does not provide estimates regarding the average cost of construction per mile of road, other state departments of transportation do, and inferences can be made. In Arkansas, resurfacing costs range from $450,000 per mile up to $1 million per mile; widening a road ranges from $1.05 million per mile to $8.075 million per mile; and new construction ranges from $1.7 million per mile to $10.375 million per mile (Arkansas State Highway and Transportation Department, 2012). In Florida, resurfacing costs approximately $1.1 million per mile; widening a road ranges from $3.7 million per mile to $6.1 million per mile; and new construction ranges from $2.9 million per mile to $7.3 million per mile (Florida Department of Transportation, 2012).

There are a number of variables that go into calculating the average cost per mile of resurfacing, widening, or constructing a road, such as labor costs, whether the road is being built by the public or private sector, and the type of road being constructed. It would be inaccurate to take data from other states and assume it can be applied directly to Massachusetts. However, what the data from Arkansas and Florida can do, when taken together with the information about the cost of Complete Streets from Michigan, is articulate the relative costs of Complete Streets. The most expensive Complete Streets project – widening a road to include bicycle lanes – is said to cost $550,000 per mile, which is in line with the cost to widen a road generally. Restriping a road costs a fraction of the amount of resurfacing or widening, and even the addition of sidewalks is considerably less expensive than widening or resurfacing a road. A 2012 study in Charlotte, North Carolina found that the addition of Complete Streets elements to a road project does increase the overall cost, but not by more than 8.5% (Shapard, 2012).

These relative costs are important to keep in mind when discussing the cost of Complete Streets. The cost is undoubtedly real, but if folded into an existing roadway project, it can represent a small fraction of the overall project cost.

3.8 Literature Review Summary

It is clear that advocates of complete streets believe that there are myriad benefits to the implementation thereof. These benefits range from improved health to reductions in congestion. However, this wide range warrants concern: how extensive is the planning that must go into a complete streets project for it to produce these benefits? Cities and towns across the country, and specifically in the Boston metro area, may not be capable of engaging in this level of planning.

Other potential barriers are raised in the non-advocacy literature. Complete streets policies may be allowing or even encouraging gentrification. Pedestrian and bicycle

infrastructure may lead to more walking and biking, but the network may need to be very extensive to fully realize these benefits.

Issues of interagency coordination, standards that are applicable to all municipal departments, what modes are given priority in planning and funding may also be slowing the adoption of complete streets.

All of these perceived barriers provide a starting point for determining whether or not these are in fact actual barriers and identifying factors not already discussed. It would be simple to assume that funding is the one true barrier, but the literature suggests other issues may be at stake. Additionally, the data suggests that the cost of Complete Streets infrastructure is small relative to general roadway projects, so cost may be more of a perceived barrier than an actual barrier. The further analysis of these issues provided by the survey data will seek to identify the most consistent and persisting barriers to the implementation of Complete Streets policies.

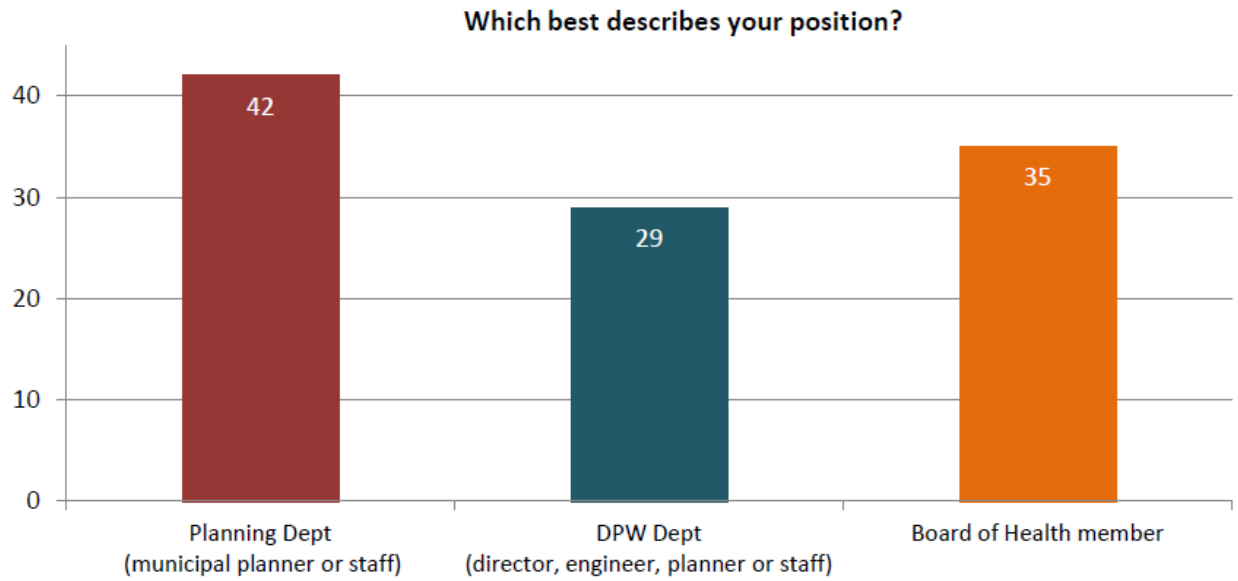
Chapter 4: Complete Streets Survey

In 2013, MAPC conducted a Complete Streets survey of Middlesex County in Massachusetts (Appendix A). The survey was administered to planning departments, departments of public works, and boards of health in forty-eight municipalities, forty-seven of which had at least one respondent (Kuschel, 2013). The goal of the survey was "to gauge these stakeholders' knowledge and understanding of Complete Streets design concepts and policies, as well as the (perceived) most important elements to fostering a multi-model environment…[and] to understand barriers to the successful implementation of Complete Streets." (Kuschel, 2013)

While Middlesex County does not comprise the entirety of the MAPC region, the forty-eight cities and towns to whom the survey was sent represent thirty-nine of the 101 municipalities within the MAPC region. This large sample size and the very high response rate mean the survey is generally a good indicator of the knowledge and understanding that municipal staff in the Boston-metro region possess on the topic of Complete Streets.

4.1: Survey Results

Figure 6: Breakdown of Complete Streets Survey Respondents by Department



Source: Kuschel, Christopher, 2013. "Complete Streets Survey, Middlesex County, 2013." Metropolitan Area Planning Council.

Of 141 potential survey respondents, 106 completed the survey. Forty-two respondents were staff from the city or town planning department, while twenty-nine came from the department of public works and thirty-five were employees of the local board of health (Kuschel, 2013). Taken as a whole, 67% of respondents indicated the concept of Complete Streets was either very familiar or slightly familiar to them. Planners had the highest familiarity (81%), followed by DPW staff (65%) and local boards of health (54%).

Another high point of the survey came when respondents were presented with a definition of Complete Streets and then asked whether or not they had a positive or negative view of Complete Streets principles. The definition was as follows:

> "Complete streets are designed to be safe, attractive, and enable access for all users, including pedestrians, bicyclists, motorists and public transport users of all ages and abilities. It recognizes that in general roads should meet the needs of all these users, and enables them to choose from a variety of travel modes." (Kuschel, 2013)

Following this definition, 84% of respondents indicated they had either a positive or highly positive view of Complete Streets principles (Kuschel, 2013). Given that only 67% of respondents indicated they were familiar with Complete Streets at the beginning of the survey, this answer represents that the base of support can be significantly expanded amongst municipal staff from various departments.

Respondents were asked to identify to what degree if at all a series of issues posed barriers to advancing Complete Streets concepts and policies in their city or town. The two issues perceived to be the most significant barriers were cost (90%) and lack of staff (83%) (Kuschel, 2013). However, those numbers vary slightly among the groups. When only planners are included, the two largest barriers remain cost and lack of staff, but the percentages drop to 80% and 60%, respectively. When only DPW staff or boards of health members are asked, the rates increase for both groups to 96% for both cost and lack of staff (Kuschel, 2013).

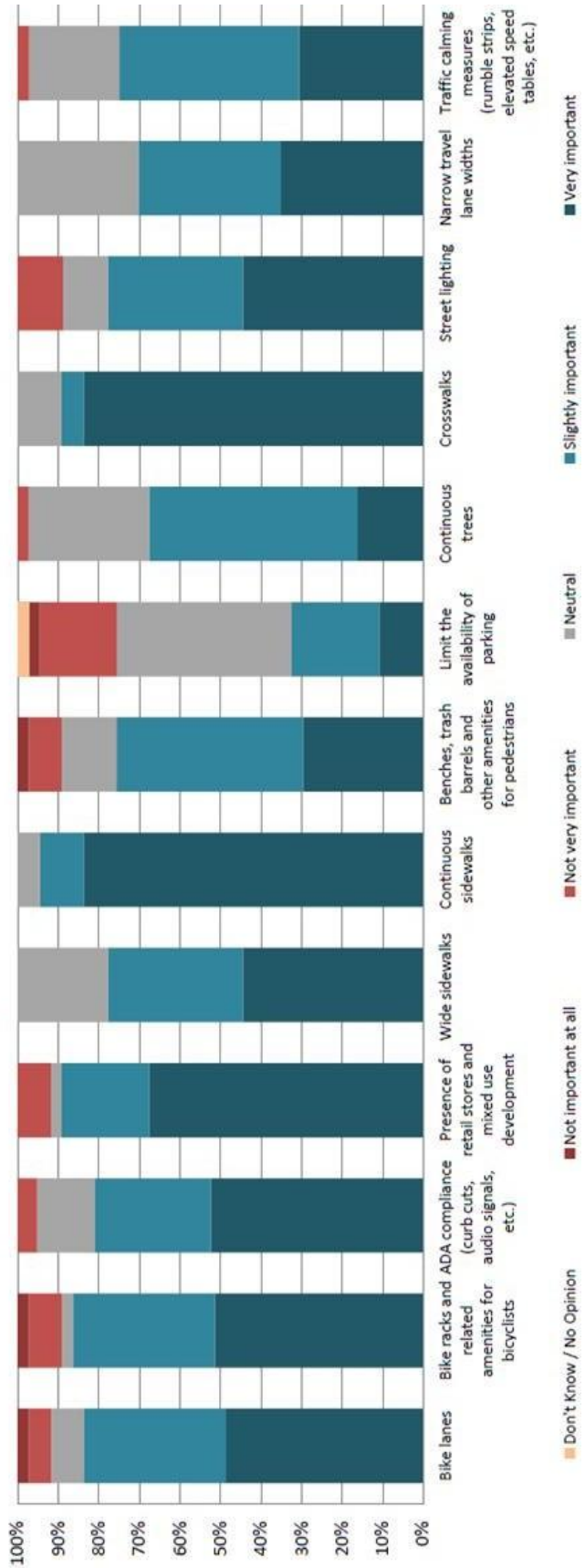
Figure 7: Perceived Barriers to Complete Streets

Source: Kuschel, Christopher, 2013. "Complete Streets Survey, Middlesex County, 2013." Metropolitan Area Planning Council.

Other barriers that were identified by a majority or all respondents included lack of political support (61.5%), lack of information or technical expertise (64%), and the community being resistant to change (66%). For planners only, all three of these barriers were indicated as being less of a barrier than for all respondents, with lack of information or technical expertise experiencing the most significant drop from 65% for all respondents to 35% for planners only. For DPW staff only, both lack of political support and the community being resistant to change both fell, but the lack of information of technical expertise jumped to 74%.

When only members of local boards of health are included, the number of barriers to advancing Complete Streets concepts and principles increases. For all seven proposed barriers, response rates were above 70% that each answer was perceived to be a barrier, and five of the seven answers received response rates of more than 80%.

Figure 8: Important Elements to Promote Walking and Bicycling



Source: Kuschel, Christopher, 2013. "Complete Streets Survey, Middlesex County, 2013." Metropolitan Area Planning Council.

Each different group was also given a question tailored specifically to the agency or department for which they work. Staff from the planning departments was asked “How important are the following elements to fostering an environment that promotes walking and bicycling?” Six of the thirteen elements received high rates of favorable response in promoting walking and bicycling: bike lanes, bike racks and related amenities for bicyclists, ADA compliance, presence of retail stores and mixed-use development, continuous sidewalks, and crosswalks.

That the “presence of retail stores and mixed-use development” received nearly a 90% favorable response rate is an indicator that planners are aware that the infrastructure changes included in a Complete Streets plan or policy can only do so much to promote walking, bicycling, and taking public transportation. If the desired destinations are too far apart, sidewalks and bike lanes will go unused. If public transportation access points are not located near homes, job centers, and cultural amenities, buses will be empty. It is encouraging that the planners surveyed understand this connection, as they are the municipal employees most likely to be at the nexus of transportation planning and land use planning and should be in a position to encourage the two being done in unison.

Staff from the DPWs that were surveyed were asked “How important are the following elements in implementing Complete Streets design concepts?” As previous data indicates, the DPW staff was most concerned with adequate funding being made available (92%) and an increase in knowledge, awareness, and training (88%). This taken with earlier data proves a clear path to gaining more support for the implementation of Complete Streets among DPW staff, and the issues of funding and training go hand in hand.

It can be assumed that the issue of cost as it relates to Complete Streets is both a matter of the cost of the infrastructure itself and the cost of the staff time required to plan and design that

infrastructure. One aspect of cost has already been addressed in the literature review. Complete Streets infrastructure does come with an additional capital cost above regular roadway projects, but it is usually a small percentage of the overall project cost, likely below 10% (Shapard, 2012). Regular roadway projects would include resurfacing, widening, new construction or full reconstruction whereas Complete Streets infrastructure would be specific elements, such as sidewalks, crosswalks, and bicycle lanes, among others. Typical staff time associated with a project can vary based on the timescale and complexity, but it can be assumed to be no greater than 5% of the overall project cost. It is important to think of these costs within the framework of an existing road project. Municipalities regularly and routinely resurface roads, presenting opportunities to implement Complete Streets as part of larger projects and as a modest increase in the overall cost of those projects. Thus, the issue of cost may be raised as a barrier when a Complete Streets project is proposed on its own, but it could potentially be less of a barrier if incorporated into routine roadway maintenance.

Members of the local boards of health were asked two additional questions, which when taken with previous data suggest some possibilities for increased implementation of Complete Streets in the region. Respondents from the boards of health were asked “Do you believe incorporating Complete Streets policies and principles into your community can affect positive health outcomes regarding obesity and chronic diseases?” With 79% responding “yes,” it is clear that local boards of health agree with the advocates that planning and building Complete Streets can lead to more active, healthy lifestyles.

Boards of health were also asked “If you were interested in incorporating Complete Streets concepts into your community, would you know who to approach?” Of the thirty-three respondents, 70% said that yes, they would know who in their city or town to approach to

incorporate Complete Streets into their community.

The data that these two questions should be considered simultaneously with are the responses from boards of health when they were asked to indicate barriers to advancing Complete Streets in their city or town. This group indicated with 70% in the affirmative or better that each of the seven proposed issues was a barrier to implementation. Thus, boards of health see more and higher barriers to the implementation of Complete Streets than the other two groups, but also feel that if the barriers can be overcome, they understand who in the city or town could implement the policies and principles and that the inclusion of these policies and principles could have beneficial health outcomes for their residents.

4.2: Additional Selected Responses

In addition to the possible answers provided for each question asked, respondents were also able to include comments to provide more in-depth responses if they desired to do so. These comments might clarify some data but also may indicate other questions or answers the survey may have missed. The comments are especially helpful in pointing to other perceived or real barriers to Complete Streets implementation.

One issue that was mentioned in multiple comments was the lack of sufficient space within the right-of-way to accommodate additional transportation options. Either streets are too old and narrow, or the development patterns are such that expanding the right-of-way would require the municipality to use its power of eminent domain to accommodate sidewalks and bicycle facilities. This issue may be one of the hardest barriers for Complete Streets advocates to overcome. Residents may desire walkable and bikeable communities, but they may be less supportive if that means losing some of their private property or diverting some portion of their property taxes to accommodate the necessary infrastructure.

Another issue mentioned in multiple comments was that some respondents felt Complete Streets policies and principles were not necessarily appropriate for their suburban or rural towns. Some comments indicated a feeling that incorporating Complete Streets elements may be detrimental to the town's rural character or charm.

This is an important barrier for advocates of Complete Streets to address and work to incorporate into proposals in non-urban communities. Currently, Complete Streets seem to be associated solely with large cities and more urban areas. While it is true that big cities have been early adopters of the policies and principles, that does not mean they cannot be applied to suburban areas and rural villages as well. The definition of Complete Streets as provided in the survey does not, in the author's opinion, limit the applicability of Complete Streets. Rather, it lets each city and town that may choose to go forward with implementing a Complete Streets plan do so in a way that is catered to the specific needs of that community. There does not exist a single, perfect example of a Complete Street. Implementation of Complete Streets will be different in each city and town, and the desired outcomes of Complete Streets are certainly outcomes that cities and towns both large and small can embrace.

Other singular comments suggested additional barriers as well. One respondent commented that s/he does not believe that Complete Streets policies and principles are necessarily safe. The respondent did not elaborate further, so it is difficult to infer what aspects of Complete Streets s/he believes are not safe, given that one goal of Complete Streets is to provide safe alternatives to driving. Having a sidewalk will be safer for a pedestrian than not having a sidewalk and having well-marked bicycle facilities and signage will be safer for bicyclists than not having these facilities. That is not to say accommodations for every single mode ought to be placed on every single street. Only what can safely be accommodated ought to

be considered and built. But Complete Streets are not inherently unsafe as the comment seems to suggest. One wishes the individual who submitted this comment had elaborated further, as specific concerns may have suggested means of addressing them.

Another comment expressed difficulty in dealing with certain groups within the community that believed Complete Streets infrastructure will make traffic congestion worse. The concern is that providing space for pedestrians and cyclists will reduce travel lane width and slow traffic down. One potential way to address this concern would be a temporary Complete Streets intervention, using something such as a thin fence or flexible bollards. Another option would be a pilot project on a small section of road. A successful temporary demonstration or pilot project may convert some doubters. However, it is possible that there are residents who will remain opposed to the project despite any information or demonstrations provided. They should be asked to elaborate about why specifically they are concerned, to assess if it is possible to alleviate or address their concerns. It may not always be possible, but the effort should always be made to bring as many supporters into the fold as possible. This is a barrier that can be overcome with persistence and education. By providing more transportation options that are safe and convenient, Complete Streets infrastructure, if well planned and implemented, will get more residents to choose walking, biking, or taking public transportation instead of driving. This will lead to less cars on the road and will improve traffic congestion overall. Unfortunately, this can be difficult to prove until the infrastructure is in place. Some residents may simply not believe any amount of data that suggests this will be the case and may be unwilling to experiment with limited Complete Streets implementation in their city or town to give it a chance at success.

4.3: Lessons Learned from Middlesex County

This survey provides some very important information about how staff at the municipal

level feel about Complete Streets principles and policies. The data allow for conclusions to be drawn regarding reception of Complete Streets and methods to overcome previously defined barriers and new barriers defined by this survey.

First, it is clear that the issues of cost and lack of sufficient staff are the top two perceived barriers to the implementation of Complete Streets. While the percentages were slightly lower for planners, all three groups recognize these two problems as being the most important to overcome. Municipal budgets are still constrained by the economic issues of 2008 and have not rebounded completely, so funding for new and existing projects is difficult to come by. Temporary demonstrations as discussed above may be a means by which to not only build support for Complete Streets, but also a way to realize some of the benefits with minimal investment. This approach may lead to increased willingness to make more permanent and significant investments in the future.

Hiring new staff can be expensive, so in the same way streets need to be updated, so, too, do the skill sets of municipal staff tasked with implementing Complete Streets. These are new ideas and concepts, so training current staff is vital to successful implementation. It is encouraging then that the survey indicates more than 70% of the planners, more than 80% of the DPW staff and nearly 60% of the boards of health would be interested in receiving technical assistance. Training current staff will reduce the cost of planning for these measures and potentially shift the trends of planning primarily for automobiles to planning for all modes and users. While staff time is likely a small percentage of the overall cost of a project, lacking the ability to plan and design Complete Streets could prevent a city or town from moving forward with implementation, so investments made in staff training and professional development are likely to yield beneficial results over a long timeframe.

The overall positive view that the survey found among all three groups is generally encouraging for Complete Streets advocates, and shows that municipal staff is a support base that may be able to assist them in their efforts. Given that these individuals are those responsible for crafting and implementing the policy, a favorable opinion from a DPW director or a board of health may sway residents towards being more receptive of Complete Streets.

The survey also highlighted the importance of comprehensive planning. More than 80% of planners responded that mixed-use development is an important factor in promoting walking and bicycling and nearly 80% of the boards of health responded that they believe Complete Streets policies and principles can affect positive health outcomes for their communities. These responses show that Complete Streets, while rooted in transportation planning, is intrinsically linked with land use planning and public health policy goals.

This triumvirate of planning disciplines is a key coalition in overcoming the barriers to Complete Streets implementation. That each group has identified similar and different barriers to the implementation of Complete Streets is a net positive – it highlights the different lenses through which each views the issue. Bringing the three groups together for collaboration may ease some of the concerns regarding a lack of adequate staff, as tasks could be shared among staff from each department. The group is also likely to have a broader base of political support, both from the community and local elected officials.

The specific barriers identified by the additional comments provided in the survey are valuable as well. In many cities and towns, the issue of simply not having sufficient space may seriously constrain implementation. The accuracy of this concern could be addressed with temporary or pilot projects, but especially in older town centers, there may just not be sufficient space for additional infrastructure. Shared road approaches that are more common in Europe and

were the norm in the early 1900s in the United States may work in such situations, but they represent a more radical departure from transportation planning as it stands today. Ultimately if there is insufficient space, taking of more space will be met with opposition and efforts may need to be refocused to other locations.

The issue of applicability for rural and suburban communities is also an important one that must be addressed. Advocates and proponents of Complete Streets must be careful to not be proscriptive in their suggestions. It is not the goal of Complete Streets to require that high-density urban areas are the only appropriate place for Complete Streets or that all residents must live in such areas. Complete Streets look different in every community, and the local control over what shape their streets take is extremely important.

As of February 2011, Pipestone, Minnesota officially adopted a Complete Streets policy. With a population of just over 4,000 residents, Pipestone is one of the smallest municipalities in the country to adopt a Complete Streets policy (Smart Growth for America, 2011). Its policy triggers the automatic consideration of accommodations for all users on all roadway projects, but acknowledges that implementation will vary from street to street (Fitzgerald, 2011). In June 2010, Sedro-Wooley, Washington, a town with a population of less than 10,000, added a new section to its municipal code requiring pedestrian and bicycle accommodations in transportation projects so long as a need was identified and the cost was not prohibitive (Smart Growth America, 2011). Sedro-Wooley's policy shows an understanding that while Complete Streets is important for rural areas, it is equally important that the investments be targeted where the need is greatest. It may simply be impractical to add sidewalks to every mile of roadway in a given city or town. However, the network must be studied in such a way to ensure that there are connections between homes, jobs, and cultural amenities so that all users can reach all

destinations in a mode of their choosing.

With Complete Streets still being a relatively new concept, there are not many studies of the effects of implementation in suburban and rural communities. Still, efforts like those in Pipestone and Sedro-Wooley seem to suggest that rural communities as well as urban cities understand the potential benefits of Complete Streets.

Having identified barriers to Complete Streets implementation in both the literature and in the research, it is important to consider manners in which these barriers can be overcome.

Chapter 5. Review of Existing Policies, Plans and Ordinances

This chapter examines the status of Complete Streets implementation in the Boston-metro region. Attempts have been made at the state and local level in Massachusetts to encourage and in some instances require the implementation of Complete Streets policies. Examining these efforts can provide some clues as to what steps can be taken in other municipalities to encourage policy adoption and implementation.

It is commendable that MassDOT released its Project Development and Design Guide in 2006. This document serves two purposes: first, providing clear guidance on how all state-level road projects ought to include accommodations for pedestrians, cyclists, and transit riders; and second, indicating that state government has a preference for streets that accommodate all users. While the guide is only applicable to state roads, these roads are often main streets in municipalities, and thus the inclusion of Complete Streets design elements on these roads helps to complete important pedestrian and bicycle networks.

However, the real work of completing networks comes at the municipal level. Municipalities in Massachusetts own and operate nearly 90% of the roads in Massachusetts (Massachusetts Municipal Association), so state-level policy alone will never be sufficient in creating a complete network for non-automobile transportation modes.

In the Boston-metro region, several municipalities have already adopted Complete Streets plans or policies. While the scope and nature of the plans and policies differ from one municipality to the next, each represents that municipality's effort to move beyond auto-oriented streets.

5.1: Municipalities in the Boston-metro Region with Complete Streets Policies, Plans, or Ordinances

While there is a limited number of cities and towns in the Boston-metro region that have implemented Complete Streets by passing a bylaw or ordinance, adopting a policy, or creating a plan, there is incredible diversity among this small group. No municipality is a carbon copy of another. This should provide hope to advocates that Complete Streets can be implemented in a wide variety of municipalities, not a narrow subset with similar features.

Table 1: Data on Municipalities in the Boston-metro Region with a Complete Streets Policy, Plan or Ordinance

	Population	Median Household Income	Mean Travel Time to Work (Minutes)	Land Area (Square Miles)	Persons per Square Mile
Boston	617,594	$51,739.00	28.6	48.28	12,792.70
Cambridge	105,162	$69,017.00	24.7	6.39	16,470.20
Somerville	75,754	$64,480.00	28.4	4.12	18,404.80
Framingham	68,318	$66,047.00	27.3	25.04	2,728.60
Gloucester	28,789	$59,061.00	24.1	26.2	1,099.0
Hudson	14,907	$68,812.00	24.5	5.74	2598.40
Marlborough	38,499	$72,853.00	27.8	20.87	1,845.10
MetroWest Moves*	121,724	$69,237.33	26.5	51.7	2,356.71
Massachusetts	6,547,629	$65,981.00	27.5	7,800.06	839.40

*Framingham, Hudson and Marlborough

Source: U.S. Census 2010

It is clear from the data that these cities and towns are extremely different. Boston is the largest city in the region by population and land area, but its median household income (MHI) is well below the MHI for Massachusetts as a whole, and lags behind the other municipalities that have implemented Complete Streets.

The municipalities fall both above and below the mean travel time to work for Massachusetts as a whole. Cambridge, Gloucester and Hudson all have mean times at least two minutes shorter than the mean for Massachusetts, but residents in Boston, Somerville and

Marlborough all have longer commutes.

While these data do not indicate any clues to look for in other municipalities to indicate their readiness to implement Complete Streets, the variability amongst the cities and towns should be an encouraging sign for Complete Streets advocates and proponents. If municipalities ranging in population from over 600,000 in Boston to under 15,000 in Hudson, and densities of over 18,000 per square mile in Somerville and less than 2,000 per square mile in Gloucester have implemented Complete Streets, many more cities and towns in the region could do so as well.

5.2 Boston

The City of Boston's Complete Streets policy and effort is notable among those in the region. Given Boston's status as capital and largest city in the Commonwealth, it is no surprise that its Complete Streets program is the most extensive and has extensive resources.

The effort began in 2009 when Mayor Thomas Menino declared, "The car is no longer king in Boston" and appointed members of the Complete Streets Advisory Committee (Boston Complete Streets, 2010). The committee is comprised of residents, professionals, advocates and academics working with a team of consultants to develop guidelines.

Currently (May 2013), nineteen projects (19) either being designed or under construction are identified by the City as Complete Streets projects (Boston Complete Streets, 2010). They range from bridge reconstructions in Charlestown and East Boston that will incorporate Complete Streets elements, to redesigns of intersections in the Fenway, to improvements to entire corridors in neighborhoods across the city. For those projects that provide cost information, costs range from $3.5 million to $7.5 million. It is important to note that while these are Complete Streets projects, they often also include roadway resurfacing and engineering which can add significant cost. No breakdown was available that indicated the cost of just the

Complete Streets elements.

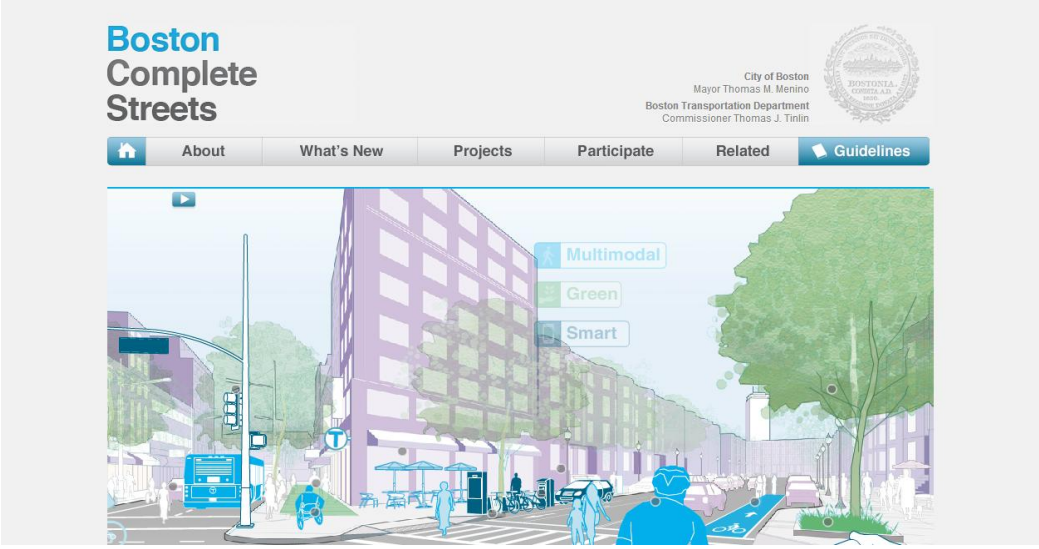
Using Google Maps to measure approximate distances, we can make rough estimates of cost per mile for some of the projects. Melnea Cass Boulevard in Roxbury is approximately one mile long and is being completely redesigned at a cost of $7.5 million. The Central Square in East Boston includes approximately one half mile of roadway and the project will cost $3.5 million. The redesign of Audobon Circle also includes approximately one half mile of roadway and will costs $5.5 million. These per mile costs are significant and are similar to the costs provided earlier for roadway resurfacing and new construction. This seems to be due to the fact that the projects are extensive in nature, and while they incorporate Complete Streets, they also include a significant amount of transportation engineering and changing traffic flow.

Boston is obviously unique in the region in terms of the capacity of its municipal government to undertake a new planning effort such as the development of a Complete Streets guide. However, that is not to say that its effort cannot provide insight for other municipalities. Even more unique than Boston's municipal government capacity is the strength of its Mayor. Mayor Menino was elected to his fifth term as Mayor in 2009, making him the longest-serving Mayor in Boston history (Patton, 2012). This experience and the political will built up over twenty years of service provide the Mayor incredible strength in changing public policy. Consequently, his support of Complete Streets mobilizes the entire municipal government structure, not merely the Mayor's Office.

. Boston's example still provides some useful insight as to how to overcome some barriers to Complete Streets implementation. Support from the executive branch of municipal government is important, whether that executive branch is a mayor or a board of selectmen or town meeting. New policies need champions, and if elected officials can be brought on to

support Complete Streets, they will help build community support for the effort.

Figure 9: City of Boston Complete Streets Website



Source: Boston Complete Streets. 2010. Accessed 5 January 2013. http://bostoncompletestreets.org/

Another lesson to be learned from Boston is how to display and convey information. The website for Boston Complete Streets has detailed graphics and an easy-to-navigate interface to let residents learn about the effort on their own. Complete Streets are more likely than not a new idea for the average resident. Being able to see what these changes would look like can help build understanding and support.

5.3 Cambridge

The City of Cambridge, Boston's neighbor to the north across the Charles River, has also adopted Complete Streets policies. Cambridge's policies have been in place longer than Boston's, and its approach to Complete Streets policy is one not focused on adding elements to a street or roadway, but rather requiring that certain policiy goals be met. The steps taken to meet those goals have resulted in Complete Streets design elements being incorporated into road projects.

Cambridge's Complete Streets policies are not singular policies on their own, but rather folded into two city ordinances related to transportation issues. The two ordinances are the

Vehicle Trip Reduction Ordinance (Ordinance 10.17) and the Parking and Transportation Demand Management Ordinance (Ordinance 10.18), passed in 1992 and 1998 respectively (Cambridge Community Development Department, 2011).

The two goals of the Vehicle Trip Reduction Ordinance were to reduce congestion in the city and to further the goals of the Clean Air Act (City of Cambridge, 1992). While not explicitly stating that it is a Complete Streets ordinance, Ordinance 10.17's goals are exactly the types of results that advocates of Complete Streets desire: reducing trips by single-occupancy vehicles and improving air quality.

Ordinance 10.17's focus on the desired outcomes of its passage may be an indicator as to why it was passed. It is hard to imagine residents of any city expressing a desire for increased automobile congestion and poorer air quality. The same can likely be said of Ordinance 10.18 as well. The ordinance was crafted to address issues around parking, but the methods used to achieve the policy goals incorporated elements of Complete Streets policies. Taken together, Ordinances 10.17 and 10.18 constitute a *de facto* Complete Streets policy for the City of Cambridge.

Table 2. Journey to Work for Persons Working, and for Persons Living, in Cambridge, MA

Journey to Work for Persons Working in Cambridge

	1990	2010	+/-
Drive alone	51.2	45.0	-6.2
Rideshare	10.6	8.1	-2.5
Transit	20.8	26.1	5.3
Bike	2.0	4.1	2.1
Walk	13.2	13.0	-0.2
Other	2.2	0.8	-1.4
Work at home	N/A	3.0	N/A

Source: American Community Survey, 1990 and 2010

Journey to Work for Persons Living in Cambridge

	1990	2010	+/-
Drive alone	35.3	30.7	-4.6
Rideshare	5.2	4.6	-0.6
Transit	24.9	28.1	3.2
Bike	3.9	6.8	2.9
Walk	24.3	22.7	-1.6
Other	1.1	1.1	0.0
Work at home	5.3	6.1	0.8

Source: American Community Survey, 1990 and 2010

It is possible to see the effects of the ordinances when one examines commuter data collected by the American Community Survey for Cambridge. The ordinances have had an effect

on both persons who live in Cambridge and those who work in Cambridge.

Since 1990, trips taken to work in single occupancy vehicles have dropped for those who live and work in Cambridge. Transit ridership has increased as well as bicycling. Slight decreases in walking may be related to increases in working at home. These shifts have been accompanied by significant economic growth, especially in the Kendall Square area (Moskowitz, 2012), showing the important connection between transportation planning and land use planning. Efforts in Cambridge could potentially be used as examples to show other cities and towns the economic potential that Complete Streets can unlock.

5.4 Somerville

As part of its comprehensive planning process known as "SomerVision," the City of Somerville has embarked upon a wide-ranging effort to improve facilities and infrastructure for walking and bicycling. In August of 2012, Somerville Mayor Joseph Curtatone submitted to the Somerville Board of Aldermen a Complete Streets ordinance for their consideration and approval (Appendix B). The ordinance defines Complete Streets, provides examples of Complete Streets design elements, and proposes guidelines for how these elements can be incorporated into the city's street network.

Of the plans and policies within the Boston-metro region, the proposed ordinance in Somerville is the most direct and may potentially have the most impact on its community. While the Boston plan is ambitious and the Cambridge ordinances get to Complete Streets in a somewhat roundabout manner, the ordinance proposed by Mayor Curtatone directly calls for Complete Streets to be the legally required guideline by which the local transportation network within Somerville be designed, planned, and maintained. Complete Streets would need to be incorporated during "the construction, reconstruction, retrofit, maintenance, alteration, or repair

of any Street, and includes the planning, design, approval, and implementation processes" (Appendix B). This requirement provides myriad opportunities for Complete Streets elements to be incorporated into streets in Somerville.

By pushing for the passage of a new ordinance, the Mayor is giving Complete Streets in Somerville a future beyond his time in office. While ordinances can be removed, it is far easier for an administrative policy from a previous administration to be changed than to remove an ordinance. This is especially the case for Complete Streets, as it can prove politically difficult to be against improving safety for the residents of a city or town.

Somerville is also working to include its residents in the process of examining how Complete Streets can benefit their city. Three public meetings were held monthly at the beginning of 2013 to provide residents an opportunity to learn more about Complete Streets concepts and ask any questions they may have. As this proposal is still being debated, it also provides an opportunity to address any concerns regarding equity at an early stage, to avoid problems in the future.

5.5 Gloucester

The City of Gloucester began an effort to implement Complete Streets in 2012 as part of an effort to combat obesity and to make biking and walking in the city safer and easier (City of Gloucester, 2012). The two issues the plan is most focused on are positive public health outcomes and safe walking routes to schools for students in the public school system.

Gloucester's plan is unique in that it goes through the city, ward-by-ward, assessing the problems with the pedestrian and bicycle infrastructure in each area and identifying the ways the Complete Streets plan will fix the issues. The other plans cited here and these types of plans in general do not do this. Rather, they focus on the overall issues within the city or town that need

to be addressed. Gloucester's example may be one for other cities and towns to follow because it provides explicit examples of what would be fixed under the plan and by providing those examples throughout the city. These include identifying streets that currently lack sidewalks, sidewalks that are in need of repair, and intersections and roadways that lack accommodations for pedestrians and cyclists. Residents are given a very clear picture of what this plan would mean for themselves and their families.

Gloucester's plan is also unique in that it is specifically a Complete Streets plan but is focused very much on achieving positive public health outcomes such as increased daily activity and decreased obesity rates. This is likely because the plan is being developed as part of a public health effort titled "Get Fit Gloucester" (City of Gloucester, 2012). This plan is an example of Complete Streets being advanced not as a transportation issue, but as a health and safety issue.

5.6 *MetroWest Moves*

MetroWest Moves is an initiative being undertaken by the City of Marlborough and the Towns of Framingham and Hudson, three communities in the western part of the Boston-metro region. The overall program is geared towards encouraging healthier, active lifestyles, including identifying ways for residents to support local businesses and eat healthier diets (*MetroWest Moves*, 2013).

The support of a more active lifestyle will come from the three communities identifying "community design standards" by which streets in each of the communities will be designed" (*MetroWest Moves*, 2013). The municipalities plan to implement Complete Streets design principles in places where they have identified gaps in the existing pedestrian and bicycle infrastructure. Additionally, they will be assessing current usage of active transportation facilities that are already in place to ensure investments are made where they are most needed. The

municipalities have also committed to ensuring that new private developments incorporate these design elements as well (*MetroWest Moves*, 2013).

What stands out about *MetroWest Moves* as a program is the understanding among officials from the participating municipalities that one of the biggest barriers to Complete Streets efforts is that a city or town cannot control what happens outside of its municipal boundaries. Encouraging the use of active transportation is for naught if residents reach the city limits and are not able to continue their trip. This is especially important for the Boston-metro region where cities and towns are generally of a smaller geographic size than in other parts of the state. By grouping together, the participating municipalities in *MetroWest Moves* can overcome some of the barriers to the successful implementation of a Complete Streets policy. The collaboration among municipalities will necessitate interagency coordination within each municipality (*Barrier: Lack of Interagency Coordination*) and will develop a set of standards applicable to each community (*Barrier: Lack of Standards*). Commitment to participate in the effort indicates a willingness to attempt a new approach and use innovative ideas to further Complete Streets (*Barrier: Municipal or Institutional Inertia*). Finally, the municipalities will be able to pool planning resources rather than needing to develop the required expertise separately from one another (*Barrier: Lack of Staff*).

5.7: Status of Complete Streets Implementation in the Boston-metro Region

Given such a low number of cities and towns that have a Complete Streets policy, plan or ordinance in place or proposed, it is clear that the Boston-metro region has some way to go. The plans and policies discussed here represent only seven of the 101 cities and towns in the region.

While the overall number of plans and policies is lacking, the quality of what is in place is diverse, providing opportunities for other cities and towns to learn from what has already been

done. Boston's plan is focused primarily on the design aspects of Complete Streets. Its design guide could potentially be adapted to any other city or town's needs.

Cambridge's ordinances are an example of inadvertently arriving at Complete Streets policies without calling them such. The focus of these policies on decreasing vehicular congestion builds support from those who might otherwise oppose investments in pedestrian and bicycle infrastructure by working to ensure that the roads are free of congestion for those who wish to drive, but that those who choose to not drive or have no other choice can do so safely and efficiently.

Somerville's proposed ordinance would be the most direct and potentially most powerful policy given that it would be codified law lasting beyond any one administration and geared directly towards advancing the implementation of Complete Streets within the city. The inclusion of a public process with multiple meetings over the course of multiple months will give residents ample time to air their concerns and will help municipal officials inform how the shape of the program if it is passed into law.

Gloucester and the *MetroWest Moves* communities took a different tack, with a focus on public health outcomes and encouraging active lifestyles. Gloucester's plan recognizes the need to show residents explicitly how a series of Complete Streets plans will improve not only particular neighborhoods but their city in general. The *MetroWest Moves* initiative shows an understanding that whenever possible, Complete Streets should not end at municipal boundaries. This type of micro-regional collaboration could prove to be very successful for other cities and towns in the regional as well.

Despite being few in number, these plans and policies are full of innovative ways for other cities and towns in the region to use as a guide for implementing Complete Streets. To

begin to understand if other efforts may be successful, an understanding of support for Complete Streets policies and principles at the municipal government level provides some insight.

6: Implementation via Legislation

One potential method to address some barriers to the implementation of Complete Streets is legislation. By either providing incentives or introducing requirements, legislation can be designed to achieve specific policy goals, which in this case would be increasing the level of Complete Streets implementation.

In an effort to encourage more cities and towns in the Boston-metro region to adopt Complete Streets policies and ordinances, the Metropolitan Area Planning Council drafted a piece of legislation that would create a new program with that goal in mind. While MAPC is the regional planning agency for the Boston-metro region alone, the program created by this legislation would be available to all 351 cities and towns in Massachusetts. MAPC understands barriers to the adoption of Complete Streets do exist, and that legislative action may create opportunities for cities and towns to consider these policies when they may not have previously.

6.1: *An Act Relative to Active Streets and Healthy Communities*

The legislation drafted by MAPC has been sponsored in the Massachusetts State Legislature by State Senator Harriette Chandler (D – Worcester) and State Representative Jason Lewis (D – Winchester) and has been given the title "An Act relative to active streets and healthy communities" (Appendix C). The bill has been filed simultaneously in the State House of Representatives and the State Senate.

Looking at the title alone, it is obvious that the bill is being promoted not merely as a transportation proposal, but also as a public health proposal. As discussed previously, Complete Streets advocates do claim that the presence of walking and cycling infrastructure encourages more physical activity which can lead to healthier lifestyles for residents. In positioning the legislation in this manner – where transportation policy meets public health policy – the

proponents of this bill have widened their potential base for support.

The most basic element of this legislation is that it would create a certification program by which cities and towns in Massachusetts would be designated "Active Streets Communities." To be granted the designation, a city or town must do the following:

1. Adopt a Complete Streets bylaw, ordinance, or administrative policy
2. Coordinate with MassDOT to confirm the accuracy of the baseline inventory of pedestrian and bicycle accommodations[1]
3. Identify procedures to follow when conducting municipal road repairs, upgrades, or expansion projects on public rights-of-way to incorporate Complete Streets elements
4. Confirm the existence of a review process for all private development proposals to ensure Complete Streets components are incorporated into new construction
5. Set a municipal goal for an increased mode share for walking, cycling, and public transportation where applicable to be met within five years and develop a program to reach that goal
6. Submit an annual progress report to MassDOT

The criteria for designation address three important implementation issues: the need to take positive action towards incorporating Complete Streets design elements into locally-funded projects, the importance of coordinating with MassDOT to ensure the success of the program, and ensuring there are no gaps in the local network by confirming that private developments incorporate the same Complete Streets design elements.

Once designated as an "Active Streets Community," the city or town would become eligible to apply for competitive grant funding that would be used for "complete streets infrastructure and planning." This means the grants could be used to pay for the Complete Streets design elements, such as improved sidewalks or additional bicycle facilities, or could be used to pay planning or other staff to determine where in the city or town is best to direct investment for this infrastructure.

An interesting inclusion in the legislation is the call to create an advisory committee that

[1] MassDOT compiles information on pedestrian and bicycle accommodations in all 351 cities and towns in Massachusetts. This requirement would ensure that MassDOT's inventory is accurate and complete.

would work with MassDOT "in developing the rules, regulations or guidelines for the program, including the development of a model complete streets bylaw or ordinance." The committee would be comprised of representatives from MAPC, the Massachusetts Association of Regional Planning Agencies (MARPA), the Massachusetts Department of Public Health (DPH), the Massachusetts Municipal Association (MMA), the Massachusetts Bicycle Coalition, Walk Boston, the Livable Streets Alliance, and the Massachusetts Association of Chambers of Commerce Executives. In the same way that the title of the bill widened the base of support for the program, so, too does the inclusion of so many groups from so many different sectors: planning (MAPC and MARPA), public health (DPH), municipalities (MMA), advocates (MassBike, Walk Boston, Livable Streets Alliance), and the business community (Massachusetts Association of Chambers of Commerce Executives).

6.2: Addressing the Barriers to Implementation

The program proposed by *An Act Relative to Active Streets and Healthy Communities* can only be successful if it addresses some or all of the barriers to the adoption of Complete Streets policies that have been identified in the literature and in the research. While it may not be possible for a single piece of legislation to adequately address every single barrier, it should at least address the barriers that are keeping the largest portion municipalities from adopting these policies.

Concerns Regarding Equity

The proposed program does not explicitly address the concerns regarding equity as identified by Julian Agyeman. It is easy to imagine were a city or town to opt-in to the program that the results could either be a net positive for equity concerns or a net negative. If the city or town went about adopting a Complete Streets policy with a process that engaged residents and

allowed them to be involved in making the choices for what projects would be implemented in their communities, taking the time to weight investments in Complete Streets against other priorities, it is likely the program would overall be a net positive in terms of improving equity. However, if the city or town used a top-down approach with prescriptive decision making that merely informed each community what investments it would receive, it is likely the program would overall be a net negative in terms of improving equity. While a more prescriptive program with explicit instructions to cities or towns about how to adopt a policy might be more likely to address concerns regarding equity, it is also less likely the legislation would have a wide base of support as it would be seen as taking away some amount of local control. The program allows for positive equity outcomes, but it does not guarantee them.

Historical Infrastructure Tendencies

The concept of Complete Streets is still relatively new, and it is competing against decades of transportation and infrastructure planning that has favored the automobile. This legislation and the proposed program seek to directly address this issue and attempt to overcome it as a barrier to more widespread implementation of Complete Streets. One benefit of infrastructure designed for automobiles is that there is often more space provided than is needed for that mode. Cities and towns that gave over more space for cars may in some cases have an easier time converting that space into improved pedestrian, bicycle, and public transportation infrastructure than cities or towns with older, narrower rights-of-way for automobiles. This program would give cities and towns the incentive to do so.

Municipal or Institutional Inertia

Cities and towns or agencies and institutions within municipal government may oppose either directly or through inaction the incorporation of Complete Streets design elements on local

roads. This legislation would create an opt-in program, so no city or town in the Commonwealth would be required to take these actions. However, once a city or town chose to opt-in to the program, the agencies and institutions within it would be bound to follow the policy directives laid out in the Complete Streets plan or ordinance. There is still the matter of overcoming the initial hurdle of passing the ordinance or plan, but this would then set in motion various departments and agencies that would be bound to follow the new policies and regulations. The legislation allows for municipalities to adopt either a Complete Streets bylaw/ordinance or a Complete Streets administrative policy. Of the two, the bylaw/ordinance is stronger in its ability to require compliance; it would be on the books as being legally required for the city or town to implement. An administrative policy can change from one administration to the next, and does not provide the continuity over time. While requiring the adoption of a bylaw or ordinance may have made the program stronger, it may have also weakened support for it among municipal officials, and reduced chances of being adopted.

Legal Concerns

The literature indicated that some cities and towns may be concerned with the legal aspects of pursuing Complete Streets upgrades to their local roads. These changes may run afoul of existing zoning codes or other local regulations. As the proposed program would require adoption of a Complete Streets bylaw/ordinance or policy by the participating municipality, part of this adoption process would need to include the city or town determining if the new policy needed to include changes to existing policies as well. It would present an opportunity for the city or town to closely examine its current regulations and ensure that they are aligned with its new policy goals. The process would not be simplified by the new program, but the incentive of additional funding may make parties more willing to undertake this effort.

Housing Preferences

The literature indicates that a vast majority of Americans prefer to live in single-family detached houses, or would prefer to live in such a home if they were able to do so. This type of housing is by definition not as dense as others, and this lack of density can make effective Complete Streets policy implementation difficult. Active transportation modes such as biking and walking require shorter distances between origins and destinations for those modes to be used regularly by residents and visitors. The sparsely settled, low-density development patterns of single-family detached homes makes walking and cycling much less viable of an option. This barrier is one that simply cannot be adequately addressed by this piece of legislation or any other single legislative act. While this program may not be able to overcome this barrier, it can make more densely developed areas more attractive to residents by providing the types of safe, walkable, bikeable neighborhoods for which they have indicated a preference.

Lack of Interagency Coordination; Lack of Standards

Cities and towns may have multiple departments or agencies that would potentially be responsible for the implementation of a Complete Streets policy. Often in municipal and other levels of government , different agencies and departments operate in silos, separated from one another, unaware of what the other agencies or departments may be working on. This legislation would require that participating cities and towns identify who individually or what department is responsible for overseeing Complete Streets within that city or town. This will provide guidance to other involved departments and agencies when they have questions about the program moving forward. Also, it will ensure that one set of standards is used throughout the city or town, regardless of from where a project originated. This coordination should not be seen as a new task for the city or town, but rather a reorientation of work already being done and a clarification of

how to proceed.

Applicability to Rural and Suburban Communities

Given that this legislation would make the certification program it proposes available to all 351 cities and towns in Massachusetts, its applicability to urban, suburban, and rural communities is important for widespread success of the program and widespread support of the legislation. Complete Streets can be successful in each community type, and it is important for the program to ensure that is the case. The wide array of groups included on the advisory committee should ensure that the regulations drafted as a part of this program are either applicable to all community types, or that different guidelines are created for each community type. This does not completely solve the more challenging aspects of applying Complete Streets is less dense, less urban communities, but it does address some of those challenges. It is important to keep in mind that Complete Streets is not a fixed ideal requiring streets in different community types to appear identical. It is about providing safe choices for all users, and that policy goal is applicable to large urban cities, suburban towns, and rural villages alike.

Cost, Lack of Staff

If *An Act Relative to Active Streets and Healthy Communities* was passed into law and the program it calls for was fully funded, it would mean an additional $10 million per year would be spent in Massachusetts on Complete Streets infrastructure and planning. Spread across 351 cities and towns, that amount does not represent a significant amount of money. However, another incentive-based certification program in Massachusetts has shown that a modest investment can yield substantial results.

The Green Communities Act was passed into legislation in Massachusetts in 2008 and went into effect in 2009 (Massachusetts Executive Office of Energy and Environmental Affairs,

2013). The act established the Green Communities Designation and Grant Program. Municipalities seeking to be designated as a "Green Community" had to take certain actions and commit to certain goals, and upon doing so were made eligible for competitive grant funding totaling $10 million per year. Even with this small amount of funding, over 100 cities and towns in Massachusetts have been designated as "Green Communities," by committing to zoning changes that make the siting of renewable energy facilities easier, establishing a plan to reduce energy use by 20% within five years, purchasing fuel efficient vehicles for municipal departments, and adopting the Stretch Code (a more energy efficient building code) (Massachusetts Executive Office of Energy and Environmental Affairs, 2013).

The popularity and success of the Green Communities Designation and Grant Program serve as models for the program proposed by *An Act Relative to Active Streets and Healthy Communities*. A modest amount of funding from the Commonwealth can incentivize significant action to be taken by municipalities. Additionally, even though the funds would be modest, their explicit direction towards Complete Streets infrastructure and planning may be the small extra amount that a municipal planning department requires to use its staff time to develop a Complete Streets plan, or the extra amount a Department of Public Works needs to buy reflective paint and signage to designate a bicycle lane or a pedestrian path.

6.3: Overall Assessment

An Act Relative to Active Streets and Healthy Communities has the potential to dramatically increase the number of cities and towns in the region and across the Commonwealth that are implementing Complete Streets policies and design elements. The structure of the program this legislation would create is simple, as is the proposed certification process for cities and towns. If the Green Communities Act is any indicator, the modest amount of funding

proposed should be sufficient to incentivize cities and towns across the Commonwealth to take the steps necessary to become eligible for grants.

The legislation also addresses many of the barriers identified in both the literature and the research. It is an opt-in program, and any participating municipality would retain control over crafting their policies and plans. This local control would hopefully ensure that municipal staff aware of potential issues of equity will be involved in the planning process. It is unlikely that a state agency would be able to fully appreciate the unique situation in each of the Commonwealth's 351 cities and towns. Retaining control at the local level is much more likely to gain support within municipal government to take action (*Barrier: Municipal or Institutional Inertia*).

While the legislation may not be able to completely address issues of municipal or institutional inertia, the research suggests that these issues may not be as much of a barrier in Massachusetts. The large amount of positive responses towards Complete Streets principles and goals suggests that many municipal officials are being held back by other barriers, most significantly cost and lack of staff, which this program would directly address.

While this legislation and the program it seeks to create would not address every real and perceived barrier to the implementation of Complete Streets, it would be unreasonable to think that any single piece of legislation or any singular program could do so. This proposal takes important steps towards providing the resources necessary for cities and towns to begin implementing plans and policies that will provide safe transportation choices for all users of the transportation network.

7: Implementation via Regulation

A second potential method to address some barriers to the implementation of Complete Streets is regulation. Rather than creating new legislation, regulation relies on existing structures and agencies to implement Complete Streets. This method may be simpler in that the structures and powers are already in place, but may be more complex in that it would be a new method of using regulatory ability.

Given that the survey data indicate local boards of health are supportive of Complete Streets policies and principles, advocates and proponents of Complete Streets may have another path by which to overcome some of the barriers to implementation. Local boards of health in Massachusetts are given a wide range of regulatory power which could be directed to support of Complete Streets policies and infrastructure programs through a public health lens.

7.1: Powers of Local Boards of Health

Local boards of health in Massachusetts have significant regulatory authority within their jurisdictions. The boards are required by law to "perform many critical duties related to the protection of public health" (Massachusetts Executive Office of Health and Human Services – Department of Public Health, January 2010). Boards are required to work on disease prevention, enforce the sanitary code, enforce food regulations, and enforce some environmental protection regulations, among many other tasks. Additionally, boards may adopt and enforce any "reasonable health regulations" (Massachusetts Executive Office of Health and Human Services – Department of Public Health, January 2010). This means that a board may choose to go above and beyond what it is required to do statutorily in order to fulfill its mission or address a new public health concern.

7.2: Applicability to Complete Streets Implementation

Due to the fact that the regulatory power given to boards of health covers so many policy areas, there are two major ways that working to implement Complete Streets policies and infrastructure falls within existing duties.

First, as the advocates claim and some research indicates, the presence of Complete Streets infrastructure can lead people to choose a more active, healthier mode of transportation, especially for shorter trips. Increased physical activity can result in weight loss and less risk of many diseases. At the national level, the Centers for Disease Control and Prevention's Division of Nutrition, Physical Activity, and Obesity (CDC – DNPAO) are taking action to work on this veryt issue (Centers for Disease Control and Prevention, 2013). Programs such as "Active Transport to School" and "Urban Design and Transportation Policies and Practices" are designed to make regular physical activity an everyday occurrence for all Americans by making options such as cycling and walking safe and convenient. These efforts align perfectly with Complete Streets. People are much less likely to walk or bike if the infrastructure is insufficient or unsafe. If local boards of health can begin to work with other municipal agencies and departments on Complete Streets efforts, they will be working to prevent obesity and a host of diseases related to it.

The second way in which working to implement Complete Streets falls within existing duties of local boards of health has to do with environmental protection, specifically air pollution. Boards of health can choose to adopt regulations regarding air pollution, and within that framework adopt regulations specifically related to transportation (Massachusetts Executive Office of Health and Human Services – Department of Public Health, January 2010). It is clear that these regulations could be drafted to discourage driving or encouraging walking, cycling,

and taking public transportation.

7.3: Addressing Barriers to Implementation

As in the approach to implementation via legislation, implementation via regulation can only be successful if it addresses some of the barriers to Complete Streets Implementation. Also like the legislative approach, it is unreasonable to assume that regulation via local boards of health could overcome all the barriers to implementation, but it may overcome different barriers than legislative action might.

Concerns Regarding Equity

Implementation of Complete Streets via regulation by local boards of health would not address the potential issues of equity associated with Complete Streets directly. In the same way that implementation via legislation could either improve or worsen the state of equity in a community, so, too, could implementation via regulation. This is again a matter of how precisely the city or town goes about implementation. The concerns regarding equity generally seem to be better addressed through procedural reforms rather than by selecting one method of implementation or the other.

Historical Infrastructure Tendencies

Local boards of health could not directly change how infrastructure is planned and built, but new regulation would create a new set of rules by which planners and engineers would have to abide. The potential board of health regulations would not impose design guidelines, but instead would require infrastructure to be built in a way that enables the desired public health outcomes to be achieved.

Municipal or Institutional Inertia

By activating a different division of municipal government, implementation of Complete

Streets via board of health regulation would bring new advocates into the efforts. New allies would be available to assist advocates and work to overcome municipal or institutional inertia, or the inertia in one agency or institution could be sidestepped.

Legal Concerns

Implementation via this type of regulation could raise legal concerns, but they would be different than those raised by the legislative program. Implementation via the local boards of health could require that conflicts between health regulations and zoning ordinances be addressed as opposed to new zoning being adopted. As this type of work would be new to many local boards of health, they may feel as if they are going too far beyond their required duties. While it seems that this type of work would fall within the powers given to them statutorily, it is possible that some type of judicial action may occur to provide clarity on the matter.

Housing Preferences

As with legislative action, regulatory action would have no direct effect on housing preferences. This seems to be a barrier too large to overcome with any one type of action, and rather will have to be addressed in various ways both directly and indirectly.

Lack of Interagency Coordination; Lack of Standards

If local boards of health were to take up Complete Streets implementation as an effort, it would be critical that interagency coordination be increased and made as efficient as possible. If a local planning department or department of public works has decided to not implement Complete Streets, they would still be the parties doing the actual work on the ground. Boards of health would need to work hand in hand with these groups to see regulations successfully implemented. This may lead to these other departments choosing to be more on board with these efforts, increasing the overall effectiveness of the program and enhancing interagency

coordination and cooperation.

Applicability to Rural and Suburban Communities

Given that every city and town in Massachusetts has a board of health, working towards Complete Streets via regulation could potentially work in all types of communities. However, as with the legislation, that does not necessarily mean each city and town can successfully implement Complete Streets in this manner. Members of the board of health would have to be willing to take this action and venture into a new policy area. Unwillingness to do so would not necessarily be dictated by community type. Additionally, the boards may be in a position of having to choose between a Complete Streets program and a more traditional public health program to achieve their policy goals. In this situation, Complete Streets could be competing for limited resources among other more familiar programs.

Cost, Lack of Staff

The cost of implementing Complete Streets cannot be completely erased. Implementing Complete Streets via regulations adopted by the board of health would still require funds for planning and infrastructure. However, this type of implementation may open the project up to other sources of funding it would not have been eligible for if it were strictly a transportation project. A focus on the public health outcomes may allow a city or town to shift some aspects of program management out of the traditional planning and public works departments. There are absolutely still real costs associated with implementation via regulation, but this method may allow a city or town to be more flexible in the manner in which it funds Complete Streets, rather than relying on traditional funding sources.

7.4: Overall Assessment

Implementation of Complete Streets policies by local boards of health has the potential to

widen the base of support for Complete Streets policies and address some of the barriers to implementation in ways that either would enhance legislative efforts or do things legislation may not be able to do. Given that boards of health would be venturing into new policy areas, it would be very important for other municipal agencies and departments to be on board with the effort. On its own this type of implementation could be effective. If done in coordination with the legislative approach and with support from other municipal departments and agencies in a synchronized manner, Complete Streets could see successful adoption in far more communities.

Chapter 8. Conclusion

On the surface, it can be difficult to imagine why any city or town would not seek to implement Complete Streets policies and design standards. A majority of Americans want to live in safe, walkable neighborhoods exactly like those that would be created as a result of a Complete Streets policy. At the local, state, and national level, a new focus on encouraging more active, healthier lifestyles can only be truly successful if active modes of transportation such as walking and cycling can truly be a choice for everyone, as they would be in a city or town using a set of Complete Streets design standards. Yet in the Boston-metro region, there is not an abundance of cities and towns working towards these outcomes.

Advocates point to decreased obesity rates, less traffic congestion, and improved air quality as outcomes of implementing Complete Streets. The research indicates that, to a degree, Complete Streets infrastructure does have these outcomes. However, there is a concern regarding equity. If a municipal government were to decide to implement Complete Streets without working closely with residents about where, when, and how it planned to do so, it could come off as top-down, heavy-handed planning from a bygone era. Residents and business may hold different beliefs than their government when it comes to determining priorities for municipal spending. Additionally, if these types of investments were made in poorer neighborhoods or environmental justice communities, it may result in gentrification leading to those communities having to move elsewhere and lose the benefits.

Even if those concerns were adequately addressed, the road to Complete Streets is anything but smooth. The literature and the survey data identify a number of potential barriers to Complete Streets implementation. Historical trends in planning and infrastructure, municipal or institutional inertia, housing preferences, legal concerns, lack of coordination, applicability to

varying community types, and lack of funding and/or staff have all been identified as holding cities and towns back from implementing Complete Streets. The list of barriers to implementation is as long and comprehensive as the potential benefits.

How then can these barriers be overcome? A seemingly simple solution would to be pass statewide legislation requiring cities and towns in Massachusetts to adopt Complete Streets policies and design standards. In a state that values home rule and local control as much as Massachusetts, there is almost no possibility of this ever happening, but legislation can potentially encourage more cities and towns to work towards Complete Streets. A program such as that proposed in *An Act Relative to Active Streets and Healthy Communities* could be just the nudge that municipalities need to get started. While it does not address every barrier, it does get at the barrier continually identified throughout the literature and survey data as being difficult to overcome: cost.

"Cost" as it relates to Complete Streets can mean both the cost of the infrastructure itself (e.g. constructing new sidewalks) and the cost of dedicating staff time to the planning and implementation of said infrastructure. It is the latter definition that is a barrier that could be addressed by working to implement Complete Streets via regulation by local boards of health. If undertaken as a public health initiative, the effort may also be able to qualify for funding from other sources that it would not have been eligible for if it were proceeding strictly as a transportation project or planning effort.

An even better situation would be one in which Complete Streets are pursued both by legislative action and by regulatory action. Aligning work being done in multiple municipal agencies and departments would give the effort a wide base of support, extensive resources to draw upon, and a higher likelihood of success. Reaching such an organizational outcome may

face its own set of unique barriers. Further study into interagency and interdepartmental coordination at the municipal level could uncover legal or other barriers that may be preventing this type of collaboration.

Complete Streets are meant to be streets for everyone to use, with all modes and users given equal opportunity. Initiatives in Boston, Cambridge, Somerville, Gloucester, and MetroWest are encouraging, but represent a very small sample of cities and towns in the Boston-metro region. If advocates and proponents of Complete Streets wish to see further adoption, the barriers identified above will need to be overcome. They are not insurmountable, but they will also not go away without action dedicated towards removing them.

These efforts should not be undertaken with a false sense that the benefits of Complete Streets are obvious to everyone and that implementation will be simple and straightforward. Successful adoption of a Complete Streets policy should be seen as a long-term planning effort. It may begin with temporary demonstrations or small-scale interventions or it may begin with a minimal amount of change, such as additional signage or clearly marked pedestrian crossings. But each step towards Complete Streets should be viewed as a success in its own right and small steps should not be overlooked. Even in a city or town that fully supports the effort, change will not come overnight, and it likely should not come overnight. Complete Streets are cost effective when incorporated into regular road maintenance, so adoption and implementation may be separated by a significant amount of time, but this as well should not be viewed as a setback.

Once the barriers have been removed, every single city and town will not automatically implement Complete Streets, or do so in the same way. Many residents and government officials alike will still need to be shown the benefits of Complete Streets. By removing the barriers to implementation, advocates and proponents are allowing more cities and towns to undertake these

efforts, which will hopefully then serve as further examples for other cities and towns to follow. At its core, the idea of Complete Streets is based on providing safe options for all users. As the Boston-metro region moves toward completion, that idea will become a reality for more and more residents.

Appendices

A: Complete Streets Survey

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Introduction

The enclosed document summarizes the results of the 2013 Complete Streets Survey, administered to Planning Departments, Departments of Public Works (DPW), and Boards of Health in Middlesex County. The purpose of the survey was to gauge these stakeholders' knowledge and understanding of Complete Streets design concepts and policies, as well as the (perceived) most important elements to fostering a multi-modal environment. In addition, the survey sought to understand barriers to the successful implementation of Complete Streets.

The survey had a response rate of 75% and responses were received from at least one representative from 47 of the 48 municipalities surveyed. Additional highlights include:

- Two thirds of respondents were very or slightly familiar with Complete Streets concepts and principles; Planning Departments were most familiar (81%), followed by DPW (65%) and Boards of Health (54%).
- The majority of respondents in these groups are receptive to Complete Streets, with 84% having a slightly or highly positive view of its principles and concepts.
- More than 65% of respondents had not previously participated in a Complete Streets Training
- Limited funding and lack of staff were cited as the greatest barriers to implementation of Complete Streets, with 70% and 50% of respondents, respectively, identifying them as major barriers.
- Based on the free-form responses, narrow rights of way and implementation of Complete Streets in suburban contexts were also primary concerns.
- DPW respondents, in particular, felt that a lack of technical expertise is a barrier.
- Nearly 80% of Board of Health respondents indicated that they believe incorporating Complete Streets policies and principles into their city or town could affect positive health outcomes regarding obesity and chronic diseases.

The survey responses highlight the importance of continuing education for Planning and DPW departments; furthermore, given the potential public health impacts of implementing Complete Streets, as well as the influence many Boards of Health have on public policy, they underscore the importance of furthering outreach to this stakeholder group. In addition, the results highlight the role that technical assistance opportunities can play in implementing Complete Streets (e.g., 85% of DPW respondents would consider receiving technical assistance).

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Survey Results

- Survey area: Middlesex communities in MAPC and NMCOG regions[1]
- Target audience: Planning Department, DPW, and Boards of Health
- Methodology: Web-based survey (survey monkey sent to individual's emails); administered on January 7, 2013; closed on January 31, 2013
- Purpose: To gauge understanding of Complete Streets policies and concepts among several key stakeholders
- Number of participants completing survey: 106
- Number of potential surveys administered: 141[2]
- Response rate: 75%[3]; 47 out of 48 towns had at least one respondent (98%)[4]

Cities and Towns in the Complete Streets Survey								
		Responded[4]			Responded			Responded
1	Acton	X	17	Holliston	X	33	Sherborn	X
2	Arlington	X	18	Hopkinton	X	34	Somerville	X
3	Ashland	X	19	Hudson	X	35	Stoneham	X
4	Bedford	X	20	Lexington	X	36	Stow	x
5	Belmont	X	21	Lincoln	X	37	Sudbury	X
6	Billerica	X	22	Littleton	X	38	Tewksbury	X
7	Boxborough	X	23	Lowell	X	39	Tyngsborough	X
8	Burlington	X	24	Marlborough	X	40	Wakefield	X
9	Cambridge	X	25	Maynard	X	41	Waltham	X
10	Carlisle	X	26	Medford	X	42	Watertown	X
11	Chelmsford	X	27	Melrose	X	43	Wayland	X
12	Concord	X	28	Natick	X	44	Westford	X
13	Dracut	X	29	Newton	X	45	Weston	X
14	Dunstable	X	30	North Reading	X	46	Wilmington	X
15	Everett		31	Pepperell	X	47	Winchester	X
16	Framingham	X	32	Reading	X	48	Woburn	X

[1] Malden was excluded from the survey at its request, so as not to conflict/confuse with its other Complete Streets initiatives. Ashby, Ayer, Groton, Shirley, and Townsend are part of the MRPC region, and were not included in the survey.

[2] Of the 141 surveys administered, a number of emails bounced back for being incorrect after the original survey link was sent. Most of these were corrected but there were several that did not receive the survey.

[3] The response rate is based upon the total number of potential recipients (n=141), not the number of people who definitively received the survey.

[4] I.e., at least one response was recorded by either Planning, DPW, or Board of Health

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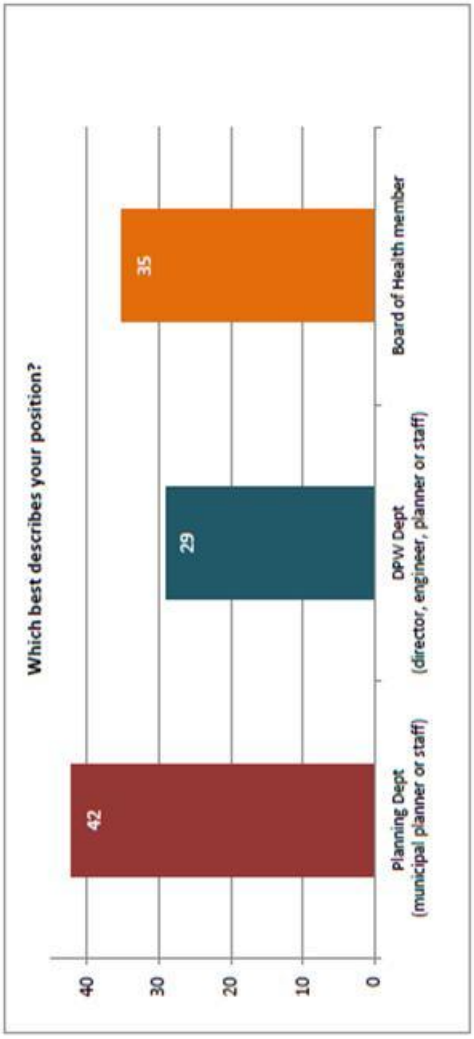
Which best describes your position?
42
29
35
Planning Dept (municipal planner or staff)
DPW Dept (director, engineer, planner or staff)
Board of Health member
0
10
20
30
40

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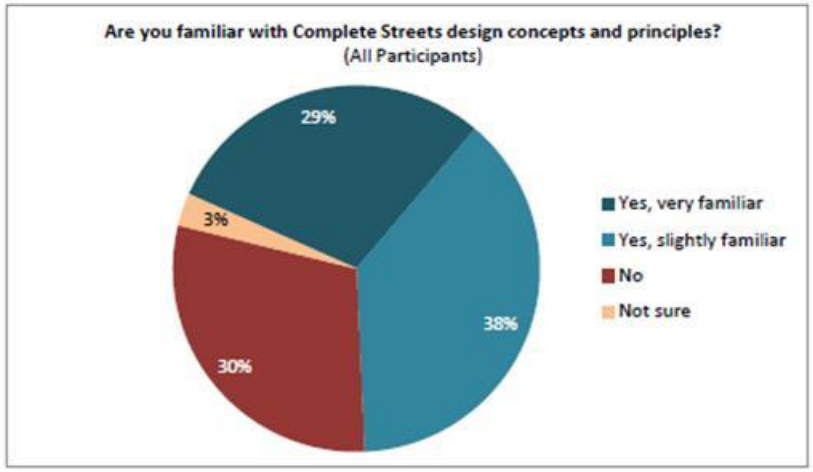
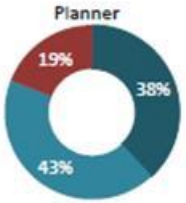
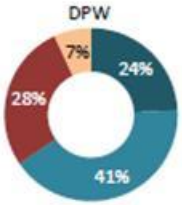
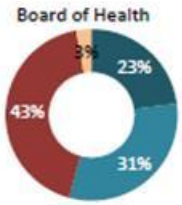

Are you familiar with Complete Streets design concepts and principles?
(All Participants)
29%
38%
30%
3%
Yes, very familiar
Yes, slightly familiar
No
Not sure


Planner
19%
38%
43%


DPW
7%
24%
28%
41%


Board of Health
3%
23%
43%
31%

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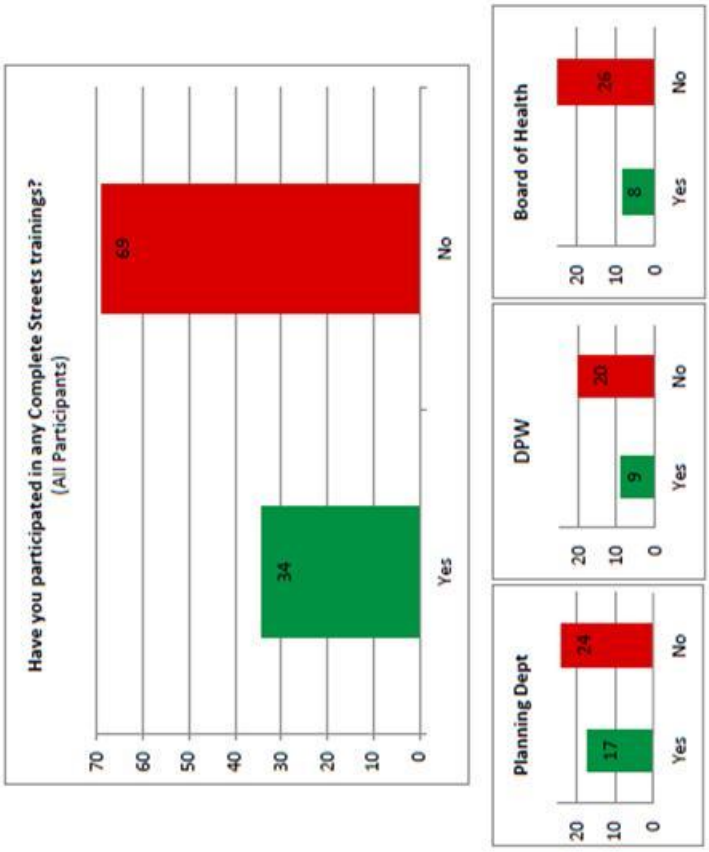
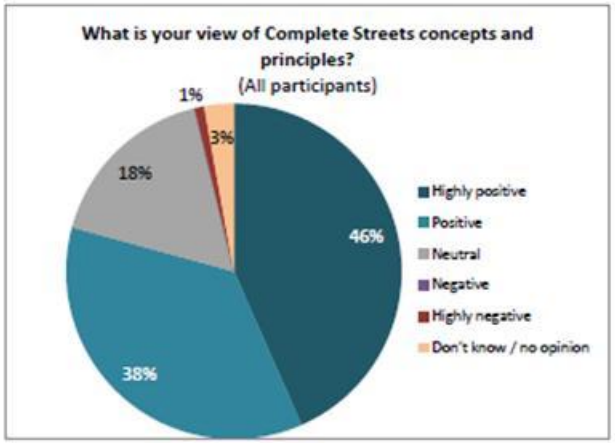
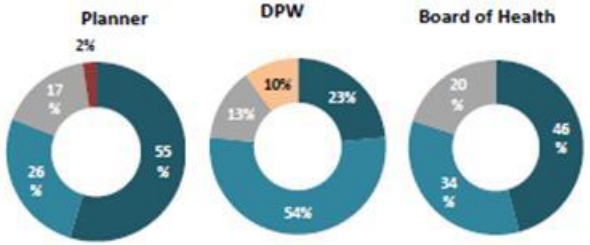

Have you participated in any Complete Streets trainings?
(All Participants)
69
34
No
Yes
0
10
20
30
40
50
60
70
Planning Dept
24
17
No
Yes
0
10
20
DPW
20
9
No
Yes
0
10
20
Board of Health
26
8
No
Yes
0
10
20

Respondents were provided with the following definition of Complete Streets and asked to answer the remaining questions based upon this definition, regardless of whether they were previously familiar with the term:

"Complete Streets are designed to be safe, attractive, and enable access for all users, including pedestrians, bicyclists, motorists and public transport users of all ages and abilities. It recognizes that in general roads should meet the needs of all these users, and enables them to choose from a variety of travel modes."





Selected additional Responses:

- "Not sure that all of the requirements are appropriate for small rural towns."
- "They don't always comport with what is safest in my humble opinion."
- "Excellent in theory but hard to apply to many existing older streets in New England where narrow rights of way inhibit the ability to provide for pedestrian, bicycle and transit accommodations."
- "This concept not necessarily appropriate for most areas in Town, where additional pavement for sidewalks, and non-existent public transit is not needed directly adjacent to 'lanes'."

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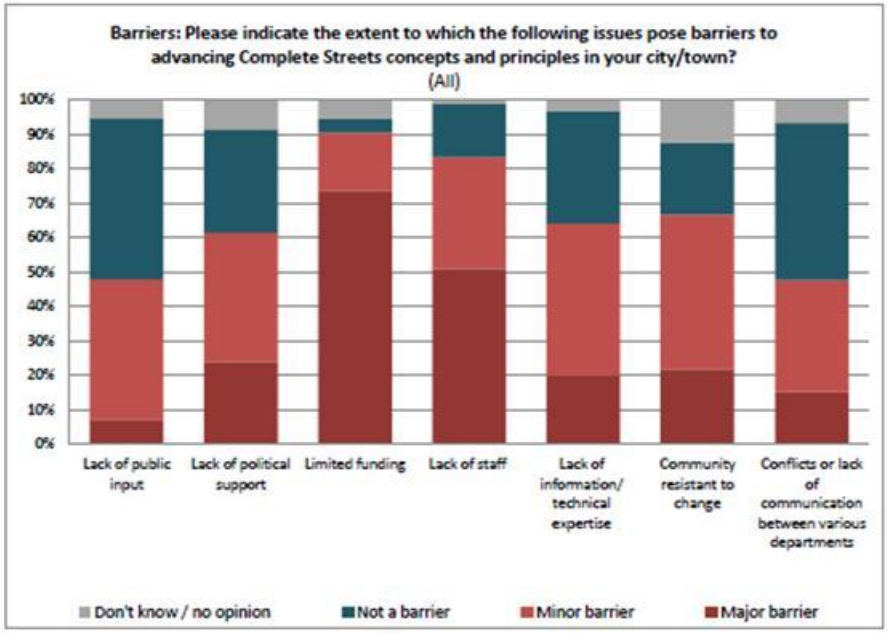

	Lack of public input	Lack of political support	Limited funding	Lack of staff	Lack of information/ technical expertise	Community resistant to change	Conflicts or lack of communication between various departments
Major barrier	7	23	70	49	19	23	16
Minor barrier	39	36	16	31	42	47	34
Not a barrier	45	29	4	15	31	22	48
Don't know / no opinion	5	8	5	1	3	13	7
TOTAL	96	96	95	96	95	105	105

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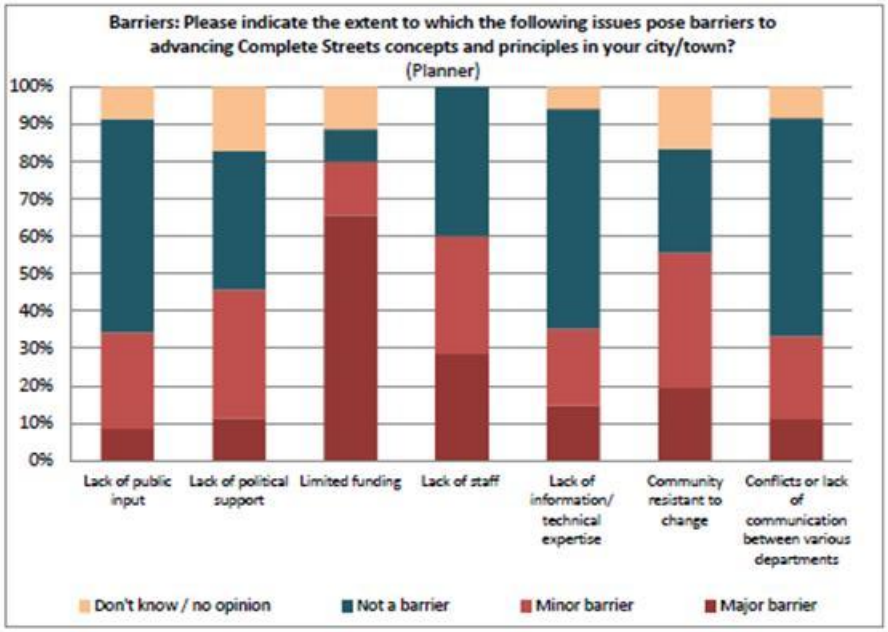

	Lack of public input	Lack of political support	Limited funding	Lack of staff	Lack of information/ technical expertise	Community resistant to change	Conflicts or lack of communication between various departments
Major barrier	3	4	23	10	5	7	4
Minor barrier	9	12	5	11	7	13	8
Not a barrier	20	13	3	14	20	10	21
Don't know / no opinion	3	6	4	0	2	6	3
TOTAL	35	35	35	35	34	36	36

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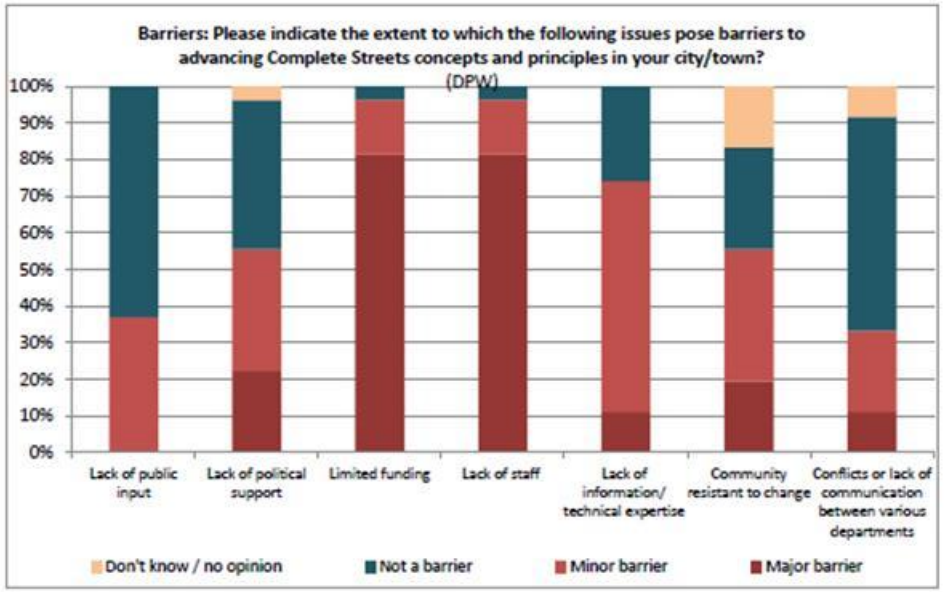

	Lack of public input	Lack of political support	Limited funding	Lack of staff	Lack of information/ technical expertise	Community resistant to change	Conflicts or lack of communication between various departments
Major barrier	0	6	22	22	3	7	4
Minor barrier	10	9	4	4	17	13	8
Not a barrier	17	11	1	1	7	10	21
Don't know / no opinion	0	1	0	0	0	6	3
TOTAL	27	27	27	27	27	36	36

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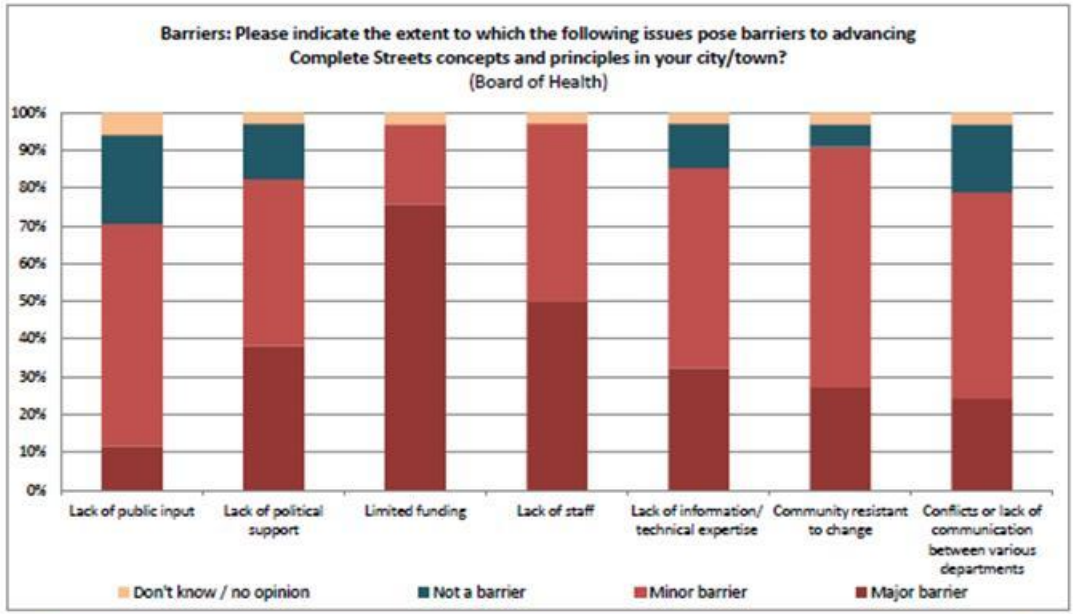
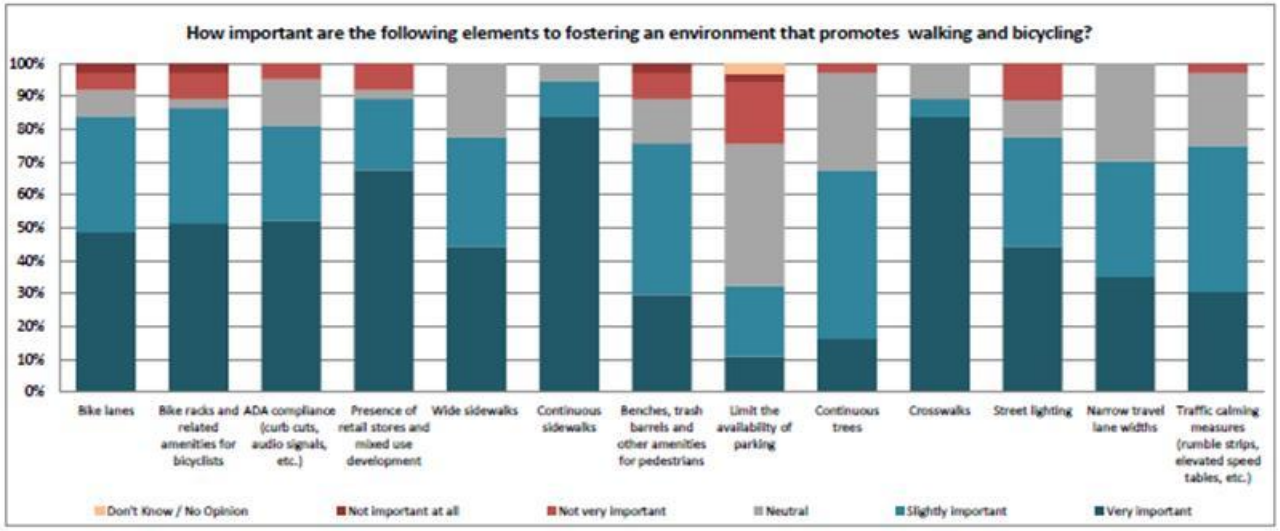


	Lack of public input	Lack of political support	Limited funding	Lack of staff	Lack of information/ technical expertise	Community resistant to change	Conflicts or lack of communication between various departments
Major barrier	4	13	25	17	11	9	8
Minor barrier	20	15	7	16	18	21	18
Not a barrier	8	5	0	0	4	2	6
Don't know / no opinion	2	1	1	1	1	1	1
TOTAL	34	34	33	34	34	33	33

Selected additional responses:

- "Another barrier, which may relate to lack of funding, but is much bigger/broader than that, is lack of right of way width. It is nearly impossible to safely transform an old country lane into a complete street without r.o.w. takings; signage, pavement markings and such only go so far."
- "Like in many suburban towns, public transportation here is limited and often under threat. Narrow rights of way/ physical constraints make it hard to accommodate pedestrians and bikes on a few of our roads. State controls ROW on a portion of one of our main roads."
- "Lack of available right-of-way width often is a major barrier that transcends several of the above categories."
- "Main barriers include insufficient width of right of way to accommodate sidewalks, or presence of wetlands at edge of pavement. Easements or takings of private property to build sidewalks or widen shoulders is costly."
- "A small but vocal group thinks it will worsen traffic congestion for drivers, and opposes it for that reason."
- "...environmental constraints is a very real barrier in suburban communities."
- "[Our town] is primarily a residential community. Our retail area is is comprised of a 1 mile stretch along route 117, limited ROW and the communities wish to maintain its rural character makes full compliance with a complete streets design difficult."
- "Limited right of way width also a major barrier."
- "We can always use more funding, but we have been very fortunate to have our street and sidewalk program funded by both Chapter 90 and city funds."

Supplemental questions to Planning Department:



	Bike lanes	Bike racks and related amenities for bicyclists	ADA compliance	Presence of retail stores and mixed use development	Wide sidewalks	Continuous sidewalks	Benches, trash barrels and other amenities for pedestrians	Limit the availability of parking	Continuous trees	Crosswalks	Street lighting	Narrow travel lane widths	Traffic calming measures
Very important	18	18	23	13	18	24	11	1	4	22	18	3	9
Slightly important	7	10	5	13	11	8	13	14	15	5	8	12	12
Neutral	7	5	4	6	3	1	3	11	11	3	5	10	7
Not very important	0	0	1	1	1	0	3	4	1	0	0	4	4
Not important at all	0	0	0	1	0	0	0	3	2	0	0	1	1
Don't Know / No Opinion	0	0	0	0	1	0	0	1	0	0	0	2	1
TOTAL	32	33	33	34	34	33	30	34	33	30	31	32	34

Selected additional responses:

- "Street lighting should be minimized but should be enough accommodate pedestrian safety. Full cutoff fixtures should be used."
- "Very Important: on-street parking. Bikeways/lanes that are totally separated from automobile travel lanes."
- "Not so much the presence of retail stores is important as the proximity to retail stores or other destinations (transit station, library, church, etc.). Where no proximate destinations, complete streets are still good to have, but priority is lower."
- "We are in the process of a planning effort for our Retail Business area with the vision to accommodate bicycle, pedestrian and vehicular traffic in a manner that is in keeping with Stow's Rural Character."

Do you know of any examples of best practices related to complete streets implementation? Has your town completed any initiatives you believe are indicative of a successful complete streets project? (Free response question)

- "There are many ongoing efforts in Newton related to complete streets, the adoption of a complete streets policy, formation of citizen and staff-driven advisory committees, bicycle and pedestrian coordinators, work on widening sidewalks and allowing for more sidewalk cafes, some narrower travel lanes, some new bike lanes and sharrows, three new Hawk signals and other pedestrian accommodations, planned reconstruction to form more complete streets."
- "Mark Fenton community"
- "Go check out the City of Erlangen, Germany, for bicycle accommodations. The City of Cambridge is making good strides for complete streets - seen it around Inman Square - although sidewalks are too narrow and bumpy (r.o.w. and money constraints I presume)."
- "Route 62 in West Concord gave attention to sidewalks and landscaped shoulders. Lincoln's road repaving project considered needs of various users and landscape concerns. Bedford has made progress in extending sidewalk network. Conceptual designs have been drawn up by consultants for Great Road."
- "Waverly Avenue which is under construction"
- "Vassar Street and Concord Ave are in place; planned projects for Western Avenue and Binney Street - all will have cycle tracks and wide sidewalks"
- "Natick Center"
- "We are in the process of redesigning the streets and sidewalks and amenities in one of our villages as a prototype for other places in town."
- "Paved footpaths (sidewalks and walkways on easements parallel to but separated from existing roadways) have been built by the Town or by land developers in the last 5-10 years where no pedestrian facilities previously existed. These are *not* complete streets, but are a step in that direction."

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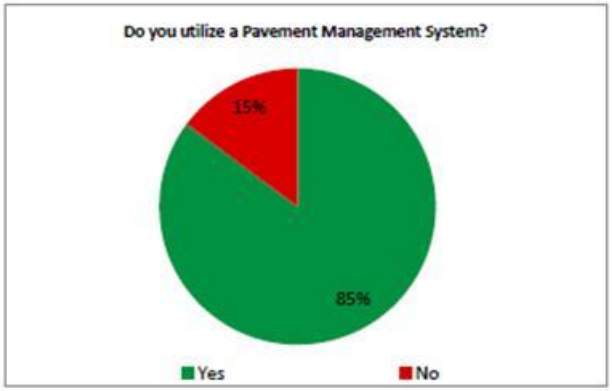
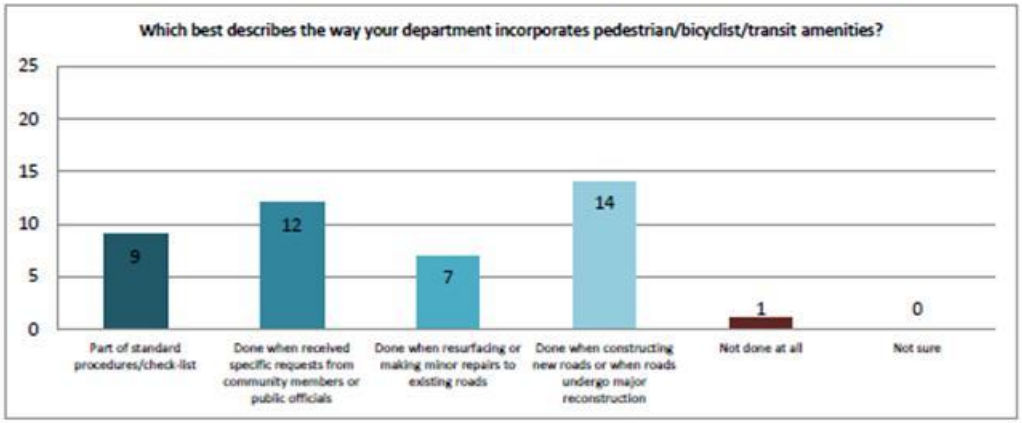
Supplemental questions to DPW:





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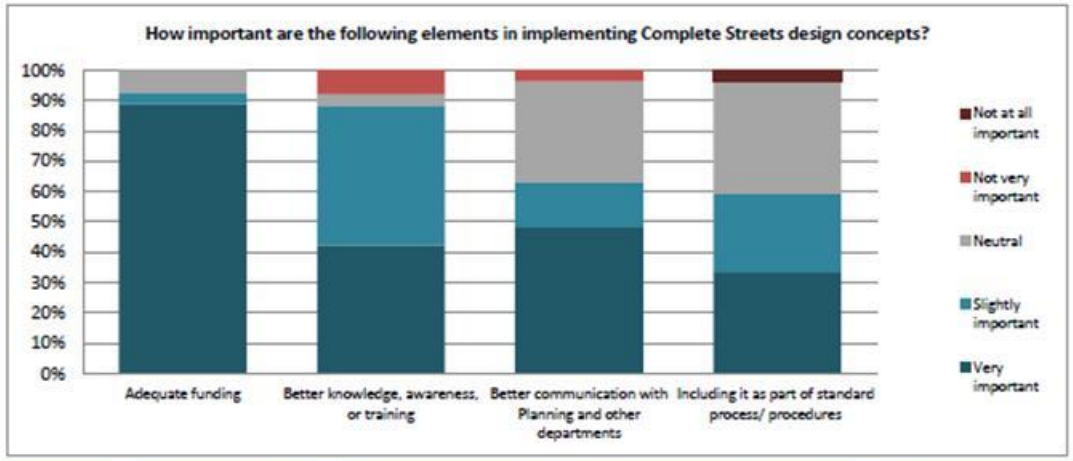

	Adequate funding	Better knowledge, awareness, or training	Better communication with Planning and other departments	Including it as part of standard process/ procedures
Very important	24	11	13	9
Slightly important	1	12	4	7
Neutral	2	1	9	10
Not very important	0	2	1	0
Not at all important	0	0	0	1
TOTAL	27	26	27	27

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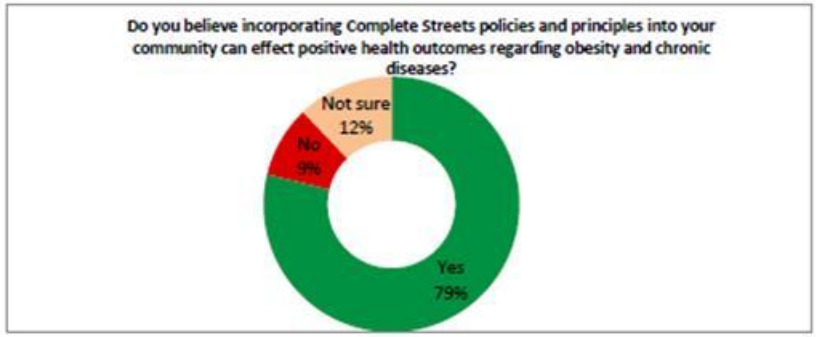
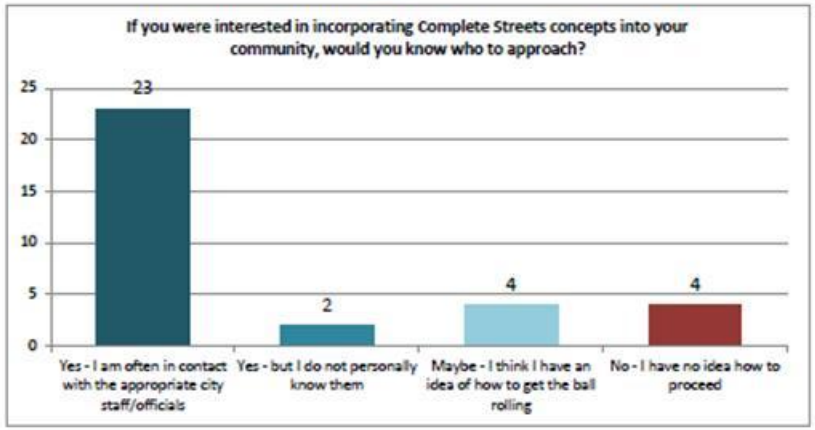
Supplemental questions to Board of Health:





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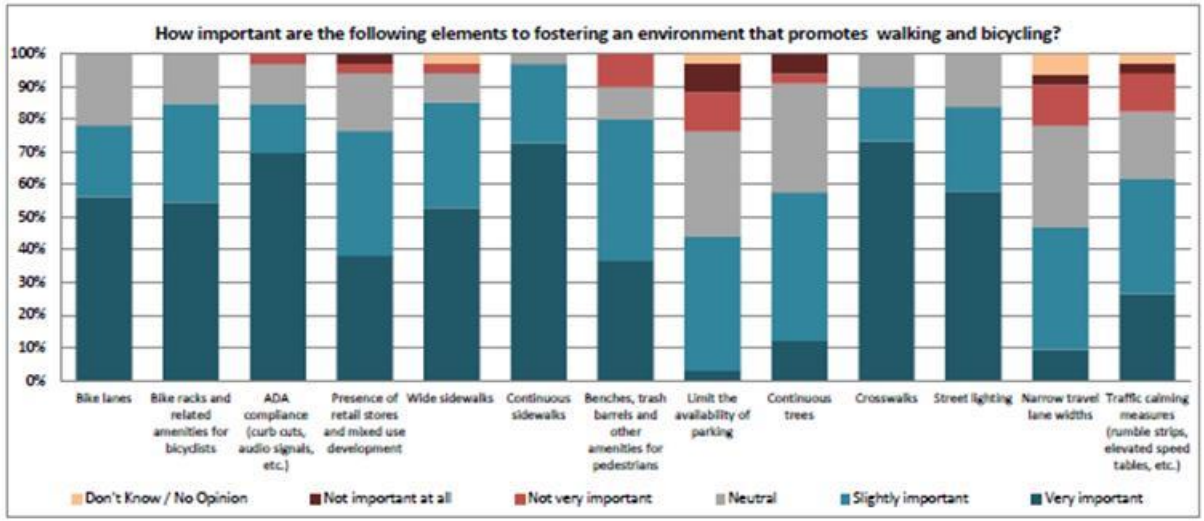

	Bike lanes	Bike racks and related amenities for bicyclists	ADA compliance	Presence of retail stores and mixed use development	Wide sidewalks	Continuous sidewalks	Benches, trash barrels and other amenities for pedestrians	Limit the availability of parking	Continuous trees	Crosswalks	Street lighting	Narrow travel lane widths	Traffic calming measures
Very important	18	18	23	13	18	24	11	1	4	22	18	3	9
Slightly important	7	10	5	13	11	8	13	14	15	5	8	12	12
Neutral	7	5	4	6	3	1	3	11	11	3	5	10	7
Not very important	0	0	1	1	1	0	3	4	1	0	0	4	4
Not important at all	0	0	0	1	0	0	0	3	2	0	0	1	1
Don't Know / No Opinion	0	0	0	0	1	0	0	1	0	0	0	2	1
Total	32	33	33	34	34	33	30	34	33	30	31	32	34

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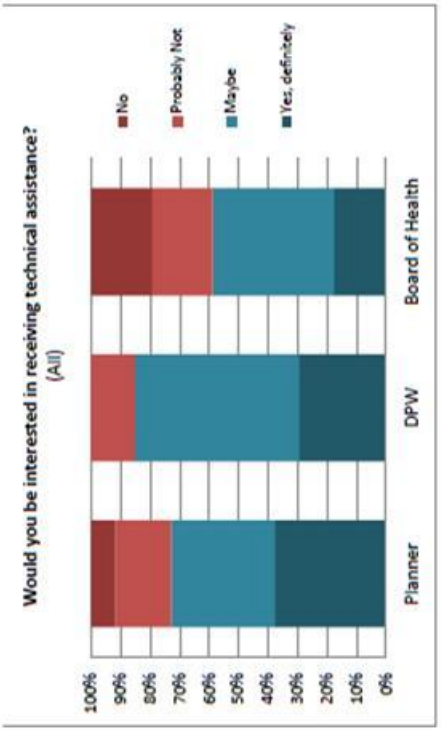
Would you be interested in receiving technical assistance?
(All)
No
Probably Not
Maybe
Yes, definitely
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Planner
DPW
Board of Health

B: Somerville Complete Streets Proposal

CITY OF SOMERVILLE, MASSACHUSETTS
JOSEPH A. CURTATONE
MAYOR

AUGUST 10, 2012

Dear Honorable Board,

With the strong support and partnership of the Somerville Bicycle Committee, I respectfully submit the following ordinance for consideration of the Board to be known as Article VII – Complete Streets Ordinance of Chapter 12 of the Somerville, Massachusetts, Code of Ordinances. This ordinance is part of a policy framework that will provide a comprehensive set of guidelines to design and implement safe, convenient and comfortable routes for walking, bicycling and public transportation that encourage increased use of these modes of transportation in Somerville.

Purpose

As part of our mission to ensure Somerville is a great place to live, work, play, and raise a family, we are also committed to providing safe, convenient modes of transportation for all users. To accomplish this task, design of routes for walking, bicycling and public transportation that encourage increased use of these modes of transportation while decreasing automobile dependency and congestion, enable convenient active transportation as part of daily activities, improve the public welfare by addressing a wide array of health and environmental problems, encourage walkable economic/business development, and meet the needs of all users of streets, including children, older adults and people with disabilities is imperative.

Definition of a Complete Street

The following words and phrases, whenever used in this ordinance shall have the meanings defined in this section unless the context clearly requires otherwise:

"Complete Streets" is the planning, scoping, design, implementation, operation, and maintenance of roads in order to reasonably address the safety and accessibility needs of users of all ages and abilities. Complete Streets considers the needs of motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that Somerville is a dense, urban setting.

"Complete Streets Infrastructure" means physical street features that provide a safe, convenient, or comfortable travel experience for users, supports and encourages non-motorized

CITY HALL • 93 HIGHLAND AVENUE • SOMERVILLE, MASSACHUSETTS 02143
(617) 625-6600 EXT.2509• TTY: (617) 666-0001 • FAX: (617) 625-0722
EMAIL: mglavin@somervillema.gov • www.somervillema.gov

transportation and prioritizes the needs of the most vulnerable users: children, the elderly and persons with disabilities.

Such physical street design features include but are not limited to:

- Pedestrian focused elements: sidewalks; multiuse paths; accessible curb ramps; bulb outs; high-visibility, raised, and/or large width zebra crosswalks and tables; refuge islands; Pedestrian signals, including leading, countdown, and or accessible signals for the blind; improvements that provide ADA (Americans with Disabilities Act) compliant accessibility; improved pedestrian access to transit stops and bus shelters; signage; street furniture
- Bicycle focused elements: conventional and buffered bicycle lanes; cycle tracks; or shared-use lanes when lanes are infeasible; paved shoulders; bicycle parking facilities
- Traffic calming and/or greening elements: street trees and landscaping; planting strips; marked automobile lanes; curbs; modern roundabouts, traffic bumps, raised tables and crosswalks; small turn radius curb geometries; raised medians; surface treatments such as paving blocks, textured asphalt, and concrete
- Transit focused elements: safe and attractive public transportation stops and facilities; transit priority signalization; bus stop curb extensions to prevent obstruction by parked cars; queue jump lanes for buses, and where applicable dedicated transit lanes

"Complete Street Design Guidelines" Guidelines including those outlined by the National Complete Streets Coalition; developed at the state level by Bay State Roads and MassDOT, and at the local level by the Somerville Bicycle Committee Facility Design Guide..

"Street" means any public right of way, including arterials, connectors, alleys, ways, lanes, and roadways by any other designation, as well as bridges, tunnels, and any other portions of the transportation network.

"Street Project" means the construction, reconstruction, retrofit, maintenance, alteration, or repair of any Street, and includes the planning, design, approval, and implementation processes, except that "Street Project" does not include minor routine upkeep such as cleaning, sweeping, mowing, spot repair, or interim measures on detour routes.

PROPOSED ORDINANCE

The ordinance proposed today has a few key features to advance healthy transportation in Somerville. These proposals are based on national and international best practices. Specifically, the ordinance:

1. Adds an Article 7 – Complete Streets Ordinance to Chapter 12 of the Somerville Code of Ordinances.
2. Provides examples of complete streets elements of all scales.
3. Provides detail on how to design and implement these improvements to accomplish "Complete Streets".

CONCLUSION

I hope that the Board of Aldermen will approve this proposal for the addition of an Article VII – Complete Streets Ordinance to Chapter 12 of the Somerville Code of Ordinances to encourage health transportation for all users in Somerville.

Respectfully submitted,

Joseph Curtatone
Mayor

C: An Act Relative to Active Streets and Healthy Communities

HOUSE DOCKET, NO. 1917 FILED ON: 1/17/2013

HOUSE . . . . . No. 3091

The Commonwealth of Massachusetts

PRESENTED BY:

Jason M. Lewis

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the passage of the accompanying:

An Act relative to active streets and healthy communities.

HOUSE DOCKET, NO. 1917 FILED ON: 1/17/2013

HOUSE . . . . . No. 3091

By Mr. Lewis of Winchester, a petition (accompanied by bill, House, No. 3091) of Jason M. Lewis and others relative to establishing an active streets certification program within the Department of Transportation to encourage walking, cycling, and the use of public transportation in municipalities. Transportation.

The Commonwealth of Massachusetts

An Act relative to active streets and healthy communities.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The General Laws as they appear in the official 2010 version are hereby amended by adding the following chapter:-

Chapter 90-I

Section 1. For the purposes of this chapter the following words shall have the following meanings: -

“Department”, the department of transportation.

"Program", the active streets certification program.

"Complete streets", streets that provide accommodations for users of all transportation modes, including but not limited to, walking, cycling, public transportation, automobiles, and freight.

"Certified municipality", a municipality that has been certified by the department as specified in Section 3 of this act.

Section 2. The department shall establish an active streets certification program. The purpose of the program shall be to encourage municipalities to regularly and routinely include complete streets design elements and infrastructure on locally funded roads.

Section 3. To be certified as an active streets community, a municipality, in a city, the mayor or the city manager, and in a town, the board of selectmen, shall: (1) file an application with the department in a form and manner to be prescribed by the department; (2) adopt a complete streets bylaw, ordinance, or administrative policy in a manner which shall be approved by the department including at least one public hearing; such policy shall, at a minimum, identify the body, individual, or entity responsible for carrying out such policies; (3) coordinate with the department to confirm the accuracy of the baseline inventory of pedestrian and bicycle accommodations in order to prioritize projects based on the inventory; (4) identify procedures to follow when conducting municipal road repairs, upgrades, or expansion projects on public rights-of-way to incorporate complete streets elements; (5) confirm the existence of a review process for all private development proposals to ensure complete streets components are incorporated into new construction; and (6) set a municipal goal for an increased mode share for walking, cycling, and public transportation where applicable to be met within five years and develop a program to reach that goal; and (7) submit an annual progress report to the department. Certified municipalities shall be eligible to receive funding as specified in Section 6 of this act.

Section 4. The department shall adopt rules, regulations or guidelines for the administration and enforcement of this chapter, including, but not limited to, establishing applicant selection criteria, funding priority, application forms and procedures, and other requirements.

Section 5. There shall be an advisory committee to assist the department in developing the rules, regulations or guidelines for the program, including the development of a model complete streets bylaw or ordinance. The advisory committee shall comprise representatives appointed by the Metropolitan Area Planning Council, the Massachusetts Association of Regional Planning Agencies, the Massachusetts Department of Public Health, the Massachusetts Municipal Association, the Massachusetts Bicycle Coalition, WalkBoston, and the Livable Streets Alliance, and the Massachusetts Association of Chambers of Commerce Executives.

Section 6. Capital Funding

To provide for an active streets certification program for municipalities subject to the conditions specified in Section 3 of this act, funds are hereby made available subject to the laws regulating the disbursement of public funds-

1595-xxxx For an active streets certification program as established pursuant to Chapter 90-I of the General Laws, to be disbursed in the form of grants to certified municipalities for complete streets infrastructure and planning, provided that the grants shall be administered by the department…….$10,000,000.

Section 7. The department shall annually, not later than April 1, submit a report detailing the program's progress during the previous calendar year to the clerks of the senate and the house of representatives, the joint committee on transportation, the joint committee on public health, the senate committee on ways and means, and the house committee on ways and means.

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