2017

Reconsidering bus shelters: design interventions for public space

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Reconsidering Bus Shelters:
Design interventions for public space

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April 28, 2017

Senior Thesis

Submitted in partial satisfaction of the requirements
for the Bachelor of Arts in Urban Studies

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Figure 1: Interfaith Towers Bus Stop

This piece of city property is the focus of the following text. Take a good look at it!

Part I: The problem with bus shelters

Not enough people think about bus shelters. They are a basic type of infrastructure, lining bus networks everywhere. It is figuratively impossible to count how many there are because of how standard they have become as fixtures in American cities. They are benign objects, yet they have their own Internet subculture. There have been competitions to find the worst bus stops in America, and there is no shortage of entries.[1] The alternative end of the spectrum has fewer hits. A Google search for the best bus stops mostly reveals advertisements on the sides of standard bus shelters that apply a sort of filter on the given location, but makes no modifications to the structure of the bus stop. The architecture of the bus stop has not been advanced in many years. Its uniformity as a roof-covered street side structure with a few seats is engrained as being necessary and efficient, but does it continue to meet our needs today? This project looks at a location in Poughkeepsie, New York, where that is the case, and asks how the bus shelter could be made better.

The bus shelter discussed in this essay is a simple, three-walled structure (see figure 1). This bus stop will be referred to as the Interfaith Towers stop – its proper name on the city's bus map, which is available online, on the bus, and in city hall. Throughout the essay, the street facing side will be referred to as the front, while the back is closer to the sidewalk. The orientations front and back correspond with the bus stop user, who has only one spatial arrangement option on the interior – that is, to sit in one of three seats on the bench against the back glass wall, looking out toward the street. This configuration is somewhat uncomfortable; it doesn't enable conversation between people who share the small space, and such close proximity to strangers isn't always desirable. There is a small

[1] Angie Schmitt, "It's Time to Vote for the Sorriest Bus Stop in America," StreetsBlogUSA, March 10, 2017.

space available for standing, though it may not even be large enough to fit a single wheelchair. These qualities contribute to the fact that bus shelters are notoriously uncomfortable spaces.

Existing as widely as bus shelters do, they deserve more critical thought. Do bus stops meet the needs of their key users? What is their relationship with people who do not use the bus? Redeveloping the concept of a bus shelter offers an opportunity to reinterpret the experience of the street, removing some of the street's jaded, function oriented design and reintroducing an opportunity to engaging with surroundings. Streetscapes can be exciting to watch, but the configuration of the Interfaith Towers bus stop confines the possibilities of engaging with surroundings or with passersby. With economic upturn, investment enters cities again, and this essay argues that designers should consider the bus stop as a space worthy of such investment, reinvigorating life on streets. The existing bus shelter will be used as a jumping point for a few different discussions, each focusing on possible design intervention routes that explore alternatives to the status quo of bus shelters, all with the interest of ameliorating the experience of riding the bus.

Part II: Theoretical Framework

The bus stop is a waiting space. In a post-modern age, the bus stop is a relic of modernity – an era that often interpreted and produced objects based on utility to society. The bus shelter, reduced through a modern perspective, is an object to be repeatedly used by many people; therefore, it should not be complicated, and is simplified to its barest elements: a seat, and protection from the elements. Even the process is streamlined, as it is built in a distant factory, assembled on site, and has only a single purpose – to serve as a space to wait. Even before its production in the distant factory, very little consideration of the user's desired experience informed the structure. The most modern bus stops today offer LED boards with timetables, easily legible, pertinent information regarding the arrival of the next buses. Some waiting spaces are larger and more open, others lack seating entirely, though they all seek to organize passengers linearly – and this, if nothing else, is a sign of function oriented design—residual modernism. It is natural for form to follow function, but what if the function has changed? In a city like Poughkeepsie, where the city bus runs once hourly, the function requires seating for an hour's wait. The existing form doesn't meet that functional necessity comfortably.

American artists like Edward Hopper and Stephen Shore, both of whom depict modern American scenes, often include just a single person in the scene, looking into the distance, with clear undertones of solitude and tiredness. This is the impression the bus shelter leaves with passersby – it appears to be a tired place. People enter the waiting space and release a large sigh: there's no way to know when the next bus will come, but the decision has been made to not take a car or taxi, but to ride the bus. Having a space designated to those who wait for the bus is an opportunity for empowerment, but the architecture of its current form is humbling, to euphemize its inadequacies. It makes riding

the bus a highly calculated decision: will you enter the bus shelter? What are you doing near the bus shelter if not taking the bus? Its architecture leads to somewhat exclusionary acts, stating that the public infrastructure is exclusively for those who ride the bus; this creates a dichotomy between pedestrian and bus rider when there need not be one. Both people are actors on the sidewalk, but they are separated by architecture. To the pedestrian who walks by, the bus rider appears stagnant while waiting for the bus. More drastic is the comparison to the car driver at a red light, who turns their head to find someone waiting for the bus before carrying on. This speaks to the different levels of engagement invoked when driving, walking, or siting. All have potential to be highly engaged actions, but the current configuration of the bus shelter largely limits engagement when inside.

Minimal architectural effort has been made to increase the comfort or desirability of bus shelters as waiting spaces. This might be for a lack of funding, but urban sociologist and author Mike Davis suggests that such waiting spaces are designed to be uncomfortable in an effort to dissuade the homeless from claiming the space overnight.[2] This is commonly regarded as defensive architecture; the built environment polices human actions through specific design tools. Just how spikes atop light poles prevent birds from resting and potentially leaving droppings, distinct placement of fixtures like space dividing ridges and shallow seats impose a very direct program upon seating structures, promoting short-term use, intentionally making an action like laying down uncomfortable. In figure 2, defensive architecture takes the form of seat separating handrails. This is standard in Poughkeepsie's bus shelters. Nine visits to the Interfaith Towers stop informed the people's complex relationship with the rails among other things. Two users said they generally constrict

[2] Mike Davis, "Fortress L.A." *City of Quartz*, Verso (New York: 2006), 221-263.

comfort, saying it'd be better if it were gone entirely, but another user clearly used it for support when moving from a seated to standing position. The design problem, then, asks how all parties can be satisfied; can a public space be intentionally designed for comfort and ease of movement while conforming to the city's desires? Ideally the city's desires are simply to satisfy the people, but, as Davis suggests, that is not always the case.

Davis links other another control device, the panopticon, to the design of public space. The panopticon is a comprehensive design feature that ensures no angle within the space is out of sight from the public eye. It can serve aesthetics, as it does in modern, open-plan architecture, but it can also enable spaces to be easily patrolled by the police and concerned public, and it is present at the Interfaith Towers bus stop in the form of three glass walls. Must a bus stop make visibility a priority? The bus stops at this location every time it passes by, unlike other stops that require flagging down the driver. The panoptic visibility can be comforting, offering the person knowledge that they can identify threats from any direction, but it is ultimately a control tactic, limiting privacy. The panopticon affects the user's movements through their overt awareness that he or she is in the public eye, and may be under surveillance.[3] The user then feels confined and obligated to meet societal protocols. This exaggerates the inherently public essence of the space – the type of public that is placelessness and isolation as opposed to a vibrant, caring public. This type of panopticon is directional – empowering many to see one, but not one to see many. Sitting in the seat feels as though any action worth watching is in any other direction than the one you're facing. The user watches timetables, if present, or keeps an eye out for the arriving vehicle, because the space offers nothing else. The arriving bus is a security in the otherwise confused space. What would the space be if the bus never arrived again?

[3] Tony Bennett, "The Exhibitionary Complex," New Formations, Vol. 4, 73, 1988, 74.

What if the panopticon were reoriented to empower the person inside of the bus shelter, as opposed to everyone else? Sociologist Tony Bennett writes about the effect of the panopticon in his 1988 essay, *The Exhibitionary Complex*. He considers London's 1851 Crystal Palace an example of this reversal. Built for London's Great Exhibition, the Crystal Palace was designed to feature art, tools, and technological advances of the time. It did so with immense light and visibility, changing the understanding of being in public. "The Panopticon was designed so that everyone could be seen; the Crystal Palace was designed so that everyone could see."[4] While the public tends to move toward surveillance and an all-seeing society in the name of safety, spaces in history have existed where the average user felt empowered through panopticism. If applied to the Interfaith Towers bus stop, the user would experience the opposite of an empty space, one that is filled with everything in sight. Arguably, the three-sided glass structure that exists today has potential to achieve this goal, but other cage-like elements prevent this from being a reality. The inability to move about inside the space is a key element in imposing the panopticon upon the user as opposed to giving them the privilege of panopticism. The design does not offer any space for objects carried other than the person's lap or at their feet – this manifests the negative effects of the panopticon, as the objects become subject to public screening just as the person is. The bus shelter exists as an icon of being in sight, how can this be an advantage?

Control tactics invoke the senses. Light is an influential factor in design of surveyed public spaces. During the daytime, it is accomplished through panoptic space, glass walls that illuminate the space thoroughly. At night, different tactics are used to go the extra mile in the design of the surveillance state. A bus stop near San Diego's courthouse pushes their agenda to dissuade loitering through offensively bright, fluorescent lighting (see figure 3).

[4] Tony Bennett, 78.

The design of the particular bus stop suggests it may be very busy during rush hours, offering a large covered space with no seating at all, just some handrails for leaning, suggesting the space is intended to have short waiting times. After hours, when the bus no longer runs, the bus stop continues to emit a light so bright that it permeates closed eyelids, dissuading anyone from taking shelter beneath its cover overnight. The proximity to police and court establishments nearly assure that the homeless could not rest there, but it also dissuades anyone from spending a moment there. It is a political act to stand beneath it when the bus is not running because it defies the unspoken rules of the space. Illumination is traditionally welcoming and inviting in darkness, but this type of light has ulterior motives; it territorializes public space.

When design responds to fear, spaces become placeless; the design of a space, such as a bus stop, actively seeks to discourage any memorable activity from happening that could turn it into a place. Marc Augé's essay, "Non-Places," engages this concept, using escalator terminals, hotel rooms, and supermarkets as examples of non-places, devoid of distinction. There is a counter culture motion to reclaim such spaces as gathering spaces, begging the initial question, why were they ever intended to be non-places? A key actor in the modernist movement might support the existence of non-places. Le Corbusier is credited with founding international style architecture – the apex of efficiency, stacked floors, fast elevators, and access to the outdoors – you could really have it all. His architectural influence away from distinct individual locations by establishing an easily replicable style might have affected the presence of non-places. Le Corbusier's concept for public housing placed a number of tall housing towers in clusters in large grass areas. Based in the idea that society would progress by living vertically, he could make space for parks – in sight from every window. Unfortunately, his design was proven unsuccessful in

practice. While he sought to remove dark alleys and unpatrolled streets, he instead inspired of entire campuses devoid of life. His large open spaces were criticized as being impractical, inaccessible, and invoking of an uncomfortable sensation, the panopticon.

Urban activist Jane Jacobs is a strong critic of his, and suggested a lively street culture is the safest one, as people will moderate themselves in the shared interest of urban vitality.[5] She believed that social relations are contingent on running into one another, and a great failure of modernist planning was the destruction of spaces for casual encounters, instead replaced with non-places. Streets transformed from places into non-places as the car proliferated. On a small scale, the architecture of bus shelters adopts modernist fears of rowdiness and seeks to reduce such tendencies by ordering people into a non-place structure. This is representative of a past, negative assumption of public. The bus stop has great potential to contribute to Jane Jacobs' public with some modifications to the architecture and programming. The architecture currently ushers people elsewhere, creating an atmosphere of distrust.

The bus shelter occupies valuable space on the street. For pedestrians, it might be the first sign of a running bus system. For decades, the urban public experienced disinvestment. This was in the form of privatization of land and services, and an effect was a halt in efforts to contribute to the pedestrian's street. There are no benches on the street, but bus shelters are present. Bus shelters and street benches differ in concept more than in practice, the underlying difference being the idea that enjoyment is to be separated from productivity. This is an opportunity to ask, today, as investment reenters cities at the level of the pedestrian, we ask, what type of society do we want to live in. How might a structure as regular as the bus shelter be an opportunity to integrate joy into the fabric of society?

[5] Jane Jacobs, *Death and Life of Great American Cities*, Random House (New York: 1961), 9.

Part III: The design process

Overcoming the cannons of panopticism, placelessness, and defensive architecture in bus stop design is a challenge. The challenge is to create a space that presents itself as a comfortable for reading and conversing at any hour of the day without compromising its function as a bus stop. Part of this challenge is debunking the thought that infrastructure is to be used during business hours only. Ideally, the space could serve a function at any hour, even if the role is to simply orient one's direction. The dream for future of bus shelters is for someone waiting for the bus in this space to let a bus or two pass by because they were enjoying the space, but the goal requires significant before it can be actualized.

Luckily, I am not alone in my desire to reinvigorate aspects of the bus system. Poughkeepsie First Ward City Councilman and Head of the Council, Chris Petsas, shares a similar passion for improvements, and suggested that Interfaith Towers Bus Stop be the focus of my work. At the corner of Mansion Street and Washington Street, it is a short walk from the Walkway Over the Hudson. Directly in sight when sitting in the bus shelter is the brutalist style police station attached to City Hall – it is the carport for police, who enter and exit frequently. On another corner in sight is Poughkeepsie's Italian Center, though the building itself is deep in the distance, separated by a large parking lot. The Interfaith Towers bus stop is named for the 12-story senior living complex it primarily services. Mr. Petsas has known this stop to overflow, and, because this bus stop is in his district, he offered to use his powers to help prototype this location for improvements.

I spent nine prolonged visits at the bus stop, about an hour each – sometimes one bus would pass in that time, sometimes two. Conversations with users at the stop revealed both some of the shelter's inadequacies and some key functions. Informal conversations often began with regular riders saying the bus was running late. Each person I saw during

morning hours sat nearest to the eastern window, warmed by rising morning light streaming through the imitation-glass wall. When asked, one rider remarked that warmth is her favorite part about the bus shelter. After asking her what her least favorite part is, she banged her hand on the handrails, saying she didn't like those (see figure 2). Those half-moon handles are critical to the structure of the bench, serving as legs and secondarily defining three seats. The bench takes up most of the space inside the shelter – this is a problem for people who use walkers because there is not enough space for them. Another rider was relatively passionate about the lack of space for standing, but no one complained about the space not meeting its function. The average condition of the bus shelters ranges; a less well maintained bus stop is pictured in figure 4 – the bus stop is just around the corner from Interfaith Towers, serving a different bus line, but appearing exactly the same. It is engrained as serving a utilitarian need, regardless of its condition. Having few direct complaints makes the design challenge even more difficult, and requires multiple iterations of the design thinking and asking for feedback instead of incorporating a list of complaints into neat design solutions. But the greatest take away from visits to the bus stop is the discomfort and sense of being limited in the seat.

My own issue with bus stops is their disregard for surrounding space. This stop is just beside a canopy of trees that glows beautifully in the morning, connected to a large grass lawn maintained by Interfaith Towers (see figure 5). Nothing about the existing space engages with the surrounding beauty, though residents and users of the bus stop mentioned it as one of their favorite parts. A new design would reorient the waiting spaces so these views can be in sight, and not behind the seated person's back. All seats in bus shelters today are designed perpendicular to the direction of travel; the seated traveler uncomfortably turns their head out in front of their body in order to get a clear line of sight

on oncoming traffic. The person then becomes preoccupied with the arriving bus. Tensions feel heightened inside the space when multiple people are waiting, for their primary concern revolves around getting out of the bus shelter. I hope that a design can overcome some of these issues, by alleviating boredom and stress of the non-place.

Feedback from City Councilman Petsas over the course of the project has been generally positive. Mr. Petsas asked for bike racks, additional seating, and the ability to access the space directly from the sidewalk. From his perspective, there is not enough seating, and he has expressed that people with mobility issues have difficulty in the current space – this claim is corroborated by some interactions with people in the shelter. His input is limited but valuable, as he primarily wants the task to be completed in an effort to bring investment and art into his ward of Poughkeepsie. The councilman's wish for direct entrance from the sidewalk, as opposed to entering the closed space from the front is tricky for two reasons: weather, and requirements defined in the Americans with Disabilities Act. Poughkeepsie receives snow and rain, and a space with only one opening is less permeable than one with openings on two sides. From my observations, bus ridership is lower in winter months than summer months, so it is possible that the warmest spaces only need to fit two or three people, while additional covered, semi-protected spaces can offer sanctuary to three or four other people, maximum. The most people I've observed at the Interfaith Towers stop at a single moment was 4 – two people boarding, and two people descending on nice March day. The bus shelter was noticeably incongruent with the program, as the people descending had to walk around it and competing for sidewalk space with the people waiting to board. The energy of the bus heightens to the experience at this location to its peak, and provides good insight to what shape the space could take.

No matter who or how many people use the space, if a passageway is opened up from the back to the front, it must agree with ADA regulation. The Americans with Disabilities Act sets guidelines for spaces intended for public use, notably minimum width requirements for passages, the necessity of ramps when there are stairs, maximum inclines, handrails, and more. The ADA does not provide design solutions; it instead provides the necessary bones for structures. The applicable law in this case is a 32" wide, unobstructed pathway.[6] San Francisco overcame this barrier nicely, creating sleek bus shelters with an entrance from the back and front, sized appropriately to ADA standards while remaining compact enough for the city's sidewalks (see figure 6). Those bus stops are particularly creative, considering the great variety in elevation and slope in the City of San Francisco. The seats are all the same height from the ground, responding as needed to the slope of the notorious hills. A map is provided inside the shelter, and a thin, red LED light runs across the top of the bus stop, providing ample ambient light at night. The seats face outward, highly suitable when located in dense city blocks, but they appear slightly out of place when placed against a park or other opening because, in that moment, the bus shelters stop responding to their surroundings (steep hills and condensed space), and they become seen for the reproduced structure that they are. It may be asking too much for bus stops to be considered individually, but it might be reasonable to ask that bus stops confined spatially (by a building, wall, street, etc.) on both sides be considered differently from bus stops in less confined areas, like the Interfaith Towers stop, located adjacent to an open grass area.

The project sparked an interest broadly in the act of sitting in public. Sitting in a bus stop is a different act from sitting on a park bench because the person in the bus stop has,

[6] Americans With Disabilities Act of 1990. Pub. L. 101-336. 26 July 1990. 104 Stat. 328.

intentionally or inadvertently, positioned his or herself to go elsewhere. Another difference is in the architecture; when a park bench is open and inviting, the bus shelter generally is function oriented. After studying some acts of sitting in public, it seems a key factor is availability – people will sit anywhere that presents itself as comfortable or welcoming. It is likely a city not would want its bus shelters become overcrowd with people lounging when the space is intended for people waiting for the bus, but in some ways, the space fills another void (of a community space) and could still be considered a success. Instead of such a space, Main Street fills this void, and is a hub for strolling and leaning on walls. People are out at all hours, seeking engagement – there should be more places like this. walking slowly across traffic.

One way to gauge people's engagement with place is through the items they carry. In New York City, people have bikes, dogs, books, lunches, and bags. Their legs extend from their seat and rest onto items they carry – the lounge position is key to relaxing in public these days. In Paris' Tuileries Garden, people young and old do the same, sitting their body in a chair and aligning another one for their feet. The ability to move chairs within a designated space requires trust and some policing, but generally empowers people to enjoy the space to the fullest. In Poughkeepsie, people are seen carrying groceries and personal bags, sometimes travelling with children but, typically, they appear alone. There is minimal lounging in Poughkeepsie, and it might be due to a lack of spaces available for the act – this is a problem, especially considering how the bus does not run frequently. The city's bus riders are typically repeat users, aware of the bus schedule – but sometimes the bus does not come, and in those cases, people face long wait times and deserve to sit comfortably. New bus users would have no idea what time the bus arrives, considering that Poughkeepsie does not post the bus schedule near the bus stops. It is in the city's best

interest to ensure that their critical, aging mass of bus users have the amenities needed, and their efforts could lead to more users.

In some public seating structures, it seems that multiple seat heights and multiple seating configurations are ideal. In Cambridge, near the Harvard Yard, long benches are sculpted to fit the body in a variety of positions. Two such structures are seen in figure 7. They can be used from either side for a variety of interests: resting momentarily, to entering a full recline. The goal is for every person to find their most desired seat. The most interesting part is how multiple seating configurations exist within each structure, molding neatly from one configuration into another. This type of structure is interesting for a few reasons, one reason being that I don't consider it a success. Its scale is either too large or two small, or perhaps it is the linear nature of the structure that fails to engage people from multiple angles when using the structure. In comparison to the Interfaith Towers bus stop seating arrangement, the Harvard Yard structure ameliorates the individual experience but not the group experience.

In New York's Cooper Square, another seating structure mistakes itself for a space filler before being a useful object. This structure appears like long steps to nowhere, from the ground level up to an average bench height (see figure 8). In practice, the steps are too low and close together to feel comfortable to the average adult, who only really is drawn to sitting on the top step, and then might not know what to do with their legs. It is forward thinking for two reasons, but only successful for one. Offering multiple levels of seating is pretty neat, but, as mentioned, only the highest level would appeal to most people. It is successful, though, because users of the space could potentially camp out at the site, and set the objects they carry on ledges, as opposed to on the ground. If there were backrests,

shade, and possibly higher seating elevations, people might use this space for long periods of time.

To sum up the design inspiration findings, it seems there is notable discomfort and spatial inefficiency in the current interior configuration of the Interfaith Towers bus shelter. It is questionable whether significantly more seating is needed or not, though fluidity of seating arrangements appears preferable in examples of other seating structures elsewhere. The rigidity of the Interfaith Towers stop does not seem to bother the users, though it seems they would benefit from a convenient space to set down the objects they carry, rather than on the floor. Further issues with the Interfaith Towers stop include the absence of a light, which proves necessary during winter months' early sunsets. Another issue is the absence of a bus schedule in the shelter. These factors could affect the development of the space in a number of directions. There could be infrastructure particular to encouraging a reading lounge, a space to eat lunch, supportive to mobility, and other variations of encouraging the user's choice when inside the space. Bus stops are yet to function like any of the other social seating spaces mentioned, reflecting the present disconnect between spaces for 'business' and 'pleasure,' for lack of a better comparison. The bus stop is one space where design could aid the construction of a multi-purpose recreational space, to be enjoyed on a Sunday afternoon without needing any conversion to acting as a bus stop during rush hour on Monday morning.

Part IV: Reality

The physical dimensions of the Interfaith Towers bus stop are the same as other bus shelters in Poughkeepsie. The dimensions are 4'6" deep, 8'6" long, and 7' tall. It sits on a concrete platform that is 9'6" wide (from sidewalk to curb) and 12'6" long (end to end). The councilman said the space could be extended up to 16' long. Without clear direction, I've inferred some rules as standard – like a 5' setback from the curb and a height minimum of 7', as the current bus shelter has. The location is on a slightly angled slope. The eastern end is at a slightly higher elevation than the western end.

Iterations of drawings and renderings resulted in a concept for the space (see figure 9) The concept seeks to combine use of interior and exterior space, both sheltered and exposed to the elements. If it were created as intended, the seats would be concrete, it would have glass walls, and likely a corrugated metal roof. Though the structure itself is not malleable, it could be used as a meeting place or park bench in addition to clearly being a bus stop. Designed in AutoCAD, the dimensions are scaled to reality. It appears nicely when exported to Adobe Illustrator, where it is superimposed onto a photo of the existing space. Some cut out humans are added for the effect of it being a functional space – but design is an evolution, and never feels quite finished. This iteration of the design succeeds in offering a variety of angles for seating, and it should provide enough protection from wind and precipitation (see figure 10). The goal for this model is to create an object entirely devoid of the previous bus stop.

The concept for the structure has been received well, possibly even lacking in criticism. Peter Barnard, an urban designer at the non-profit Scenic Hudson, provided me with the type of critique I needed on the structure. While I had hoped to offer ample space

for people with limited mobility in my design, Mr. Barnard suggests making that space clearer and more on par with the other types of seats. He informed me that the most current practice in bus shelter construction is making L-shaped configurations, thought to be the most efficient use of materials to the function of warmth – but such a design lacks the social potential this shelter seeks to implement. Additionally, the L-shape organizes people linearly, something this project seeks to do differently. Mr. Barnard commented on the convex shape of the seating – for this shape counters conversation by orienting people away from one another. Instead, a convex structure would turn people inwards, potentially capturing the essence of the renovation's goal.

The critical comments received from Mr. Barnard revealed how uncritical Mr. Petsas' input had been. Mr. Petsas was prepared to break ground, suggesting that anything would be better than the current Interfaith Towers stop – and while supportive, it setback the real timeframe needed to complete such an immense project by providing false hope. Mr. Barnard is friends with Mr. Petsas and says he frequently takes on the role of holding back Mr. Petsas from acting quickly, saying there are rules to be followed. The idea of creating a permanent structure for the public quickly dissipated, as it involves a much longer iterative process of design – which I have begun through this process, but am nowhere near finished. The fact that submitting plans to the city for approval never once came up was the obvious tip off, in retrospect, that this project would not go all the way through in this short time frame, but the critical thought did not end with the termination of a street side structure.

In some ways, the end of prospects for a real structure was the beginning of the more important process – the 'what if' conversations with people in different fields. In many ways, this is where the project began again. How could this structure be the most

sustainable? What if the roof could raise and lower depending on wind and weather, like a sail? What if a rooftop garden grew tomatoes that could be plucked while waiting? What if a compost pile inside the structure provided heating, even if it repelled people from entering? Do people value warmth over smells? What if a musician were stationed permanently inside, catering to the people's wishes? Or perhaps, with the press of a button, the music of local artists would play at a reasonable volume inside? Had I truly anticipated that the structure would not be built, concepts may have been even more abstract from the get-go than the design that I produced.

Part V: Immediate Interventions:

Though the dream of a renovated space for comfortable conversation and casual encounters is lost, there is still room for bus shelter to better fill its role as a bus stop. None of the bus stops in Poughkeepsie have wayfinding tools, such as maps, or information regarding which buses stop at that location or where those buses go. This issue became the focus of the most tangible intervention completed in this project—the implementation of a bus map and schedule (see figures 11 and 12). This simple act aspires to have far reaching repercussions, ideally helping to repopulate the decreasing number of bus users. Introducing information to the bus shelter may not help to the seasoned traveler much, but it might help a visitor to the area. Councilman Petsas helped organize the implementation of the map, allowing use of the city's information on this poster, though the city's map itself is outdated and not of the highest resolution. Though the poster uses the map produced by the city, it introduces additional color by color coordinating the bus schedule times with the color of the bus routes. This scheme could be made more effective through other interventions, such as painting the entire bus shelter to reflect the bus routes that stop there. (Councilman Petsas is very interested in the idea of painting the structure, and it seems likely that more color will be introduced to the structure soon.) Figure 13 displays the informational map and schedule in the bus shelter, along with Councilman Petsas taking a photo of the improvements. He then posted the photo on to his Facebook page, where he received feedback from his constituents about how long overdue such items are, and how proud they are to have him working to improve the system. He proposes that these efforts are representative of longer term solutions.

A secondary implementation that doesn't yet have a proper space in the structure is a 'Take One, Leave One' library. Such libraries are criticized sometimes for being agents of gentrification, attracting a new class of users to the location, but that argument overshadows the value of the shared library space. They are now popular in most cities, sometimes on the main drag of a neighborhood, and hard to find at other times. At a bus shelter, they could provide a space for community fliers in addition to reading material during the different wait times. Unfortunately, there is very confined space for such a library under the cover of the existing bus shelter. The next option is for it to be entirely weather-proof and attached to the exterior of the building – and that is hard to accomplish. Chat Travieso, an artist working in Manhattan's Lower East Side, worked with a community organization to involve children in the process of making and maintaining a shared library. The library he developed is taken down during winter months to preserve the structural integrity – and is repainted before going back out in spring. This type of intervention requires some devotion from the community, and that is tough to ask for but may come naturally. Travieso offers precedence of community members taking action in caring for the library.

Given the difficulties of installing anything permanent, small or large, the most viable direction for the project is a test intervention—a temporary occupation of space to test the viability of this plan. This requires acting with the mindset of tactical urbanism. The design I produced tried to be realistic and reasonable, using real materials like concrete and glass, but I have no background in architecture and don't know how to build a sound structure myself, so whatever I considered realistic or reasonable may not have been. The small amount of funding I've received is going toward a test space, using low cost and possibly borrowed materials. Items purchased so far include a tarp, rope, tape, and a few

poles. The goal is to conduct tests with blocking wind and creating comfortable spaces. This tactical approach seeks to meet the previously described needs of comfort, sanctuary from some weather (or an illusion of a sanctuary for the test), malleability, and also a sense of permanence and anchoring. Vassar students will likely first serve as subjects of this test before implementing the structure in Poughkeepsie for residents to experience. Introducing the structure to residents will require collaboration, attainable through my connection with Councilman Petsas and his relationship with the senior citizen home. Once this is completed, it will hopefully inform the next iteration of the design—more so than any conversation with designers or citizens could.

To conduct this test, there is no need to stay limited to the 14' by 9.5' space, though it will be in mind when creating the spaces. What's most important is creating comfortable nooks or ledges on which people can perch, and observing how they use interact with others in the spaces, as the test will function as a concept for the next design iteration. It's possible that three to four different sets of trials will be needed, if using the same furniture. The test space will seek to provide a comfortable space for a variety of activities that might occur in public, just as the bus stop would – from reading a book or doing homework to having a conversation with someone you'd just run into. This test is as far as the project can go in a reasonable time frame, considering how slowly city processes move. Each iteration, both with strangers and friends, informs the uses of space.

Part VI: Conclusions and Moving Forward:

As of this moment, the bus stop is in the same physical condition as when my project began, with the addition of the bus map. It is possibly a failure on my part to reach the right people and conduct business in a timely fashion, but it is possibly representative of something else. My primary collaborator, Mr. Petsas, was certainly influential in moving the project forward. Meanwhile, he has been fighting a battle on behalf of the City of Poughkeepsie against Dutchess County Transit to maintain operation of the city's bus system. Multiple rallies have taken place before important votes at city hall, determining the future of the city bus system. The most recent vote, on April 19, 2017, was in support of funding the city bus until January 2018, but the mayor vetoed the council's vote two days later. The last budget produced by the city only funds bus operation until July 2017, at which point Dutchess County Transit modify their operations to support the city. Dutchess Country Transit has already begun planning routes and has purchased two additional buses in preparation for this expansion. Having worked exclusively with Mr. Petsas for the majority of my time on this project somewhat blindsided me when I learned that the bus system may be entirely void in just a few months.

This administration's mayor, Robert G. Rolison, is credited by some for caring about transit even more than the previous administration, and sees the move toward the county bus system as productive, because they have access to larger funding pools. While the county hasn't yet released their plans for bus operation within the city, it is likely that service will continue to the Interfaith Towers stop, though not certain at the moment. Dutchess County Transit regularly operates bus service until midnight – this is a great extension of the city's regular bus operation hours, which end at 7pm on the latest running route, and as early as 4pm on other routes. Unless dramatic change occurs, bus operation

will be turned over to Dutchess County Transit - at that point, there will be a crucial campaign to help the elderly adapt to the renovated service. At that point, information must be visibly posted, along with infrastructure for night lighting, considering the extended hours of service.

The largest bus stop in the city today is at Main & Market, Downtown Poughkeepsie, where a small depot has taken form. Multiple bus shelters, just the same as the one at Interfaith Towers, line the space – but a noted difference is a timetable board. Dutchess County Transit has a very good handle on technology, including a mobile application called DutchessTrack. The app pinpoints where individual buses are along their regular routes, and shares information as detailed as next arrival time and how full the bus is – this information is updated as people board and descend the bus. Considering the LED timetable at Main & Market, there is potential for more such information to make its way into Poughkeepsie if the county takes over service. Infrastructure like the existing bus shelters will likely be used, as they are valuable capital and part of many people's regular transportation experiences, so Dutchess County Transit will likely soon ask how to adapt existing infrastructure meet to their needs.

The urban environment is the primary space that humans occupy today, for worse or for better. We continue to encroach upon the countryside and blur the line between urban and non-urban, and we seek access easily between the two. Further thought has to go into endless American expansion for a number of reasons – and one area that continually needs improvement nationally is access to transportation. The greatest weight of this falls on individual cities, who may share best practices among one another – but what their practices could be improved? Architecture, like so many fields, is a space where renovation can aid and abet revolution – even though, in the case of this bus stop, the fire

under serious change isn't quite lit yet. Things are the way they are because of previous decisions, so it is fair to assume that more decisions are needed to advance the conditions in which we live. I am glad to have chosen to study something as benign as the bus shelter for the opportunity to tune my eye to something with such far reaches.

Catalog of Images

Figure 2: Interfaith Towers Bus Shelter Seat and Handrails – people report discomfort in the seats

Figure 3: San Diego Bus Shelter emits this offensively bright light at night (nothing else in the area is as bright)

Figure 4 : Average Quality of Poughkeepsie City Bus Shelter

Figure 5: Interfaith Towers Bus Stop Location in Fall

Figure 6: San Francisco Bus Shelter – responding to the slope of a hill

Figure 7: Seating in Harvard Square – can be approached and used from any angle and serve comfort differently.

Figure 8: Seating in Cooper Square, NYC – only the highest level is in use.

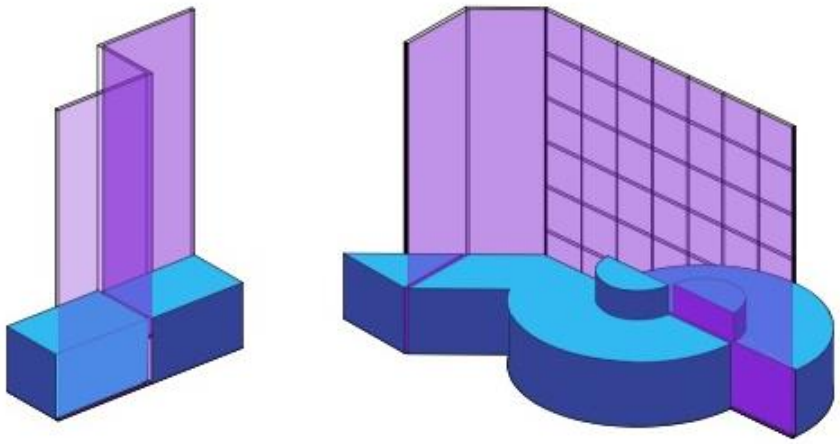


Figure 9: Concept for a Bus Shelter

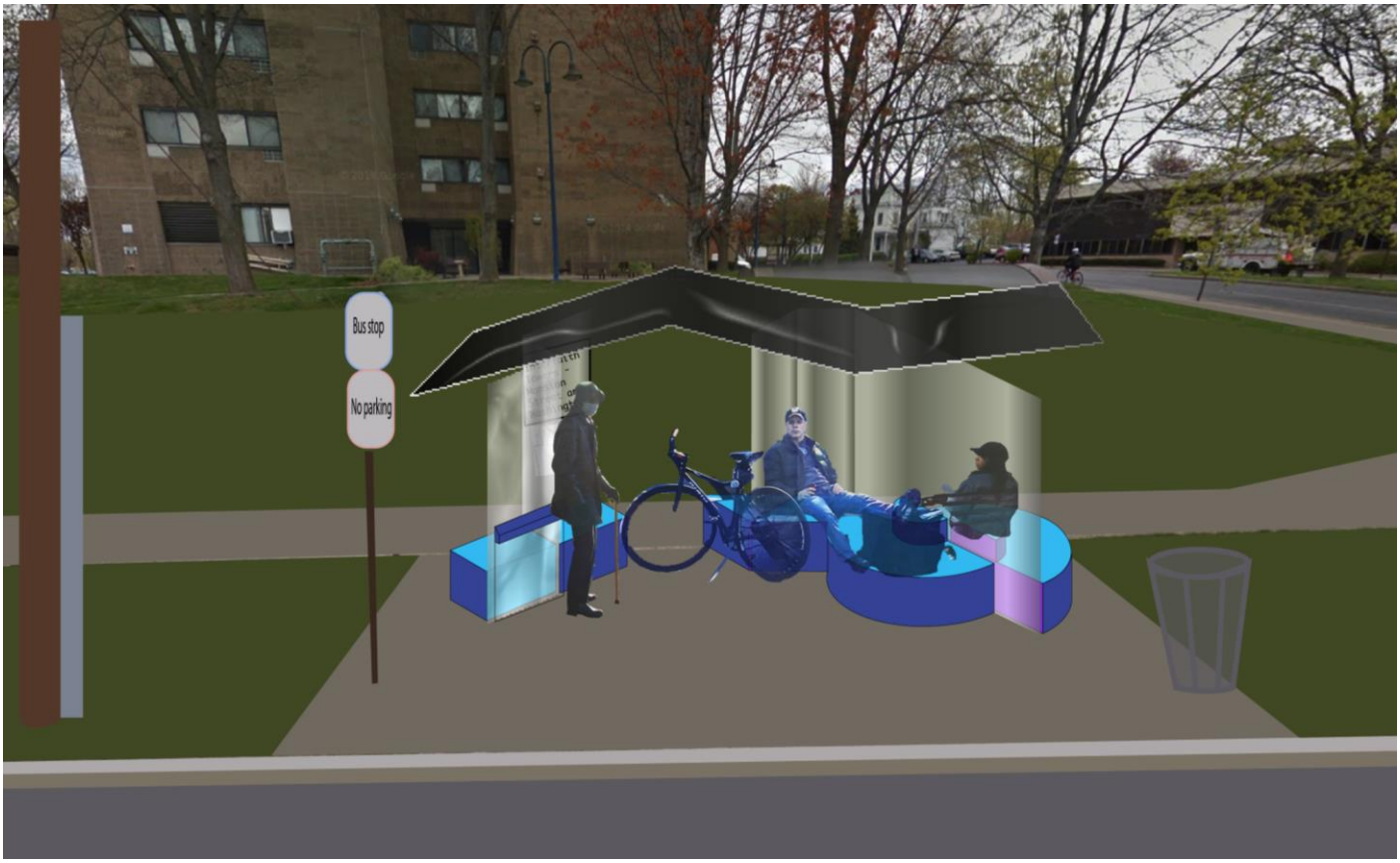
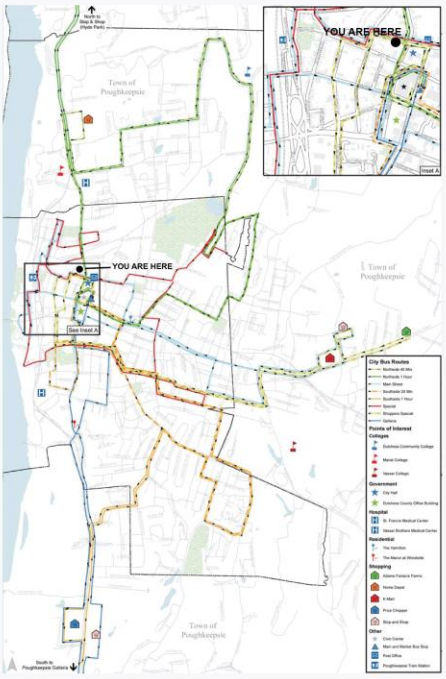


Figure 10: Concept for Bus Shelter in front of Interfaith Towers

INTERFAITH TOWERS BUS STOP

SHOPPERS SPECIAL BUS ROUTE
SERVICE MONDAY THROUGH FRIDAY

MAIN & MARKET	9:30	10:30	11:30	12:30	1:30	2:30	3:30	4:30
INTERFAITH TOWERS	9:32	10:32	11:32	12:32	1:32	2:32	3:32	4:32
POUGHKEEPSIE TRAIN STATION	9:35	10:35	11:35	12:35	1:35	2:35	3:35	4:35
ADMIRAL HALSEY APTS	9:37	10:37	11:37	12:37	1:37	2:37	3:37	4:37
MAIN & CHERRY	9:40	10:40	11:40	12:40	1:40	2:40	3:40	4:40
S. CHERRY & FORBUS	9:42	10:42	11:42	12:42	1:42	2:42	3:42	4:42
POUGHKEEPSIE HIGH SCHOOL	9:43	10:43	11:43	12:43	1:43	2:43	3:43	4:43
RAYMOND & FULTON	9:45	10:45	11:45	12:45	1:45	2:45	3:45	4:45
RAYMOND & MAIN	9:47	10:47	11:47	12:47	1:47	2:47	3:47	4:47
ADAMS	9:52	10:52	11:52	12:52	1:52			
STOP & SHOP	9:55	10:55	11:55	12:55	1:55	2:55	3:55	4:55
K-MART	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00
VASSAR COLLEGE	10:05	11:05	12:05	1:05	2:05	3:05	4:05	5:05
RAYMOND & COLLEGEVIEW	10:06	11:06	12:06	1:06	2:06	3:06	4:06	5:06
POUGHKEEPSIE HIGH SCHOOL	10:09	11:09	12:09	1:09	2:09	3:09	4:09	5:09
FORBUS & SOUTH CHERRY	10:11	11:11	12:11	1:11	2:11	3:11	4:11	5:11
N. CHERRY & MAIN	10:13	11:13	12:13	1:13	2:13	3:13	4:13	5:13
HAMILTON & THOMPSON	10:16	11:16	12:16	1:16	2:16	3:16	4:16	5:16
INTERFAITH TOWERS	10:18	11:18	12:18	1:18	2:18	3:18	4:18	5:18
POUGHKEEPSIE TRAIN STATION	10:21	11:21	12:21	1:21	2:21	3:21	4:21	5:21
MAIN & MARKET	10:26	11:27	12:27	1:27	2:27	3:27	4:27	5:27



MAIN STREET BUS ROUTE **(BOLD TIMES NO SERVICE SATURDAY)**
SERVICE MONDAY THROUGH SATURDAY

VASSAR COLLEGE (RAYMOND & FULTON)	6:25	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	**3:25**	**4:35**	**5:35**
DOCTOR'S PARK	6:27	7:27	8:27	9:27	10:27	11:27	12:27	1:27	2:27	**3:27**	**4:37**	**5:37**
WORRALL & MAIN	6:30	7:30	8:30	9:30	10:30	11:30	12:30	1:30	2:30	**3:30**	**4:40**	**5:40**
MAPLEWOOD APTS	6:35		8:35		10:35		12:35		2:35		**4:45**	
CORLIES & FLANERIE		7:35		9:35		11:35		1:35		**3:35**		**5:45**
CIVIC CENTER PLAZA & MANSION	6:45	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	**3:45**	**4:55**	**5:55**
INTERFAITH TOWERS (MUST REQUEST STOP)	6:45	7:45	8:45	9:45	10:45	11:45	12:45	1:45	2:45	**3:45**	**4:55**	**5:55**
TALMADGE & HOFFMAN	6:47	7:47	8:47	9:47	10:47	11:47	12:47	1:47	2:47	**3:47**	**4:57**	**5:57**
DELAFIELD & HOFFMAN	6:48	7:48	8:48	9:48	10:48	11:48	12:48	1:48	2:48	**3:48**	**4:58**	**5:58**
POUGHKEEPSIE RAILROAD STATION	6:51	7:51	8:51	9:51	10:51	11:51	12:51	1:51	2:51	**3:51**	**5:01**	**6:01**
RIP VAN WINKLE APTS	6:52	7:52	8:52	9:52	10:52	11:52	12:52	1:52	2:52	**3:52**	**5:02**	**6:02**
GERALD DR.	6:53	7:53	8:53	9:53	10:53	11:53	12:53	1:53	2:53	**3:53**	**5:03**	**6:03**
ADMIRAL HALSEY APTS	6:55	7:55	8:55	9:55	10:55	11:55	12:55	1:55	2:55	**3:55**	**5:05**	**6:05**
MAIN & MARKET	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	**4:00**	**5:10**	**6:10**
CANNON & ACADEMY	7:03	8:03	9:03	10:03	11:03	12:03	1:03	2:03	3:03	**4:03**	**5:13**	**6:13**
HAMILTON & MAIN	7:06	8:06	9:06	10:06	11:06	12:06	1:06	2:06	3:06	**4:06**	**5:16**	**6:16**
MAIN & NO. CHERRY	7:10	8:10	9:10	10:10	11:10	12:10	1:10	2:10	3:10	**4:10**	**5:20**	**6:20**
RITE-AID	7:13	8:13	9:13	10:13	11:13	12:13	1:13	2:13	3:13	**4:13**	**5:23**	**6:23**
UNO'S	7:15	8:15	9:15	10:15	11:15	12:15	1:15	2:15	3:15	**4:15**	**5:25**	**6:25**
STOP & SHOP	7:18	8:18	9:18	10:18	11:18	12:18	1:18	2:18	3:18	**4:18**	**5:28**	**6:28**
K-MART	7:20	8:20	9:20	10:20	11:20	12:20	1:20	2:20	**3:20**	**4:30**	**5:30**	**6:30**
RAYMOND & MAIN	7:22	8:22	9:22	10:22	11:22	12:22	1:22	2:22	**3:22**	**4:32**	**5:32**	
VASSAR COLLEGE (RAYMOND & FULTON)	7:25	8:25	9:25	10:25	11:25	12:25	1:25	2:25	**3:25**	**4:35**	**5:35**	

CITY OF POUGHKEEPSIE

FOR BUS INFO CALL: (845) 451-4118

Figure 11: Side A. Prototype Bus Schedule and Map for Interfaith Towers

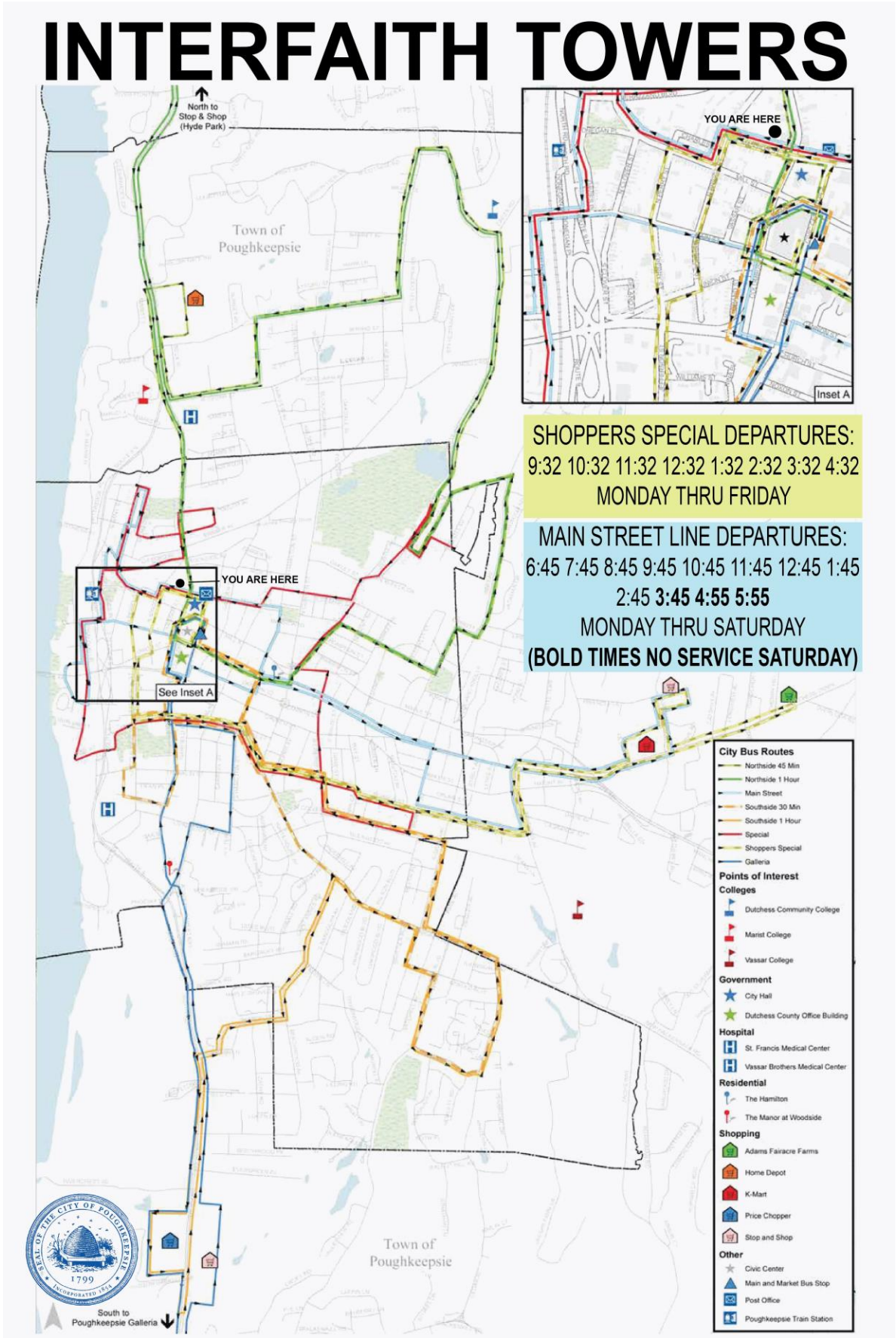


Figure 12: Side B.. Prototype Bus Schedule and Map for Interfaith Towers

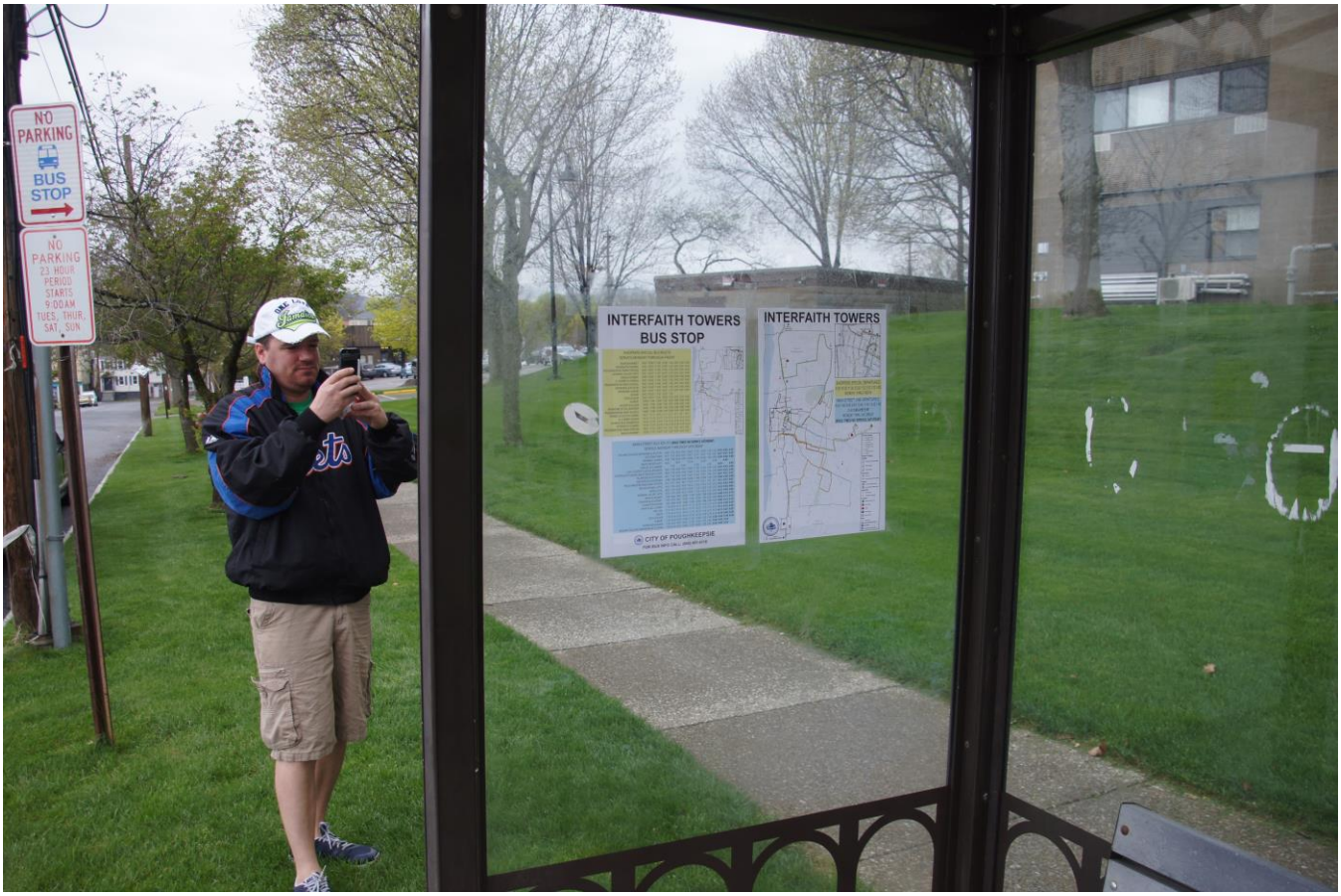


Figure 13: Councilman Petsas taking a photo of the information in the Interfaith Towers Bus Shelter

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