Urban [Virtual] Morphologies

Urban [Virtual] Morphologies

By Robyn Gibson

Acknowledgements

Abstract

An investigation into the nature of public space in the North American city, this research seeks establish a more appropriate approach to a complex situation. Due to the manner in which North America has developed, true public space is superseded by the dominance of the automobile and private commercial interests. When this condition is tempered with the proliferation of ICTs and internet technology issues of private and public inhabitation become paradoxical. As a result of this study a new navigational system and series of interventions are proposed. These interventions are offered as only one of an incalculable set of possibilities and hope to generate further dialogue.

TABLE OF CONTENTS

INTRODUCTION

Figure 1 –WiFi Geosimulation map generated by Dr. Paul Torrens working out of the School of Geographical Sciences at Arizona State University
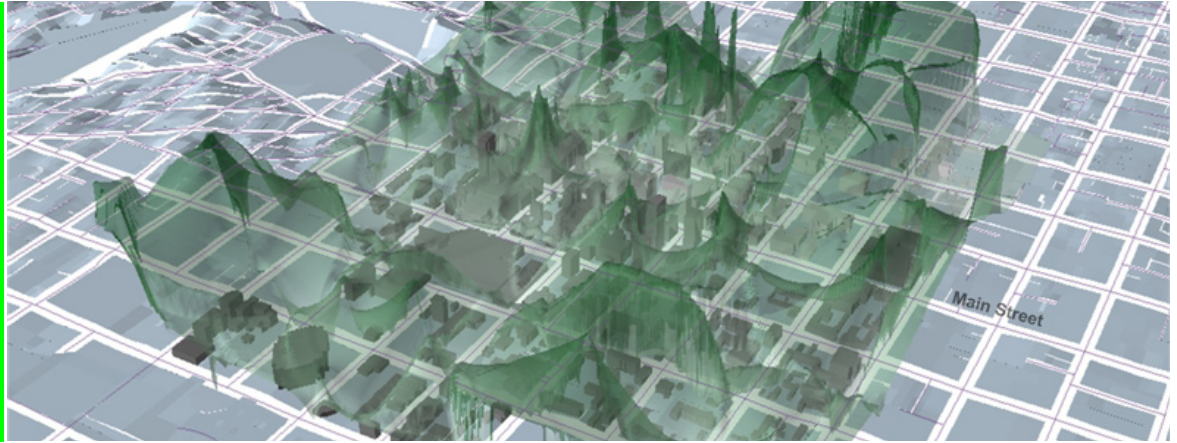
At the out set of this process even the thought of what has become the final product would not have only been unthinkable, but still may be possibly a lot of people's worst nightmare.

At the out set of this process even the thought of what has become the final product would not have only been unthinkable, but still may be possibly a lot of people's worst nightmare. This has truly been an iterative process; one that often moved laterally, if not backwards. It is with caution, conviction that this design thesis is put forth.

One of the initial intentions is to investigate the presence of true public space in a North American context, (which includes Canada and United States). The position is taken that the idealistic and somewhat nostalgic archetype of the European plaza or square, being a product of culture and use, has never existed in the North American context. Stemming from notions of the 'New World'

and coupled with the injection of the automobile onto the landscape and into the city, North America is entirely another animal. Constant insecurities associated with the expectations of a fresh start and the self imposed 'new kid on the block syndrome' has caused North America to often dawn ill fitting styles and contrived ideologies in hopes of appearing mature beyond its years; a practice which has ultimately resulted in the unfounded insertion of civic gestures into the most important urban hubs and, more critically, the blind acceptance of this practice as an appropriate way of dealing with public spaces.

The internet could easily be argued as one of the greatest impacting advancement in human history. Given

this consideration, the unquestioning manner in which we voraciously consume any and all new online developments is surprising and even frightening. Some twenty years after the internet's introduction into the mainstream, most North American urbanites are fully immersed and equipped for both professional and personal purposes. Theorists and writers often use metaphors referring to the virtual city, the online community; paralleling organisational strategies (see figure 1). A few of the more obvious translations into the physical would include message boards, chat rooms and Social Networking Services (SNSs) as public spaces. Armed with little to no understanding of the social norms and parameters in these pseudo spaces, the participant is often left grappling with

6

an entirely new and somewhat counter-intuitive social code. As a simple extension of internet, cell phone technology has made mobile what was once only available through a stationary, or at least cumbersome, piece of hardware. The ability to talk, text, message, search, surf, upload instantaneously from anywhere in most major cities greatly alters social perceptions and what we understand as public space.

This re-evaluated notion of public space is tempered by the current technologies that dominate North American culture. If the argument is that North America is lacking true representation of public space, what happens to this non-public space when the proliferation of Information Communication Technologies (ICTs) is considered? Cell phones now offer everything from cameras and music to internet connectivity. Cities are marketing themselves as seamlessly connected with Wireless Fidelity (WiFi) and Wireless Personal Area Networks (WPANs), features that are quickly becoming an economic necessity for any global business centre. Aside from economics, the social implications are paramount; the ability to be present yet absent anywhere within an urban environment has a great impact on social interaction. The lines between what is considered public and private are blurred; private conversations are held over the phone in the check out line at the grocery store. What would have been once considered embarrassing is suddenly a common occurrence.

In trying to understand the nature of the virtual notions of public and private space should come into questioned. In the case of primarily home based online activities, the private environment quickly becomes public when posted. Participation, whether it is as an anonymous guest or as a full fledged member, becomes archived and accessible to anyone that happens upon the virtual site. Dependent on the level of participation, ones most private thoughts, their daily routine, their spending habits, and images of all shapes and sizes become publicly available. Many are comfortable with this information being public. However it is also becoming increasingly common for participants to limit availability of their personal information to chosen viewers for privacy sake. Often the after thought of an all too easy and poorly thought out mouse click, participants may

find themselves regretting some of the decisions they have made. The proliferation of SNSs and the almost reckless abandon with which certain participants upload information has caused academic, professional and judiciary institutions to pass judgement upon numerous individuals. These considerations make their way into the realm of physical public space with the presence of the mobile technology. In addition to consideration of appropriate cell phone use, there is also the more recent texting, game-playing, photographing and uploading of images now common in public spaces. A development that may prove to be more impacting than the public display of private affairs is the private, or often covert actions now made available in public spaces. The complexities abound with rarely enough time to digest, let alone understand the innovations we are integrating into our lives.

The result of the investigation into North American public space and the proliferation of ICTs within them is a new form of social engagement which has evolved out of these conditions. Influenced by Steven Graham writings on ICTs and furthered by his suggestion of researching the term locative media, this new from of public space is the focus. ICTs are developed by privately owned corporations whose decisions may have little to do with any design acumen or broad social benefit. Largely based on short term economic gain and integral to subsequent decisions regarding the locations of business and residential communities, cities are being 'planned' in the absence of the designer. The integration of ICTs into design thinking is critical to the creation of relevance social spaces. Locative media, an extension of webart and installation art, is engaging in an ongoing dialogue about the negative and positive opportunities this technology avails us.

Primarily found in the art world, locative media is the use of Global Positioning Systems (GPS) and other locative technologies to create interactive and often animated interventions. Many of these interventions are associated with urban space and the relationships between the inhabitant, the physical space, and this new virtual realm. Often charged with political undertones, many of the installations advocate for the taking back of the city and the continual questioning of the role of technology in our lives.

This research made apparent many new opportunities with new forms of cultural information in need of interpretation. The re-appropriation of digital media or of previously un-associated electronic entities is complex, current and thesis worthy in and of itself. There are countless websites, experiments, projects and installations. Within this body of research, however, it became clear that this burgeoning art form is mainly just that; art. There are few examples with any permanent considerations. Though many posed a variety of new social interactions, the interactions with the formal qualities of the given environments were limited and often superficial. The act of walking and the renaissance of the derive is a common theme, but again more as a one off novelty than as the introduction of a whole new navigational system. It is the intent of this work to combine the idea of the cell phone and the compass to concieve of a device that will allow for a modern form of navigation, connecting clusters of activity. This means in synthesising the virtual and the physical, a city wide database will be employed in concert with a device to locate other people relative to location and based on interest. If this new navigational system is to do away with traditional cartography, a new landmarking

Figure 2 - The Khronos Projector, developed by Alvaro Cassinelli woking with Ishikawa Namiki Komuro Laboratory, Deptartment of Information Physics and Computing at the University of Tokyo, allows the participant to have a tangile relationship with an image as it changes in representation based on phyical interaction.

system must also be devised. If the city is hardwired with interventions; electronic cues either privately or publicly displayed, then geographic location and navigation of the city becomes completely personalised and relative.

The modern day ritual of searching out a stronger cell phone signal can be paralleled to the ancient practice of navigation. The cell phone has replaced the compass on various levels; aside from the more glib signal searching reference, most cell phones are now equipped with GPS and internet connectivity. The cell phone becomes the locator, the map, the social connector; it offers an integrated relationship with yourself and your related technologies. The phone in terms of navigation has in effect made cartography unnecessary and obsolete. What if we were to embrace this by product and re-envision the way in which cities are designed? Further to this, considering the disposable nature in which North America operates there is little value in building permanent functions or landmarks into the city. If function and navigation can be considered through an electronic signal the need for permanent physical manifestations can be superseded.

This approach is based in the understanding that along with the loss of many traditional institutions and the rise of the globalization comes the inability to provide society with a common set of references. Understanding ones environment has become a solely personal endeavor and should be allowed to express itself as such. However, this expression will need to be facilitated within the city, given a canvas and context through which to be voiced. A series of potential scenarios in an urban context are explored as a way to understand what relationships might develop as a result of this new navigational system (see figure 2). While this system is envisioned as being relevant in any North American city, a local site was selected for accessibility and ease. The Exchange District, in Winnipeg, is well known for its cultural activities. Being that it was built in the late 1800's, early 1900's it has a human scale and pedestrian quality. It is thought that, idealistically, the combination of personalisation and social interaction offered by the proposed navigational system will give a sense of ownership and pride to the participant creating a new

form of civility and humanising the virtual experience. The deliberate choice of location is based on the increased opportunities it offers for coincidental interaction based on similar interest. Though the parameters and the platform have been provided the manifestations are ultimately left up to that participant. That being said, the Exchange District is investigated with both traditional and more contemporary methods; site inventory and analysis are performed and recorded. Digital and electronic entities are considered and mapped out in terms of the physical site. Specific public space morphologies are established based on form and use.

Though the navigational system may be transferable, its manifestation is absolutely physically specific. It is not the intent of this approach to homogenize the urban experience, but to allow for fluid integration of any installation into its environment. The digital medium provides opportunities never before seen; animated, easily adaptable and ubiquitous in nature, they hold the potential to be perfectly suited to the context. These predominate public space morphologies and are paired with locative media precedents in hopes of sorting out which interventions were appropriate in each condition. Being that the intent is not to redesign or intervene in the present use of the existing physical site, but to acknowledge and enhance that use, it is important that these public space morphologies be respected as integral parts of a dynamic city regardless of the moral or social implications they may hold.

Based on spatial analysis four distinct spaces can be defined. Each of these spaces is further considered in terms of function. Four public space morphologies Closed Sets. Open Fields, Through Fares and Public Site are then established. In the initial synthesis, locative media installations are paired with morphology to explore the potential of these relationships. The possibilities of each intervention are endless; given that even with the morphology being defined and a format set the individual expressions of the participant will greatly alter the experience of the space. It is understood that to dictate too much of this experience disables the participant the opportunity for ownership. It is also understood that to provide standardised canvases upon which these expressions are displayed may read as poorly considered. However, it was decided to approach these interventions as more of an experiment than a design exercise. The variables are limited to gain a greater understanding of the implications of each separate intervention. Each morphology, considered in terms of its physical

formal qualities, function and use, is assigned a virtual parallel. These qualities are then thought of in spatial and temporal terms in hopes of teasing out the nature of the interventions. Each intervention then seeks to link its virtual expression to the physical and visa versa while validating the current function of the physical site.

The interventions are largely image based for a number of reasons, but, primarily because it is the predominate medium of the culture. Though all of the senses are certainly still present and active in contemporary society, representation in the form of image is certainly dominant. Many forms of information exchange employ the image as the prime commununicator. From schematics and diagrams to advertisements and art, the image is still the most powerful mode of communication. Personal image or corporate image, it has become the measure by which we value people and things.

It is not the intent of this approach to homogenize the urban experience, but to allow for fluid integration of any installation into its environment.

With the advent of personalisation comes self promotion. In this image savvy environment we are all capable of spinning our own personalities. With given digital technology as an image making tool this ability is increased and the audience is expanded. We are able to take those images and associate slogans to our being in hopes of either establishing our true character, or creating a new one. The conversion of an online image into the physical realm creates an interesting scenario that could be played out in the city. Other reasons for preferencing the image are the continued recognition that this endeavor is to acknowledge current societal trends not to introduce others and the desire to limit the given variables. The nature of each intervention is related to the spatial and temporal conditions of both the physical and virtual expression. While all use the image, the timing, materiality and flexibility of each intervention is inherently linked to its physical and virtual contexts. Again, ultimately hoping to create a personal relation between the city and the participant while humanising the virtual.

As these interventions play out, some rather controversial scenarios are highlighted. These situations exist beyond this research. The public space morphologies discovered exist in the here and now; they are part of the functioning city and will continue to operate so long as society deems it tolerable. The virtual associations are drawn from the most

current online developments, much of which is commonly accepted without question. We practice a 'don't ask and I won't tell' sort of mentality. One in which personal choice and convenience supersedes collective good and mutual benefit. While often fully aware of the varying questionable activities going on around us, we choose to remain blissfully ignorant basking in the immediate gratification that defines our time. While the work may display an acceptance of this technology as a vehicle for personal expression in an urban context, at a much deeper level it is intended to make transparent the implications of society's unquestioning integration of ICTs and internet related technologies. If one agrees that North American has developed in the absence of true public space and that the alienating, counter-intuitive, incomprehensibly fast moving nature of ICTs are impacting social interaction drastically, then the question of our direction becomes crucial. The scenarios presented are intended to generate discussion and a critical evaluation of how, where and when we use these technologies (see figure 3). At present North America is frightenly close to the realisation of a completely commercialised urban environment. The virtual realm has afforded society the tools to market themselves; to reroute all that commercialisation.
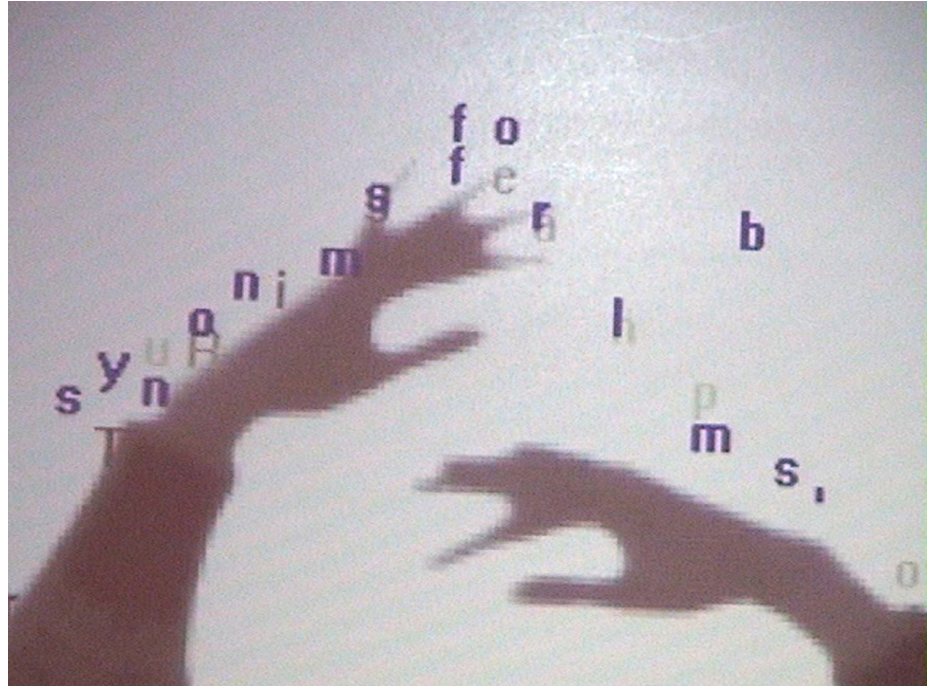

Figure 3 - Camille Utterback is a pioneering media artist that is working in the realm of interactive installation. Her project Text Rain creates an interactive relationship in which letters that seemingly fall from the sky collect on the image of the participant. This is type of experimentation is what will ultimately advocated by this work.

Part 1 – The Public Void

"... on a whole we Americans are poor at handling city neighbourhoods, as can be seen by the long accumulations of failures in our great grey belt on the one hand, and by the Turfs of rebuilt city in the other hand." (Jacobs 1961: 112)

The investigation of the presence of public space in the North American context is the first iteration of the study. This is approached with the definite bias that it does not in fact exist and never truly has. There is much written about the unique case of North America. The manner in which the continent was founded and built has a substantial impact on the development of its cities. The insertion of European forms and mentalities into a completely other world only disabled North America from finding its own forms of public space; a struggle that has manifested itself in many ways. The transfer of traditional definitions and methodologies has also proven problematic to the development of a relevant public space; people do not use or regard space unilaterally around the world (see figure 4). The breakdown of integral systems of organisation and belief had a dismantling affect on the common set of references that made cities and space legible. This unity of commonalities was never a part of the North American ideal; in fact it has always been the celebration of diversity or the melting pot that has defined the composition of the continent (constantly melding and re-forming). Not having the opportunity to develop the character or infrastructure that is present in European models; the impact of the corporate culture and privatisation of space on the form of North American cities is much greater. It is from here that the questioning of current/traditional methodologies is based and a more contextualised approach to design in the North American city is offered. "The devices in civic design that had adorned Europe - derived chiefly from the notion that the space between the buildings was as important as the buildings themselves – did not jibe with American property-ownership traditions, which put little value in the public realm." (Kunstler 1993: 39) "... on a whole we Americans are poor at handling city neighbourhoods, as can be seen by the long accumulations of failures in our great grey belt on the one hand, and by the Turfs of rebuilt city in the other hand." (Jacobs 1961: 112) "In such cities one sees buildings and cars, but very few people, if any, because pedestrian traffic is more or less impossible and because conditions for outdoor stays in the public areas near buildings are very poor. Outdoor spaces are large

and impersonal. With great distances in the urban plan, there is nothing much to experience outdoors, and the few activities that do take place are spread out in time and space. Under these conditions most residents prefer to remain indoors in front of the television or on their balcony, or in other comparable private spaces." (Gehl 2001: 33). "...pedestrian traffic has been made impossible or superfluous, and many of the activities traditionally tied to foot traffic in public spaces have disappeared completely. Public life in public places is gone." (Gehl and Gemzoe 2000: 16) With just a fraction of the writings and theory on North American public space the disconnect becomes evident. We could take this argument even further by investigating the accuracy by which the European public space is interpreted; is it more a romantic notion than a practical finding? Were not those spaces also subject to the political climate of the day and restrictive in nature? This study will assume a genuine public experience in the European model, at least when compared to that of North America.

The re-embodiment of a played out over populated Europe, North America promised to offer a clean slate, a fresh start. Rich with open wilderness and resources North America became the palate for the utopian theories born of the Industrial Revolution. The literal implementation of Ebenezer Howard's Garden City has proven to define the North American city so strongly that it still drives notions of suburban development today (Jacobs 1961). The ideals of Eden and Arcadia were hopefully directed towards the New World, setting North America up for what would be a hard and still strongly denied fall (Epp 1992, Kunstler 1993). The vastness of North America allowed each new arrival his/her own parcel of land; a luxury that the European counterparts could not afford. This opportunity was coupled with the difficulty of the wild environment. Breaking land was no easy task and many did not survive the elements. If North America was to deliver on the promises of paradise it would need to entice more labour. The guarantee of land and opportunity was marketed to would be settlers as a way of recruiting labour. This guarantee has proven integral to the North American way of thinking as we still feel it is a right, not a privilege to own land. In modern day thinking this mentality translates into the American Dream of a house in the suburbs with a tree swing and a white picket fence. Space and an opportunistic mentality have helped to preference private ownership over mutually beneficial public space. In European models the limited living space made the public square or plaza a necessity to sane and healthy living. This has not translated to the North American condition (Kunstler 1993) .If these are some of the foundations upon

which North America is built it is easy to imagine what the advent of the car would bring.

In the midst of these complexities urban planners, theorist, politicians and entrepreneurs were looking towards how to design, craft and form the growing North American city. Ultimately it was the politician in tandem with the entrepreneur that truly formed the North American city, however it is important to note how the practice of design and planning developed during this process (Jacobs 1961, Kunstler 1993). Though there would have been multiple schools of thought on how to proceed, two primarily prevailed. The ideal of Modernism, which will be expanded upon later, and the traditional methodologies that were based in a well founded and established European model. This is not to say that all of Europe has been designed with the absolute same approach and theory, but that commonalities of function, use and terminology were assumed. Particularly the assumptions of what kinds of activates certain spaces house. "Although the pattern of usage has varied in the course of history, despite differences, subtle or otherwise, public space has always served as a meeting place, market space and traffic place." (Gehl and Gemzoe 2000: 10) Historically one would have used the public traffic space to move to the public meeting/market space in the form of a plaza or square. We can look at the form of typical city in North American and find an abundance of traffic space and the required quotas of plazas or squares. This would imply plenty of public space has been made available to the cities' inhabitants. The difficultly then lies in the way these traditional spaces operate in the North American context. "...there has never been simple public space in Western society." (Dodge and Kitchin 2001: 20) The definition of public space has become skewed. Private corporations have become responsible for providing what was once civic space. The marketplace had been replaced by the shopping centre. (Castells 2004; Dodge and Kitchin 2001; Gehl and Gemzoe 2000; Mulder 2002) .The North American traffic space has little relationship to that of the European model, dominated by the automobile this space is an oxymoron. "...although the motor car was the quintessentially private instrument, its owners had to operate over public space." (Kenneth Jackson in Kunstler 1993: 90). While it can be argued that the street is still a public space, one only has to walk or ride a bike down a freeway void of sidewalks and filled with road rage to truly address any confusion. Oddly enough this devaluation of public space has been occurring in synch with the rise of Modernism and the Machine Age.

Touted as providing freedom, the cars impact on North American space cannot be overstated. Developed in the infancy of the continent, the car is probably the single most influential component in the design of not only North American cities, but the continent as a whole. The ability to

cover long distances in relatively little time completely overshadowed any preference to the pedestrian. In what would have been the end of the Industrial Revolution, the Machine Age brought about a line of thinking quite different from that of the utopians previously mentioned. Modernism, the celebration of human accomplishment; introduces ideals that would quickly replace the now seemingly archaic thinking of the 19th century. Embracing technology and exposing its workings became the prevailing aesthetic. Spearheaded by Le Corbusier , Villa Radiuse could be regarded as a manifesto of the modern city and once again , was played out in the North American cityscape. The high rise surrounded by unpopulated fields of green has become a common sight in the North American city (see figure 5). A 'Modern' way of living, this model has forgone the pedestrian quality of the street, the human scale of three story buildings and any notions of inhabitable public space for what proved to be the downfall of the North American city; 'man' in all his glory manifest into a vertical expression of dominance (Jacobs 1961, Kunstler 1993). Much of the Swiss Architect Le Corbusier's thinking was greatly influenced by the car; many of his residential designs carefully housed the car, giving it the same importance as the inhabitant. There were other expressions of the car and the freedom it availed; Frank Lloyd Wright's Broad Acre City was a more contextual and futuristic expression. Furthering the suburban dream, one could now effectively work in the city and reside in the country.

Fresh off the heels of two world wars North America was in the unique position to have profited from the war but not suffered any of the destruction seen in Europe .The gas and car companies saw an opportunity to push the marketing of the suburbs to those returning from the war as their due reward for defending democracy. The government offered reduced
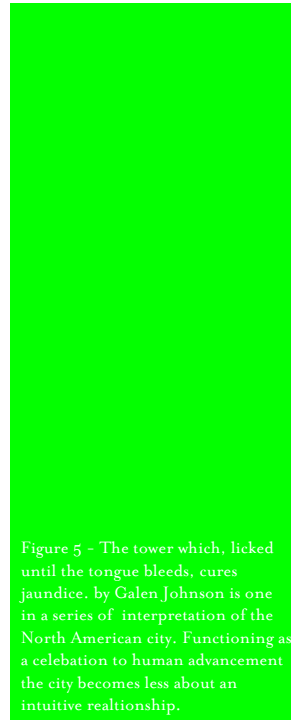

Figure 5 - The tower which, licked until the tongue bleeds, cures jaundice. by Galen Johnson is one in a series of interpretation of the North American city. Functioning as a celebation to human advancement the city becomes less about an intuitive realtionship.

rates to veterans, ensuring the consequent purchase of a car and the fuel required to live in these neighbourhoods (Kunstler 1993). This not only dictated the manner in which all of North America would subsequently be planned and built but reinforcing the North American right to own land and, now, a car. This path has moved North America further and further from any notions of public space. The preferencing of the car and the infrastructure required to support has created an irresolvable disconnection between the vehicular and pedestrian realms. Except for in the novelty cases of quaint café and boutique laden neighbourhoods, the two realms want to exist separately as to live out the nature of their being. A car is made to go fast, to express power and personal freedom , it does not want to be

compressed and restricted to a restrained environment counter-intuitive to its function. The same is true for the pedestrian, however being that the pedestrian can easily become, and is socially and commercially encouraged to become the driver, there is no need to remain in this foreign environment. The majority of North American inhabitants do not even question the formal and spatial implication of the car, and the only expression of moral accountability is being directed solely at fossil fuel consumption. This is, of course, a step in the right direction, but it hardly addresses the centuries of movement away from a North American expression of true public space. This journey has been sold to us as our right and duty as New Worlders and it is a journey that the Modern North American has wholly

embraced.

In this same prevailing spirit of the New World, the vast and varying ethnographic and religious backgrounds of the North American immigrant were encouraged to be discarded for their new identity. While not explicitly required to give up their belief systems, they were expected to adopt those of their new home. This new home and its inhabitants were subject to many of the same uncertainties. Being simultaneously constructed through a series of different methods brought from diverse bodies of knowledge such as the imported Palladian architecture as interpreted by Thomas Jefferson or the enlisting of Pierre Charles L'Enfant, a French architect, to plan the Haussmanesque capital city, North America was developing a conflicting piecemeal of styles comprised of countless architectural expressions. Though there were some burgeoning American Architects who were working toward a regional style, namely Frank Lloyd Wright's predecessor Louis Sullivan, the North American insecurities prevailed and came to a head during the 1898 World's Fair in Chicago. Now on display for the entire world to see, the fledgling continent struggled to put on a united front. Forgoing the works of such pivotal architects as Sullivan, Chicago turned to Daniel Burnham and followed the European cues by adopting the Beaux Arts style as the supposed North American aesthetic (Jacobs 1961). This Neo-Classical style of architecture soon appeared in every city, all important civic and financial building resembled a Greek temple as North America strived to prove to the world that it was successful and sophisticated. Absent to these cities however, was the social and cultural context from with the style was appropriated.

In this diverse and somewhat unstable situation there is a definite challenge in providing a commonly understood spatial and formal language. Aside from the political and social implications of urban space, wayfinding is another important factor. In the traditional European model, established before the overwhelming dominance of the automobile, many of the directions and cues are intuitively based (Cullen 1971, Gehl 2001, Lynch 1960, Tuan 1977). Inherently linked to the way in which the pedestrian moves and perceives, to the sight lines available and to the social and cultural codes that enable the participant to read their environment, a traveller would be able to move through a city with an understanding of where to find the city centre or how to locate a point of contact or who to talk to for employment. In the North American context the insertion of these public forms without the social and cultural functions only discounts them as a method of navigation. What a European immigrant might recognise as a public plaza and a space where all of the cities core activities should converge becomes an empty gesture and translates into confusion and frustration for the inhabitant. To add to this confusion the temporary, disposable and opportunistic nature with which North America both builds and inhabits spaces furthers this plight. While many of the Neo-Classical buildings earlier mentioned may still exist, they house entirely different functions; what was once a bank is a dance club; the church is a contemporary dance studio. The Modern day buildings have an expected life span of ten years are often wholly practical, void of any aesthetic quality and turned over at an alarming rate. There is no guarantee of what might inhabit a location at any one time. It becomes abundantly clear how any form of intuitive knowledge of the North American city is almost impossible. There are many theories, methodologies, and proposed design schemes for the North American city, they range from the traditional nostalgic to the post modern or the deconstructivist abandonment of a classical approach. However if they have not considered the impact of ICTs on our perceptions and social interaction, these approaches are lacking.
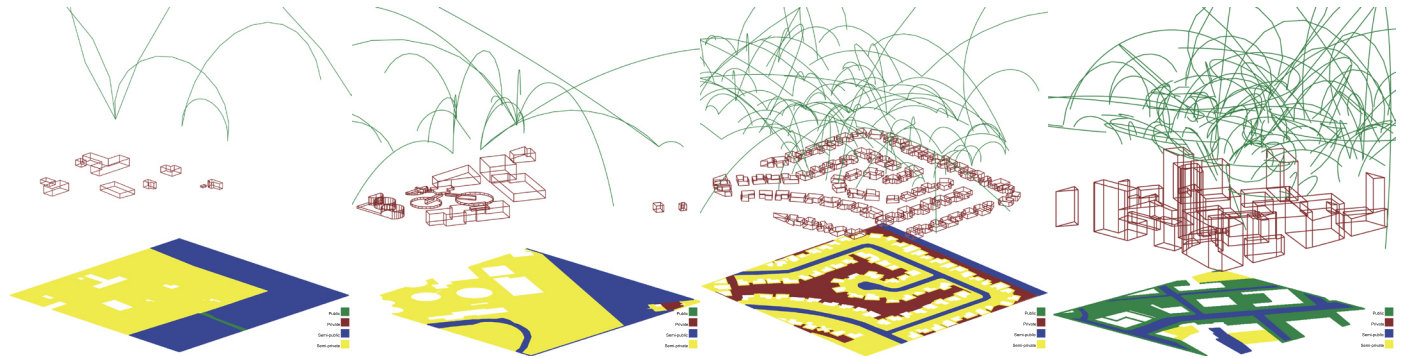
THE 4th DIMENSION

Before discussing how ICTs are impacting public space, it is important to establish what is meant by the fourth dimension. In simple terms it is cyberspace, the virtual environment that most of North America frequents multiple times a day. What is not as simple is how this environment is changing the way we live and perceive; the information, images and interaction available to us instantaneously has impacts beyond our ability of comprehension. Often compared to the physical city, the internet has been placed with the printing press or even fire as one of the most influential inventions in human history. The form of the city has become driven by the ability to connect; aside from the psychological and physiological necessities for location of a business or residence, connection is now often understood as the level of electronic connectivity and available bandwidth (see figure 6). The rate at which this technology is developing and consumed is creating great intragenerational gaps. Those having their first online experience after developing initial personal understandings of social codes and norms may find it difficult to understand those practised online. Others of the present generation are developing with this technology and are accustomed to moving between the situations with their unique social expectations. Before the advent of the mobile phone or the laptop computer, much of the online activity took place in private environments creating a certain level of estrangement from the often public nature of the virtual site being visited. As opposed to certain hopes of moving beyond the physical body, there was, and still is a prevailing desire to identify oneself with a physical entity, be it real or fantasy based. The collapsing of geographical space and social networks has completely rearranged our way of understanding our environments. With mobile technologies we are now in multiple locations at one time, we inhabit public and private spaces simultaneously, we expect instantaneous responses and results. There still exists a certain level of disconnection that leaves many either embracing the technology or rejecting it.

The parallels in the organisation of virtual and physical space speak

to the human need to order their environment; this boundless, uncontained collection of bits is continually given physical parameters in attempts to grasp some level of understanding. There are e-communities connected by information highways with simulated cities and virtual chat rooms (Mitchell 1995, Dodge and Kitchin 2001). Regardless of the frequent claims of disembodiment and the ultimate realisation of transcending from the restrictions of the body, participants are associating themselves with physical places, descriptions of their physical self and images that give form to their virtual being. The inherent inability for the participant to touch, walk around and relate the virtual to their own physical being greatly disables any real understanding of this environment (Boler, 2007, Dreyfus 2001, Toffler 1971, 1980, Tuan 1977, Virilio 1991). "Lacking a systematic framework for understanding

This puts society in an awkward and compromising position; being that the this technology has already been accepted and integrated into the North American lifestyle, there is really no choice but to assimilate.

the clash of forces in today's world, we are like a ships crew, trapped in a storm and trying to navigate between dangerous reefs without compass or chart. In a culture of warring specialisms, drowned in fragmented data and fine-toothed analysis, synthesis is not merely useful - it is crucial." (Toffler 1980: 18) The directionless and counter-intuitive nature of cyberspace coupled with the unprecedented volume of data makes it extremely difficult to navigate. This puts society in an awkward and compromising position; being that the this technology has already been accepted and integrated into the North American lifestyle, there is really no choice but to assimilate. This notion sounds far simpler than it is; "An authentic sense of place involves a sense of belonging, an inauthentic the converse... spatial mobility undermines the authentic place making, leading to the creation of places we have casual and superficial involvement with." (Dodge and Kitchin 2001: 16). More than creating

a location or destination, place contains social cues; we understand what is appropriate behaviour based on the inherent qualities of the space and the way other inhabitants are using it (Harrison and Dourish 1996, Bigge, 2006, boyd 2006, Shane, 2001, Dodge and Kitchin 2001 Tuan 1977). It is the removal of the geographic and physical substance of place that also removes the social code, means of understanding and the means to proceed, leaving many overwhelmed and disturbed by their online experiences.

Often referred to as the information glut, the internet has made available insurmountable amounts of data and stimuli, much of which is uncensored, unevaluated and held to no moral or academic code. This situation brings with it a few considerations, it can be difficult to find what you might be looking for, what you do find you often have no way of verifying and the shear volume can be intimidating and disabling (Dreyfus 2001). This poses the question that if understanding is required for knowledge and the glut is counter productive to that understanding, does the internet provide knowledge or simply data? As mentioned, much of this data is unsubstantiated or speculatory in nature, however the more frequently it appears and the more it appeals the more likely we are to think its true. "There is no skill set available to read the images [and data] delivered amid the glut of stimuli. With no code of interpretation all messages are not only non sequential but also non sequitur. They exist in a vacuum to be interpreted by the individual receiving the message. Worse they can be selectively ignored by that same individual. Add the personal online experience and the vacuum expands. Self-interpretation becomes self-absorption." (Shane, 2001: 35) This estrangement from geographic space and overwhelming mass of data has created an intragenerational gap in both the way we process information and in the way we socialise. "Perhaps what distinguishes cyberspace and in particular the internet has been the speed of diffusion and growth; it is widely acknowledged that the World Wide Web is the fastest growing communication medium in history." (Dodge and Kitchin 2001: 6). The pace at which this technology advances disallows the digestion and

comprehension of one development before the next one has come along. In an effort to keep up and remain current we are jumping from one version to the next continually upgrading what we do not know needs fixing. Already highly estranged from the workings of this technology, we put blind faith in that the system knows what is best for us and unquestioningly follow the tide; assuming that this form of knowledge is privileged to the scientist or the theorist (Virilio, 1991). Beyond the nature of the medium itself the content is also riddled with confusions and contradictions. "Because consumers have access to such an enormous welter of information on demand any time day or night, they have illusion of control over their collection of knowledge. Closer study shows that all that is being controlled is time and attention, which disconnects people who think they're being connected." (Shane, 2001: 100). As we continue to buy into the myth of connectivity we become conversely disconnected to our immediate physical and social environments. Noted as contributing to the breakdown of the family unit, the increased focus on individualism and self absorption; the resultant false sense of community and connectedness is causing participants to turn to online sources and confidants in working out personal issues while increases intolerance to those outside their own particular situations (Virilio, 1997, boyd 2007, Shane 2001, Bigge 2006, Boler 2007). Given this ever increasing gap it is clear why avid onliners might turn to each other in search of understanding and companionship; it is also evident why neo-luddites might reject the technology as a whole. The question then becomes: how does this change in social behaviour effect the development of social urban spaces?

Despite the issues of assimilation and comprehension, the instantaneous nature of information exchange drastically changed the workings of North American's personal and business dealings. "ICTs destruction of space and time, it is argued, is revolutionising how business is conducted, transforming patterns of work, and leading to significant levels of urban-regional restructuring. ...Further, there is evidence that urban areas are to try and gain competitive advantage through cyberspace, and some sections of industry are decentralising to the suburbs and even other areas/countries to take advantage of cheaper rents and skilled workforces, while remaining in constantly and instantaneous contact via ICT's." (Dodge and Kitchin 2001: 14). Touted to shorten the work week; to allow for working from home; creating greater social ties to your friends and family, the internet is a revolutionary new tool and is now integrated into most homes and nearly all businesses. The initial infrastructure required for connectivity is closely related to the telephone systems

allowing for accessibility throughout most urban centres. Rural areas, however are considerably unconnected. Being that the Internet Service Providers (ISPs) are privately owned, it is left entirely up to them which markets they find viable. This introduces a considerably impacting aspect of internet availability and equality. Up to this point it has been assumed that connectivity is unilaterally available, and in the North American urban context, it is, however if we consider the option to remotely locate oneself while still remaining connected, that option lies in the presence of the required infrastructure to support this technology. This infrastructure then become an economic necessity for the success of an area and the planning of that area become dependent on that infrastructure and the ISPs that deem it a viable investment (Graham 2005, Dodge and Kitchin 2001, Mitchell, 1995, Virilio 1997, Castells 2004).

To move beyond the economic implications, the reworking of social networks is just as paramount. With the proliferation of online communities has come the overwhelming popularity of SNSs. This is a very topical subject and a thesis in and of itself, this work will therefore speak only little about the social implications of this phenomenon; focussing on the collapsing of social networks, notions of a seemingly private act taking place in a public forum and the marketisation of these sites. Virtual sites such as MySpace, Facebook, Livejournal and hundreds of others have received incredible attention and membership growth in the last five years (boyd 2007, Bigge 2006, Barnes 2006). These sites are generally used by teens and are seen as contributing to the identity forming process often encountered at that point in life. However the public nature in which much of this development is carried out is beyond comprehension of older generations and often translates into unthinkably self promoting and shamefully disclosure. "This expanding cyber culture simply does more of what its done already; nourishing specific, self-indulgent, even narcissistic enthusiasms. In search of community and shared experience the surfer of the future will find less to share and more to call uniquely his own, because the medium will be tailored exactly to specifications. The more sites that appear online, the easier it is to find your own special interests, no matter how narrow." (Shane 2001: 98). Most SNSs are set up in a similar fashion; all that is required is to sign up. Each participant is then allotted a home page for their personalisation; the degree of personalisation varies from site to site, but for the majority the individual is able to upload images, insert text, link to music and videos and display their list of friends. They will in turn be displayed on their friends pages and have to capacity to post messages on their fiends or other publicly accessibly profiles. While most profiles are some variation of the real participant and public, some chose to operate under a pseudonym or to make their profile private. The majority though have entered into this forum because they want to be seen

and in some way acknowledged (boyd 2007, Bigge 2006, Barnes 2006). Adding to the previously mentioned forms of estrangement, the collapsing of social networks confuses the established codes of conduct formally accepted in certain social situations (see figure 7). Similarly to the way in which the absence of geographic location clouded the ability to detect proper rules of engagement; the lumping together of work, family, school and friend disables different personas to remain in their appropriate arenas; images of drinking binges are often unwelcome by employers or parents. "One of the basic lessons of social informatics and social system design in the past decade is that such transparency makes a poor end in itself. It can be pursued or enabled in ways that prove destructive of the social fabric that underlies functional sociotechnical systems. Many social processes depend on forms of selective discourse, strategic ambiguity, and/or mediation within networks." (boyd 2007: 16)

In addition to the social complications of the network collapse, the public display of personal activities and thoughts is problematic. Often viewed as a self-indulgent act the individual has become and expert in self promotion. Aside from the obvious security issues with young participants posting personal information, the way in which one chooses to portray themselves often have repercussions beyond their initial intent. Highly sexualised, it has become important for participants to put themselves forward as an experienced and attractive individual. The fact that much of this profile crafting and site surfing takes place in a private environment when the participant is alone, removes them from the realisation that this profile is now public, archived and subject to endless interpretations. Though the participant probably thinks little of the attention received it has, in isolated cased, lead to stalking and sexual violence. On the flip side it can also lead to internet stardom which could translate into

Figure 7 - MySpace is one of the popular SNSs which have become a factor in the collasping of a complex human system where incongruent social behviors start to reside on the same level.

the fleeting sort of popularity common amongst pop idols (boyd, 2007, Barnes 2006, Pullen 2007, Goodrum 2007, Bigge 2006). In what is the next logical step, these sites are now being used to following trends and purchasing habits amongst the all too revealing populations. Even further still MySpace was recently purchased by Rupert Murdoch, CEO of News Corporation. a huge conglomeration that owns numerous media companies including Harper Collins and 20th Century Fox. Now readily handing over market research data, all information posted and archived on MySpace while not the property of the News Corp. is easily recorded and used to market products to this culture, a marketing scheme that often includes the spamming of members with advertisements disguised as friend requests. (Barnes 2006).

"In America we live in a paradoxical world of privacy. On one hand teenagers reveal their intimate thoughts and behaviours online and, on the other hand, government agencies and markers are collecting personal data about us. For instance, the government uses drivers licence databases to find 'dead-beat dads' or fathers who are behind on their child support payments. Many government records have been turned into digital archives that can be searched through the Internet. Every time we use a shopping card, a retail store collects data about our consumer spending habits. Credit card companies can create even larger profiles of our shopping behaviours. Locked away on hundreds of servers is every minute detail of our daily lives from our individual buying preferences to personal thoughts.

…Many people may not be aware of the fact that their privacy has already been jeopardised and they are not taking steps to protect their personal information from being used by others." (Barnes 2006: 1)

Until now this idea of private expression into a public forum was restricted to the private realm, but what of mobility and wireless technology. The advancement of cellular phone technology now allows for internet connectivity where ever the signal reaches. As if the notion of being in a private space while operating in a public realm is not convoluted enough, we now have the capacity to act out what was considered private in a physical public space while operating in a remote virtual public space. This condition is particularly fascinating and one needs only to look at typical cell phone use to recognise changes in social behaviour. Similar to SNSs, cell phone use in public spaces is the subject of much debate. Often completely oblivious to their surrounding cell phone users will have long and sordid conversations about strictly personal subject matter with disregard for those around them. All established norms regarding etiquette and manners may be abandoned when the phone rings. Conversations with the person physically present are rudely dropped for the incoming call and this seems to have become socially acceptable. The expansion of this technology to include internet connectivity now adds emails and text messages to the list of acceptable interruptions (Shane 2001, Mitchell 1995, Virilio 1997, Castells 2004, Crang 2004, Boler 2007). Seamlessly integrated into the personal possessions the phone is taken everywhere; to some, the thought of being without it is ridiculous. When asked about why one 'needs' to be constantly connected, they will often speak of emergencies and the like but rarely admit to the addiction of connectivity from which North American suffers. "…internet addicts quickly progress from mild flirtations with email and chat rooms to making the internet the neurotic nexus of their lives." (Shane 2001: 19). Beyond this socially accepted dependent condition wireless ICTs are changing the perceptions towards social planning and interaction. On the phone at the grocery store to ask what one needs to buy; walking through a crowded mall using the phone to locate the kids; calling up spontaneously to see which of your friends is in the vicinity for a social outing. Though some may call this convenience to others it

is the abandonment of forethought. There are still those that make plans in advance, write out shopping lists and expect their children to meet then at the appointed place at the appointed time. Although it might be perceived as more difficult, certain ideals of obligation responsibility and common courtesy are only learned form the act of forethought and keeping ones word. As we move forward consuming and adopting all new technologies without question we place in jeopardy many long established social values and fundamental tools of civil organisation. "Western culture, led by American popular culture, is rapidly removing central shaming event that developed over generations and replacing them with often trivial and short-lived concerns. Instead of viewing shame as a powerful socialising device, we see it as a hindrance to individual fulfillment. Of course shame inhibits behaviour – that is the point. It retards action, it increases reticence, it invokes self-censorship. Of course it makes the individual feel bad. But it does so in the name of a higher social good. Shame is the basis of individual responsibility and the beginning of social conscious. It is where decency comes from." (Shane 2001: 109)

PUBLIC VS. PRIVATE

Bluetooth is probably the best known WPAN and while Bluetooth itself does not profit from the sale of any product, this special interest groups initial members included Ericsson, Intel, Toshiba, Nokia and IBM.

The previous chapter spoke of ICTs and other related technologies; some of which did begin to relate back to the city. This discussion will move further into the city as it starts to address wireless technologies. WiFi is quickly becoming an assumed service in North American cities. This type of connectivity allows for the use of laptop computers and other wireless technology. While still an important component in creating a completely connected city, the cell phone has now advanced to the point where it can do much of what a laptop might do. The 'Smartphone' can send emails, text messages and take picture like other cell phones, but in addition can run programs like Microsoft Office. It is important to remember that the wireless service that makes this connectivity possible is privately supported. WPANs are often groups or alliances of major phone service companies that have agreed to join forces in creating uniform product specifications for enabling connectivity. Bluetooth is probably the best known WPAN and while Bluetooth itself does not profit from the sale of any product, this special interest groups initial members included Ericsson, Intel, Toshiba, Nokia and IBM and is now over 1300 companies' strong (Palowireless 2007). It can be safely assumed that, while WPANs are not making a direct profit, the decisions behind the locations of these networks are largely influenced by the private sector. "Thus from a structural point of view, the role of cities in the global economy depends on their connectivity in transportation and telecommunications networks, and on the ability of cities to mobilize effectively the human resources in this process of global competition." (Castells 2004: 86) It should come then as no surprise that much of what drives the design and form of North American cities are economic concerns. If we consider this in relation to the public void laid out in the first chapter, the possibility of developing appropriate forms of public space looks pretty bleak. What are offered up as public gestures are becoming increasingly dependent on private enterprises (Gehl and Gemzoe 2000, Gehl 2001, Kunstler 1993, Dodge and Kitchin 2001, Sennet 1978, Sandercock 2006, Castells 2004); "...this reliance on private initiative means that public

realm creation is erratic and opportunistic in timing and location. …Public realm creation occurs in locations where development occurs, not where the public need is the greatest, its timing driven by markets and cycles, not by planning imperatives." (Sandercock 2006: 89). The same notions can be applied to the formation of WiFi and WPANs availability and raises questions about how ICTs are influencing the spatial qualities of the North American city.

Some enthusiasts have regarded the internet as being the embodiment of true democratic space; "This means of individualistic, like minded people join forces to form public-based communities; cyberspace offers the opportunity to reclaim public space and recreate online the essence and nature of authentic places which are disappearing in geographical space." (Dodge and Kitchin 2001: 17). "Today, this ancient idea — reflected in the Oxford definition of community as a body of people living in one space may now find its place in cyberspace. The new sort of site is not some suitable patch of earth, but a computer to which members may connect from wherever they happen to be. The foundation ritual is not one marking boundaries and making obeisance to the gods, but of allocating disk space and going online. And the new urban design task is not one of configuring buildings, streets, and public spaces to meet the needs and aspirations of the *civitas*, but one of writing computer code and deploying software objects to create *virtual places* and electronic interconnections between them." (Mitchell 1995: 160) Both references are speaking to true virtual online spaces, while we could argue that the proliferation of WPANs and cell phone technology was not yet a consideration when these works were completed, the point can be made regardless. If these environments are to be regarded as true public spaces they would need to be equally available and accessible to all; a fact that we know not to be true. As mentioned in the case of WPANs, and any ISP for that matter, the service is anything but free and the availability is largely dependent on the perceived market viability of an area. While I agree that the notion of a virtual public space is compelling, even more so now with the addition of wireless technologies and the option of having this online community play itself out in physical space, it is questionable the it is public or that it can be related to a place. The basic qualities that make an environment a place as opposed to a space are: a sense of permanence and dependability; the ability to relate it spatially to our own physical form; and an understanding of its proper function and use (Tuan 1977, Virilio 1991). Virtual space, despite exhaustive and ongoing attempts, will by nature never be a place.

Having discussed only a few of the spatial and political implications of ICTs on the city; there are also substantial physiological and psychological implications. Beyond the frequently addressed concerns with obesity and lack of physical activity the North American lifestyle encourages, there other more subtle physiological and psychological affects of this technology. As the camera and video phones gain popularity we are moving from aural to visual communication; this is a natural progression considering that the bulk of entertainment, information, and advertising is already image based. "It is necessary to remember the growth of the movie industry and its parallel with the Great Depression. While the Depression was global, the response was uniquely American. Traditional entertainment functions as a distraction from problems, and movies were no different in this regard." (Shane 2001: 12). This may seem like an odd direction to take, but, as was the case with the car and private property, North America has developed a particular relationship with media. One only needs to think of 'Old Hollywood', 'The Golden Age of Television' or 'MTV' to gain some insight into the North American right to entertainment. Without going further into the details about the history of media I think it is important to understand one of the most disconcerting physiological and psychological impacts of this technology. "It's hard work for that the brain has to do to assimilate video-mosaic language that sets this language apart from 'English' or 'French' or 'mathematics' or 'cuneiform' as language media. After the hard work of reception and assembly, the brain honestly believes that more has happened to it than the simple completion of an image. So much neural energy passes through the brain during video-mosaic assembly, that the poor tired unit cannot believe that it has not participated in perception of a real experience. Certainly the brain has the right to confuse the hard work of video-mosaic assembly with experience that includes visual aural emotional olfactory, tactile and kinetic assembly." (Shane 2001: 33). "These [images] form an instantaneous defilade in which matter is replaced by retinal retention: 'This is known as the sensitization time of a line. This sensitization time is equal to the nth degree of the composition time if the image formed by n lines, which is imposed by the physiology of the ocular system. The eye integrates all of the luminous sensations that come in in less than twenty milliseconds and merges the images that occur more rapidly, at a frequency of at least 50 per second. We thus have only 20 milliseconds divided by n to compose each line, and that is sometimes not enough. Given an image composed point by point and line by line, if the composition time is more that 20 milliseconds, the first lines begin to vanish before the last ones appear…. This inconvenience can be remedied if the screen has a memory so that a line remains visible for a period longer that the composition time.'" (Virilio 1991: 35). Put into this context it becomes more apparent why

image based entertainment has been accused of causing everything from health problems to the break down of the family, to the loss of civility, to a society based in utter and total apathy. Having already discussed the rise of shameless self promotion due to SNSs, what then will happen when we take this technology into the city.

Though the private and public nature of the North American city has been discussed at length, the introduction of ICTs brings yet another level of complexity. Many of the concerns brought up in the chapter on internet technology translate into the urban realm. Of primary concern are the social implications of enacting self-absorbed behaviours in what are considered public spaces. The proliferation of ICTs has created an odd situation in which inhabitants are willing to engage in private conversation in the public realm. The ability to message or chat in a public space proves to complicate this behaviour even more as what may be interpreted as foreign to some is publicly practiced. To move this behaviour to the public realm (where it was once common to talk to the person waiting for the same bus) in which one might be messaging a stranger while avoiding at all costs making eye contact with the person next to them in

physical space has created an utter oxymoron (see figure 9) . To have one sit next to them on the bus and have that person's phone ring to which they engage in a conversation with their boyfriend exposing all sorts of private matters as if one did not exist further illustrates this phenomenon. This may be due to the intragenerational gap that is forming in terms of socially acceptable behaviours, but it is still commonly held that it is "…not considered dignified for everyone to know one's affairs. Nor is it considered dignified to snoop on others beyond the face presented in public. It does violence to a persons privacy and rights."(Elena Padilla in Jacobs 1961: 59). This situation puts the others, who may or may not chose to participate in use of ICTs, in an awkward and unfair position of guilt; guilt for being made to feel that they are snooping or privy to information they have no right to. To this phenomenon of having private phone conversations in inappropriate places, can now be added a visual aspect to the exchange This brings into question the potential capture and display of unknowing and possibly uncooperative bystanders. As much of these technological developments are introduced and consumed, immediately and unquestioningly, society does not have the opportunity to consider it first and those

Figure 9 - Workflow by Galen Johnson has been losely interpreted to illustrate the paradoxical situation that has resulted from ICTs impact on communication practises.
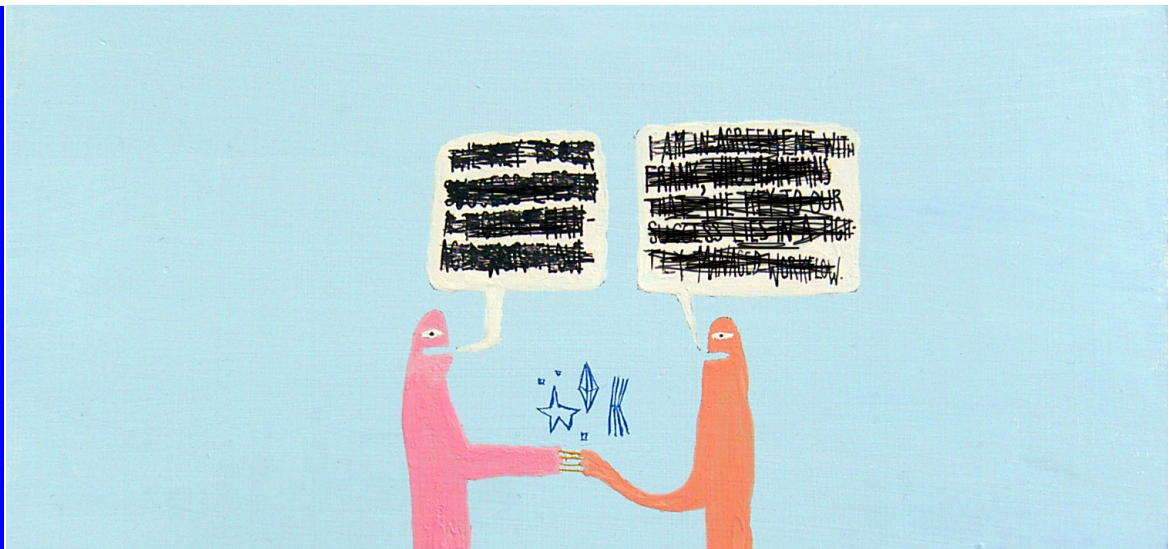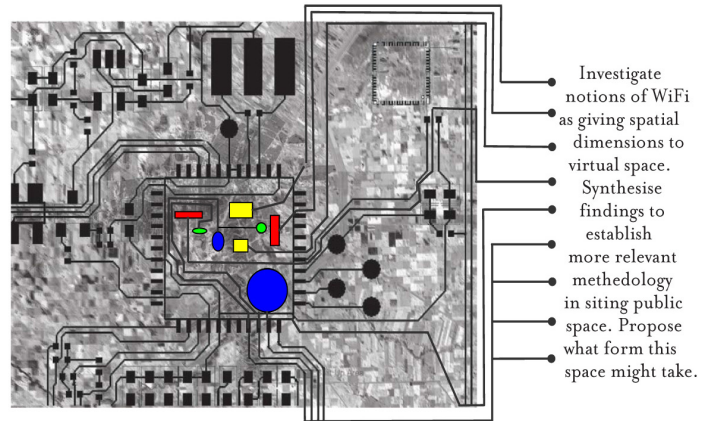
who chose not to participant are subject to it anyways. This introduces a paradox in which we have the compromise of ones personal choice and privacy at the hands of the majority. When entering into a public change room, for example, one is not asked or expected to leave their phone at the front desk. It is perfectly acceptable to not only keep, but use that phone when in the change room making it easy to capture images of anyone else using the space; images that can then be instantaneously uploaded and broadcast using that same phone before the subject even knows, if they ever do, what has happened. This may seen an extreme example, but the practice of capturing and broadcasting is common; there are thousands of virtual site dedicated to image uploading and blogging; permission to use someone's image is rarely even an afterthought. It is becoming more and more common for teens to bully and humiliate school mates by posting images of them in embarrassing positions. "There's a decline in civic engagement that tracks with the proliferation of media. There's evidence of a decline in civility and a corresponding diminution of the concept of shame." (Shane 2001: 17)

To find a middle ground between the somewhat polarised schools of thought introduced, it is important to re-evaluate the information, accepting the current trends and behaviour. Though the present condition of public space in North America may not function like that of its European counterpart, it must be recognised for what it is and could as easily be argued as being the 'only', and therefore the 'true' expression of North American public space. To continue to deny this expression does nothing to further or elevate the relevance of design within it. It may actually have the adverse effect, perpetuating attempts to impose greater meaning and purpose as opposed to acceptance and understanding. The collection and interpretation of data in a manner which moves away from bias and predisposition is paramount in a time when much of what is being filtered is unfamiliar and often contestable. This notion becomes even more poignant as internet and ICTs are introduced. With the potential to be entirely foreign and completely rejected it is critical that the lack of understanding or discomfort with the technology does not cause the disregard of its importance. Varying social codes are developing and emerging as technologies evolve and venues change. To make an assumption that because

one is not familiar with a particular social code, that it is wrong would be generally held as an irrational response. Whether it is the speed at which this particular evolution is travelling, or the disembodied nature that the technology takes on, it is often met with opposition. Regardless of the moral and value judgements that are easily adopted, ICTs are already accepted and integrated into North American culture. The presence and impact of this technology in the city cannot be overlooked. The disregard of the spatial and social implications will only prove to greatly disadvantage any suitable and relevant response. It is from this position that this study moves forward. "Deterministic and anti-urban ideas about telecommunications provide an extremely simplistic set of mistaken and mythical ideas. These severely hamper our ability to think critically about using the new technology to support innovations in urban policies and strategy making." (Graham, 2005: 103). It is in the appropriation of this technology and the fostering of the physical expression in the city that the answer lays. To move forward, one must embrace the situation, take ownership of it and thereby ownership of the city.

PART 2-CAN YOU HEAR ME NOW?

Investigate notions of WiFi as giving spatial dimensions to virtual space. Synthesise findings to establish more relevant methedology in siting public space. Propose what form this space might take.

'To facilitate tangible social interaction between the city and its inhabitants using the current technologies that dominate the North American lifestyle'

To facilitate tangible social interaction between the city and its inhabitants using the current technologies that dominate the North American lifestyle; becomes the re-newed intention (see figure 10). Notions of the city as play are explored as a way of reacquainting the inhabitants with their environment. The term Locative Media was suggested through an email conversation with Steven Graham. In the process of researching Locative Media, countless installations and experiments, mostly in the art world, are investigating the impact of this technology on the city. There is much very relevant and provocative work being done through institutes, societies and futurelabs located in Sweden, Germany, Austria and the Netherlands; a small fraction of these works will be laid out as case studies. "Urban policy makers and planners are usually concerned with the visible and tangible dimensions of cities. But ICTs remain largely invisible and intangible. The explosion of digital exchange particularly challenges traditional urban planning perspectives oriented toward land use, physical form, urban design, and transportation - ways of thinking about modern, industrial-aged cites that have long neglected the importance of electronic communications and technologies in urban life. Furthermore, the prevailing cultures of technological determinism often leave city policy makers with extremely unrealistic ideas that imply that ICTs autonomously have impact on the social, economic or cultural development of their cites." (Graham 2005: 105).

In a deliberate act to move away from the notion of "technological determinism" the city as a recreational site and the potential for a sort of cyber leisure is explored. If North American society is rooted in notions of private entertainment and embracing technology, could this need for escapism then be played out in the city? Considering that we are no longer shock or shamed by what anyone does in their private lives, why not re-invent the city as a pluralistic entity which encourages the individual expressions as a manufacturer of the landscape. The ever increasing mediums for self-expression are a product of some unrelenting desire for personal satisfaction which is obviously not being met. For the proof of an obsession with escapism

in North America one only need to look as far as the entertainment industry; an unstoppable beast producing distraction hand over fist. The complexities of the current situation fraught with placelessness, timelessness, global economies leading to identity crises, over stimulation, under stimulation, detachment, loss of meaning and so on have resulted in a society steeped in all forms and methods of producing artificial happiness; or at the very least, some form of passion. "In traditional societies the discrepancy between reality and identity was narrowed significantly when individuals could display themselves by showing commitment to the arrangements and routines of everyday life. What people did and who they were, for instance, was never far apart. In contemporary life, however, there is often both a reflexivity and a relativity that promotes a separateness between reality and identity." (Rowe 1997: 146). This shift in the expression of our identity has created a situation in which the individual is left to seek out and express their true selves in the private realm. Not only does this alienate the participant from their identity by virtue of dictating how and where this expression is appropriate, but it also disables the individual to develop this identity in a healthy and productive way. The incongruent nature of the public self and the private self often creates a sort of secretive condition in which the private self is not allowed to develop in relation to other realms and remains either unrealised in the imagination or infantile (Rowe 1997, Sennet 1978, Svendsen 2005).

It is through play that we learn; this notion is widely accepted in childhood development, but often ends in adulthood when we are expected to act our age. This notion of 'growing up' in an environment that does not support the fulfillment of ones identity has considerably stunted the growth of the contemporary individual. It is important to indicate what is mean by individual identity; it is not referring to the self-promoting misdirections of a bored teen, though this behaviour is may be viewed as a result of the situation, but to the discouragement of 'being and doing' what you are. In other words to the having support and opportunity to discover what you are gifted at and to be able to not only make a living at it, but to see those who benefit from that gift. In this vein then can a sort of play in the city be fostered allowing for that private exploration of self to be tempered

in a healthier environment? "Even Plato, the most radical critic of the high estimation of the arts in the history of philosophy, speaks of the comedy and tragedy of life on one hand and the stage on the other, without differentiating between them. For this difference is superseded if one knows how the see the meaning of the play that unfolds before one. The pleasure of drama is the same in both cases: it is in the joy of knowledge." (Gadamer 1998: 112).

Locative media often encourages this sense of play and engagement with the city. Primarily an art form that uses wireless ICTs outfitted with GPSs to create context aware installations, locative media has moved the gallery into the city streets. The proliferation of wireless ICTs and its subsequent impacts in our social behaviour has brought an increased awareness to the potential of this technology as an agent for social change. "...it has become clear that that the dominant computing and communications platform of the 21st century (at least for end users) is going to be the mobile phone or some close relative of that century-old form. By 2005, there were some 2 billion mobile phones in the world making it by far the world's most diffused computational platform. There are now more mobile phones on Earth than televisions. Soon the mobile phone will overtake the wrist watch as the most commonly 'worn' personal technology. Despite superficial debates about changing social etiquette, mobile phones (unlike personal computers) have been seamlessly woven into our lives, finding roles across all the spaces for work, home, and play that we inhabit on a daily basis. More importantly the sociological literature on mobile phone use reveals deep emotional involvement with these devices and a reliance on them for social and economic survival that is rarely seen with the desktop PC's." (Townsend 2006: 345). Though this clearly contextualises the importance of the mobile, or smartphone, issue could be taken with the statement that this reliance is not present in the Personal Computer (PC); and it might be further suggested that the advent of the smartphone simply transfers this deep emotional involvement from one platform to another. Resisting the urge to address why over 2 billion inhabitants have deep emotional involvements with an electronic device, the consideration of how these devices are controlled in either a top-down sort of tally and surveillance system, or in a

bottom up informal process that has more to do with an understanding of the technology than a simple collection of data is incredibly pertinent (Townsend 2006, Mann 2003, McCullough 2006, Tuters 2007). If this medium is to live out its hopeful role as liberator of the city, giving a voice to the sorely under-represented public realm it must first be removed from that of the private. "...recent literature on mobile location aware networked connectivity has focused on its transformative potentials on community, positing something akin to the emergence of a spatialised internet. However, unlike the early Internet, which relied on public finding and

While the war between the public and private rages on, many experiments and research projects abound.

open standards to foster innovations, the vast majority of the spectrum of mobile networked connectivity belongs to corporations, who also have controlling interests in the delivery systems (both at the level of hardware and software) creating a vertically integrated, walled garden model that discourages third party developers to generate content." (Tuters 2007)

While the war between the public and private rages on, many experiments and research projects abound. Ironically, or just plain fitting, most of this work is being done in Europe. Born of internet art, cyber-enthusiasts have become inspired and renewed in the ability to take their installation into the urban context. Often with out the need for any physical or permanent installation, a participant is able to engage with both the art and the city in entirely unobtrusive way. These installations range from a form 'personal art' to common activities that occupy spaces in the city. In the case of 'personal art' the participant, with the aid of a modified mobile device, is offered a digitally mediated

Figure 11 - Map generated by Amsterdam Realtime. A project in which participants are tracked as they move through the city. The project seeks to appropriate various forms of ICTs to allow for a true expression of inhabitation in the city.

perspective of the city. In terms of group participation what are commonly referred to as 'mobs' take temporary control of the city by performing harmless acts in unison as instructed by an electronic interface. Categorised into genres such as 'Figurative, Expressive, Performative', 'Social, Semantic', 'Graffiti, Narrative, Gaming', 'Expressive, Generative', 'Spatial Annotation & GeoDrawing'; there are numerous examples of these projects readily accessible online (Hemment 2006, Lenz 2006). Many of the projects include online components in which blogging, virtual sticky noting, and posting responses act as integral parts of the process. The Do It Yourself (DIY) mentality of both the artists and participants lends itself to publicly accessible online journals and web blogs. There is also a certain tongue and cheek

to this quickly growing art form; one of the most prolific sites 'we make money not art' openly critiques both itself and the capitalistic nature of media art. In what is a very cursory overview of locative media this work will focus on just a few of these many projects in the hopes of highlighting precedents that might find themselves better suited to a more permanent public expression.

One of the earlier pieces of locative media, *Amsterdam RealTime* used a GPS equipped Personal Digital Assistant (PDA) and a very small antenna to digitally map out the movements of participants in the city (see figure 11). These movements are transferred to an imaging software that also applies a colour code based on intensity of use. Once

the participant returns to the original gallery space the map is cleared and the whole process begins again. "When the different types of users draw their lines, it becomes clear to the viewer just how individual the map of Amsterdam can be. A cyclist will produce completely different favourite routes than someone driving a car. The means of transport, the location of home, work or other activities together with the mental map of the particular person determine the traces he leaves." (Amsterdam Realtime 2007). The visual produced is very compelling and generates a new form of figure ground that might allow for the accurate study of circulation patterns and desire lines in a city.

Socialfiction.org's *.walk*, which might be one of the best known pieces of locative media, received the Transmediale Software Award in 2004. An updated version of the derive, this psychogeographical drift is guided by a series of simple calculations that combine the geographic location of each participant creating a certain order out of chaos similar to the activity found in ant hills (Hemment 2006, Tuters and Varnelis 2006, Lenz 2006). As the participants wander the streets they are directed, via a wireless GPS equipped device, by the results of the calculations mentioned above.

With this comes a renewed interest in the Situationist movement formed in Paris during the late 1950's. A radical group founded out of the post-war trauma and subsequent rebuilding of Europe; the Situationist developed a method of wandering and mapping the city that supposedly allowed for a heightened awareness when one lets go of their consciousness. This is, of course far more difficult than one is lead to believe; the distracting qualities of digital and electronic interfaces, however, are being explored as mediators to this heightened state. Maps and accounts of partcipants .walk experiences are

Tactical Sound Garden (TSG) is a sound based intervention in which the participant is able to both hear others' sound insertions, and then also plant their own. "The TSG Toolkit enables anyone living within dense 802.11 wireless (WiFi) *hot zones* to install a sound garden for public use. Using a WiFi enabled mobile device (PDA, laptop, mobile phone), participants are able to plant sounds within a positional audio environment (see figure 12). These plantings are mapped out onto coordinates of a physical location by a 3D audio engine common to gaming environments– overlaying a publicly constructed

rhinoceros.mp3 | very loud | once a day | lat: 40.70851135 | lon: -73.99899292

runningBrook.mp3 | soft | once a minute | lat: 40.70851342 | lon: -73.99899010

sayYes.mp3 | soft | once only | lat: 40.70851342 | lon: -73.99899010

Figure 12 - Schematic illustrating the workings of the TSG. The TSG uses ICTs to create an interactive soundscape within the city.

soundscape onto a specific urban space. Wearing headphones connected to a WiFi-enabled device, participants drift through virtual sound gardens planted by others as they move throughout the city."(Shepard 2005)

In the wake of iPod culture many of us supplement the monotony of our day to day lives with a 'personal soundtrack'; common and accepted at many workplaces, it has become productive to tune out. Historically there is has been an aural relationship with the city; church bells and clock towers were an integral component to economic and spiritual operations (Shepard 2005). People are drawn to sounds of activity and it is regarded as a powerful urban design tactic (Gehl 2000). In the past century, however, this aural component has been considerably degraded by the noise of vehicular traffic, so much so that we opt for the aforementioned alternative and abandon the aural city all together. Beyond the obvious benefits of the personal portable media devices like noise mediation for both the owner and those close by, it also avails the social licence to not interact or claim a certain level of ignorance due to the engrossing nature of the medium creating a sort of private bubble in a public space (Shepard 2005).

The Ludic Society is a group actively researching what they have termed ludic studies. Ludic being the act of aimless play, the Ludic Society seek to invoke guiltless expressions of play as a legitimate and valuable human activity. This group incorporates physical 'grounding', online blogging and journals as a means of data collection, research and reporting. The term 'reporting' is being loosely as the journals have a definite DIY propagandist tone and use detournement as a means of illustrating their thinking; thinking which is founded, extremely topical and straight out amusing. For example
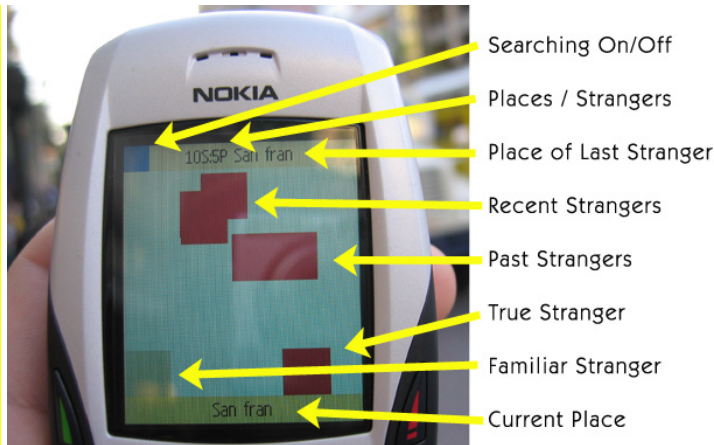

Figure 13 -The Ludic Society advoate for real play in the city. After having injected oneself with a RFID chip that participant is able to engage in a citywide activity that is similar to an electronic scavenger hunt. The actitvty is supported by a website and encourages the participants to engage in a whole new perspective on how to inhabit the city.

employing Radio Frequency Identification (RFID) tags as a markering system and the city as the game board the tag-injected players set out in a real time scavenger hunt in which they are competing to find and overwrite objects that have been similarly tagged (see figure 13). The scores are recorded into an 'Online Game Interface Display' and ultimately create 'map movies' of the results. "An essential part of each Real Player's inventory is beside some conventional tagging tools, a specially designed toy gadget to sniff and alter the state of RFID-Tags, the "Wunderbaeumchen". They are self made and designed RFID scanner/reader/zapper, in short data-odour refreshers. The ability to write/destroy existing RFID Tags and to record their situation is part of the Toolkit-Box." (ludic-society.net 2007). Drawing from the Situationist movement, among others, the Ludic Society's writings express that DeBord's notions of 'The Society of the Spectacle' are

being fully realised in our present cultural condition and they advocate the follow through of this spectacle into a form of live action role play, but with no predetermined outcome and without the necessary consent from the inhabitants of the city; one might guess that they would argue that all of the inhabitants are already engaged in the play regardless of their admission to being part of it.

Mobile Social Software (MoSoSo's) combines the context aware devices with social networking databases and allows for a realtime messaging and blogging within the parameters of that interface. This makes possible the physical interaction of 'familiar strangers' due to a correspondence in proximity and time. Developed by Eric Paulos and Elizabeth Goodman, *Jabberwocky* is a free software application that allows for the mobile device to track and locate others within a certain

Searching On/Off

Places / Strangers

Place of Last Stranger

Recent Strangers

Past Strangers

True Stranger

Familiar Stranger

Current Place

proximity carrying a device with the same software; bring the notions of the SNSs into the streets. Though it may seem somewhat redundant to need an electronic interface to foster casual conversation with the co-inhabitant you see every morning on the way to work, "Palos and Goodman were inspired by the work of psychologist Stanley Milgram, who wrote in the 1960's about people one sees everyday on streets and train platforms. While initially we think of these people as strangers, as one sees them repeatedly they become familiar." (Townsend 2006). Once the device has recognised the fellow device it stores that information to later tally up the number of times the devices interact and creating a commonality for the devices and assumes a shared history (see figure 14). "Jabberwocky is a freely available mobile phone application designed to promote urban community connections and a sense of familiarity, anxiety, and play in public urban places. It takes advantage of current Bluetooth device

proliferation. The application does not require seeding the population with initial users of the social network to function. Even today in most urban cities, the existence of even the current Bluetooth mobile phones is enough to gather meaningful and useful data for visualizations of place and urban strangers." (Jabberwocky 2007). Reporting that there were some 1.4 billion Bluetooth units in 2005 and that WiFi hardware was being distributed at a rate of one every four seconds globally it is easy to understand why this research is being done at the Intel Research Lab in Berkeley (one of the few North American examples). Not to undermine the importance of this work, but it certainly highlights the commercial interests and corporate concerns with much of locative media, highly topical, the easy, inexpensive and almost invisible marketability of its nature puts a frightening spin on the potential privatisation of what is presented as a public and generative social tool. "One of the most powerful

elements of Jabberwocky is that it is not driven by the bits of an online network, but by actual real-life daily ebb and flow within our actual urban landscapes by the movement and interaction (or non-interaction) of others who's path we encounter. Therefore, the number of participants is not simply the size of some database on a central server but a more powerful, grass roots, and personal membership in urban life. To be specific, every Bluetooth mobile phone user is within the Jabberwocky community." (Jabberwocky 2007).

Layla Gaye has been working more with the notions of the device and the impact that these tools of technology have on our creative selves. An age old debate from the advent of the stylus and subsequent loss of once aural societies; the containing freedoms of new technologies are constantly in question. This debate rages on with the proliferation of first the PC and now the wireless ICTs. The importance of the tool on creativity and production cannot be underplayed and the ability to take what is certainly one of the greatest ever impacting technologies from the desktop to the pocket is paramount. "Computing should become invisible in use and disappear into the fabric of everyday life, the same way any other mature technology do. What can make computing disappear and make it available where needed is its literal integration into the real physical and social world. The main potential and challenge of ubicomp [ubiquitous computing] is thus that it allows to the take the step from confining activities in pre-designed interaction spaces (whether it be desktop environments,

designed physical artefacts, or designed interactive spaces) to embedding the into the real world, the everyday physical world: a place not designed for the purpose of these new activities, therefore requiring from systems that they adapted to its topology and dynamics. (Gaye 2005) As an expression of ubicomp has Gaye developed a series of devices and subsequent experiments in the city. *Sonic City* explored a sort of choreographic urban experience. The participant wears a contraption which consists of a small laptop, microphone, headphones, microcontroller, Musical Instrument Digital (MIDI) interface, and sensors. This device collects and creates live music relative to the participant's movement, surroundings and interactions with the city (see figures 15-17). Gaye has also investigated what is called 'Context Photography' in which sound, temperature and pollution present in the immediate environment are used to augment the appearance of a captured image (see figures 18-21). "Context photography consists of capturing more than incoming light in an image, i.e. the context. Information about the physical context gathered from various sensors visually affects pictures in real time, as they are taken. Translating non-visual data into visual effects in an image modifies the relation between input and output in the camera. Where previously a camera would only sense light and fix it as a still image in a way that could be considered as objective (because only depending on the laws of physics), this interpretation adds a new dimension of subjectivity. We wished to determine the implications of such modifications of the digital camera on how it is conceived and used. Another question was how to interpret the context data visually without annihilating the user's sense of personal expression." (Gaye 2005) From this devolved the *BashoCam*; after the capturing of a group of images in a short evenly timed fashion, the images are shuffled in with other similarly captured images of the participants social network. These are then looped together in an animation that is intended to share the moments of the social network and, can be added to and adjusted by each member of that social network creating a visual narrative.

As mentioned earlier, there are many more works of locative media and these accounts could go on for a great deal longer; a full list of websites can be found in the appendix #1. One more reference before defining the site and project; Ben Russell, the author of *Headmap Manifesto* talks about the friend of a friend (FOAF) phenomenon that

Figures 15 to 17 - Images show the equipment required to engage in the choreographed experience of Sonic City.

Figures 18 to 21 - Representations created by the use of Context Photography which captures various additional environmental factors associated with the typical image.
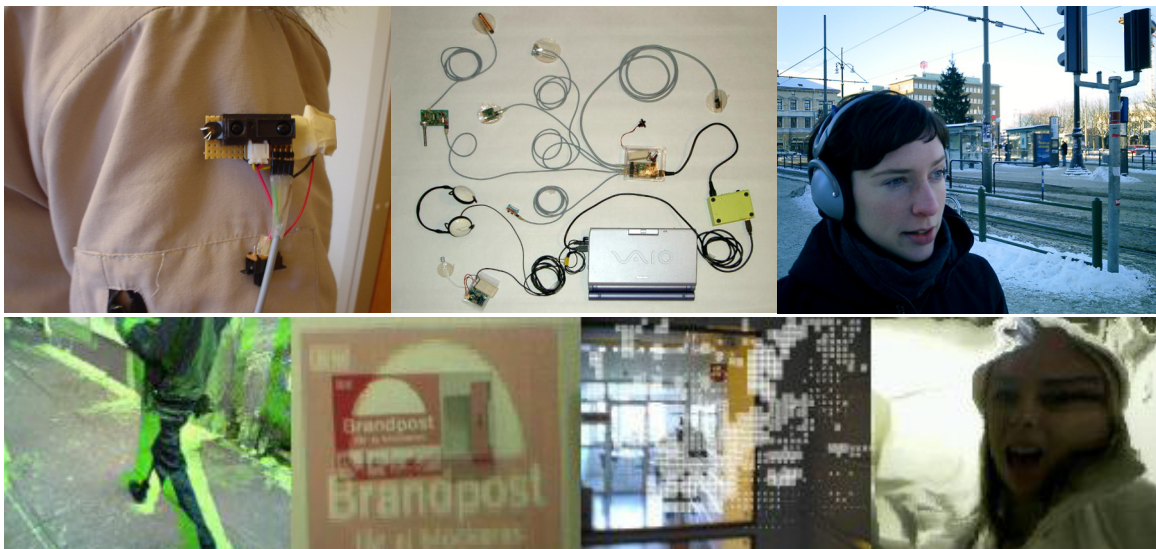
SNSs have magnified. Russell argues that these types of relationships, if allowed to play themselves out in the physical world, would create an economy of trust based on a collective urban community of FOAF's (Lenz 2006, Tuters 2007, Russell 2004). Essentially Russell is hoping that if we take that mass of intimate personal knowledge that is common to SNSs and shared with virtual 'friends', translate it into the physical world, acknowledging that we have made ourselves venerable to each other based on that disclosure we should have, idealistically, developed a level of trust that can then transform social interactions.

"Social capital increases from greater trust, cooperation, shared information and social and economic exchange opportunities. The Internet already hosts collections, packets, aggregators, identity, trust metrics, payment systems, locative media and always-on mobile devices. The effect of these technologies maturing will have significant impacts on law, identity, sociality, politics and economics." (Russell 2004)

"If, in the Enlightenment, we learned that nature—in its role as background to human activity—had been replaced by human second nature, then today we are perhaps at the threshold of a machinic third nature." (Tuters and Varnelis 2006: 363).

In closing it is important to recognise some of the major criticisms of this burgeoning tool. It is somewhat limited by the form of the technology. Though there is, as shown in examples above, augmentations of current technologies, it is largely based and therefore limited to the appropriation of technologies outside the capacities for most to develop on their own. Much of it is based in the use of GSP technology, which oddly enough is the domain of the U.S military and has only been free for public use since May of 2000, and some would argue puts us in the dangerous position of being knowingly targeted for surveillance (Townsend 2006, Tuters and Varnelis 2006). We are living in a strange time absolutely fraught with paradoxes. "At the dawn of the Internet of Things, we have to wonder if we are not entering a world in which the object becomes sentient, thereby finally liberating itself from human bondage. If, in the Enlightenment, we learned that nature—in its role as background to human activity—had been replaced by human second nature, then today we are perhaps at the threshold of a machinic third nature. It is the task of whatever remains of art after the locative turn to get involved in the messy business of this new world of objects, even if the Utopian and critical moments that can emerge as a result are only temporary and contingent." (Tuters and Varnelis 2006: 363)

LOCATION

The first iteration is the conceptual melding of the cell phone and compass as a new navigational tool; being that we are well on our way to relying on GPS enabled devices to direct us this is an easy and logical direction to take.

Having looked at, the historical and cultural framework of development in North American and the resulting condition of public space; the social and psychological/physiological implications of internet technology and SNSs; the proliferation of this technology in the way of wireless ICTs in the city; and the emergence of locative media as a way of exploring and appropriating the technology for various means, an approach and intervention for the North American context is put forth. The first iteration is the conceptual melding of the cell phone and compass as a new navigational tool; being that we are well on our way to relying on GPS enabled devices to direct us this is an easy and logical direction to take. In tandem with a citywide database, this tool is

used to locate clusters of activity in the city abandoning the need for an address or a place. It is from here that it is decided to apply this thinking to a physical site, putting into action the implications of some of the concerns mentioned in the previous chapters.

To go back for a moment; a lot of information has been laid out hopes of making some sense of the current state of the North American city. This information then becomes the foundation from which to launch this project. A summation to reiterating the position may help to clarify the process before moving on. As was stated at the outset, the notions of the New World and expectations for North America caused a development born of abstract theories, ideologies and forms which

often contradicted the patterns in which a society free of those impacts might have grown itself (see figure 22). Struggling to follow through on these expectations and without a clear identity, North America adopted a series European styles and approaches which only compounded the problem. The injection of the automobile into this young and insecure continent gave North America a commonality and a focus to work towards. The reigning capitalist ideology encouraged the subsequent planning and design of all cities to accommodate the car hindering true expressions of public space. The freedom of the automobile greatly affected the spatial perceptions of society; now able to travel large distances in a short span of time one could live and work in completely

different which areas developed in North America a culture of transience and temporality. The already suffering public spaces became increasing corporately owned and subject to surveillance and restrictions of when and who can inhabit them.

The attention is then turned to the virtual realm and its potential as a true public space. While still subject to the private concerns of ISPs and available infrastructure, it is argued that this medium is a unilaterally freeing advancement in which all are stripped of their physical bodies. Uncensored and boundless society can now express themselves freely without prejudices and danger of social or political ridicule. However, in practice most participants adopt an age gender and place, as can be seen in the common online question ASL; age, sex, location. Hardly the liberating entity once purposed to be, the internet has as many detriments as it has benefits. One of the recent phenomenon to come of the internet are the SNSs which millions of participants interact on. Essentially contained to the virtual realm, these sites allow for an alarming amount of personal and intimate information to be posted on what is a public forum. This brings about the earlier debate of public and private space in the city.

Moving to the integration of internet technologies into the city via the cell or smartphone, there is a complex paradox of pubic and private; both virtual and physical. Not only is there the notion of acting out private behaviours in physical public spaces, but there is the potential that some of these private behaviours are then being posted onto virtually public sites. There are also concerns of who owns the ISPs and WPANs that are required to run this technology. Increasing convoluted, the situation is overwhelming and almost beyond comprehension. While many designer and planners are reeling trying to make sense of this rapid and unyielding morphing of patterns

Figure 23 - Image illustrates the change in points of reference and in notions towards location.
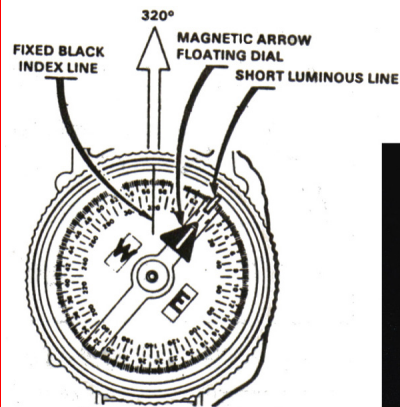
Navigation becomes about 'Raising the Bar' in hopes of quieting the "Can you hear me nows?".
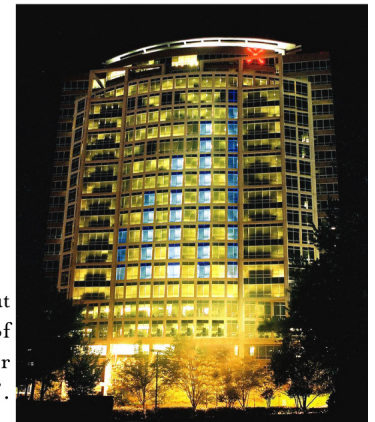
in social interaction and land use, the private industries decide the locations of services and therefore infrastructure which are dictating the forms of North American cities (see figure 23). Acceptance and appropriation of the technology becomes the most effective way of ensuring that it maintains some of its public nature and that it is integrated into the city in a manner than encourages tangible social interaction which is mutually beneficial to both the inhabitants of the city and the growth of a more civil society. Notions of play and personal expression in the city as vehicles to take back public ownership are explored. Issues of globalisation and economies of scale resulting in a listless society estranged from the pleasure of their work may be mediated in the city and offer that same sense of intimacy that has manifested itself on SNSs.

Notions that are already being investigated through works of locative media in which the technology has been hijacked to create new and alternative uses that foster interaction, personal expression and real play in the city. This became the inspiration for moving from a thesis based theoretical framework to more of a design thesis in which these ideas are played out in a physical site.
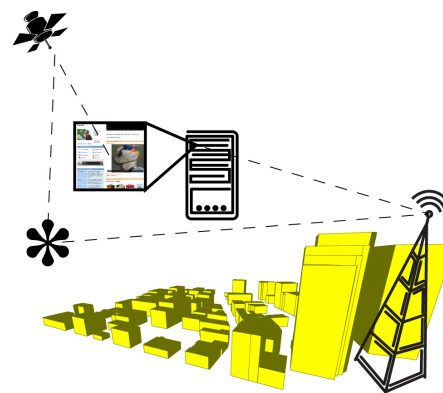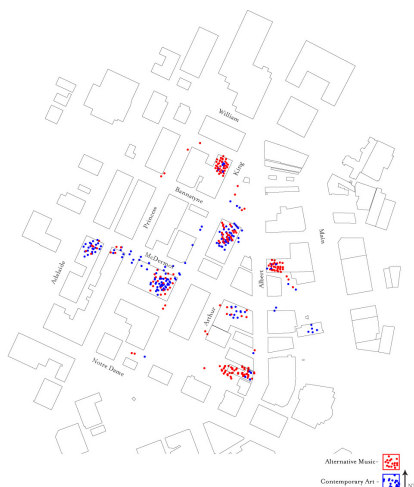
A system that allows for the abandonment of traditional cartographical space in the physical city and the embracement of wireless GPS enabled devices in concert with a citywide online database to act as the sole mode of navigation is proposed. The city becomes hard wired with beacons and triggers that while almost invisible allow for the locating of nodes

and places via GPS making the traditional map obsolete. The participants would register onto the database which, similarly to most SNSs, would allow for a profile to be created which would include personal interests and hobbies. This virtual site would then link to other virtual sites and act as a sort of search engine that would archive the online activities of the participant. The information collected and archived could then be used as a reference for each of the inhabitants and retrieved by their device when interacting with the city. For example the database would contain the interests of all that chose to register and while carrying their enabled device through the city they would be constantly tracked by GPS satellites that could relay their location back to the device and make recommendations of destination or local activities based on the information made available on the database and their proximity to the markers inlaid in the city (see figures 24 and 25). This not only starts to contextualise the SNSs but it also make it more important to be thoughtful in considering the information put into the database; where as you might of once noted nail polish as an interest it soon becomes bothersome when your device is locating and notifying you of every place you can buy nail polish. There are obvious commercial and marketing opportunities made available with this invention which are certainly important

and will be discussed again later, but one can simply filtered out commercial virtual and physical sites from the devices' search and focus on the social networking potential. The participant becomes able to key in various interests and can then locate other participants within a certain proximity that have the corresponding interest, the first participant can then infer that based on clusters of activity that there is an event that includes that interest. This brings up two concerns: one of privacy and the other of authenticity. With regards to privacy, one would not, by default, be able to retrieve personal information about the other participant, but rather they would be identified as a dot of a particular activity association at a particular location. One would have to actually physically locate that dot and approach them to identify them. Which leads to the notion of authenticity; it then becomes more important to be truthful in descriptions on the database as one is now held accountable. In fostering social interaction the thought is that if the participants believe that they are networking, gathering and interacting with like minded people, when it is felt that one has misrepresented themselves traditional socialising tactics such as alienation, shunning and idealistically shame are reintroduced into the city as a method of re-civilisation, and re-building of trust. To return to privacy concerns,

Figure 24 - Map of potential activity clusters in the city that replace location and address.

Figure 25 - Schematic drawing of how the navigational system will operate as an appropriation of exiting technologies.

it must be remembered that participation in the database is purely voluntary and that each person is then able to customise both their virtual site and their device to their own comfort levels; even to the extent where they are only visible to others that appear on their 'friends list' while still being able to see the activities of other that have chosen to be visible.

The notions of place are also addressed in the manifestation of the system. As was earlier outlined North American culture has become increasingly transient and there is a certain temporary nature to much of its thinking. Buildings are temporary; they could house anything from a pet store to a clothing boutique and may even do that in the course of a few years as the economy fluctuates. Inhabitants are transitory, working in one place, living in another, socialising over there, while shopping over here; the car culture has made location of very little consequence as you can inevitably drive there anyways. This mentality, even in the face of an ecological crisis, seems to be losing no steam. With very little emotional attachment to place, inhabitants are quick to move from location to location. Job offerings, increased incomes, desires for the brand new suburban home are just a few of the factors which influence inhabitants to see little value in staying in any one place, This has in essence has created the placelessness with which North American is inflicted. With this sort of mentality comes the opportunistic use of spaces and building based on the economic and social trends at that time. As people move so does the need for certain services. What was once a thriving church becomes abandoned when its congregation either moves away or dies off and is replaced with individuals that do not practice the same beliefs; it then needs to offer itself as providing alternative service or it runs the risk if being left vacant and ultimately rased. The church then becomes a contemporary dance studio, or a martial arts dojo, an activity that conflicts with the historical use and symbolic reference of it function in the city. This activity has systematically removed all sensible references from the city causes the inhabitant to rely on signage, addresses and phone books to navigate. The negation of an intuitive way to navigate ones environment coupled with the temporality of the lifestyle renders traditional urban design methodologies irrelevant to the North American condition and in effect creates a new condition in which the location of the activity defines the place not the geographical location or the building which houses it.

The implications of a new navigational system are huge and enable countless opportunities for use. As mentioned briefly there are some very serious opportunities in the commercial and marketing potential of this idea. As with the social networking aspect, the participant is in full control of what they claim as interests and what kinds of information they make available. They may chose, when they need to do some bargain hunting, to enable the virtual site to state they like used toasters; the device will in turn direct them to all of the listed locations of used toasters and even cross reference this with prices and the most competitive outlet they should be visiting. This places the power into the hands of the consumer enabling them to make educated choices based on their personal profiles; one could simply add 'embodied energy' to the search phrase or 'ecologically minded' to the personal profile and the search results for toasters would then include ecological information about the products being evaluated. This of

For reasons as varied as job offerings to increased incomes to the brand new suburban home isn't so brand new anymore, inhabitants see little value in staying in any one place, which in essence has created the placelessness with which N.Am. is inflicted.

course may and certainly would have the adverse affect of being saturated by advertising and marketing targeted directly at the specific participant. This sort of strategy is beginning to be explored via SNSs, most notable the purchase of MySpace by Rupert Murdoch, and that this has not slowed the flow of information onto these sites. While equally important this discussion will consider the positive potential of this system, acknowledge the commercial applications and be proactive in ensuring it is used as a publicly accessible and owned system for social networking consumer awareness and personal expression allowing the participants to choose how and when they use it.

Given that the city is now void of sensible references and place has now become defined by activity and not a set location, how does one get from one place to the next? After using ones device to locate hubs of activity, the same triggers and beacons that have been laid into the city offer personalised signs that instruct the participant where they need to go. These signs would have the same capacity for customisation as the device and database; depending on the type of installation placed in different locations in the city, the system could do anything from acting as a personal portable media device and play sounds or music that has been programmed

by the participant to signal left or right turns, to lighting up glass boxes that have been installed along the street side with a personal colour that indicates the direction that needs to be travelled, to screens that drape the side of building and display personal avatars that have been uploaded into the participants virtual site. Again the possibilities are endless and while there is always going to be a certain amount of determinism involved in the placing of the interventions and the different mediums that are used in those locations, the content and method of use is left up to the individual participant and therefore takes on the intentions of that participant.

Though much of the previous writing claims that geographical location and intuitive knowledge have very little to do with the North American context and that traditional methodologies are irrelevant, there still exists a physical site and patterns of inhabitation and use. While one may need to depend on signage and current business listing to navigate there are still patterns of circulation, nodes of activity and personal landmarks that inhabitants follow and use. There may be very little meaning and attachment to these patterns as they are forever changing to keep up with the changes in use, but they are still there. In deciding on what types of installations were the most suitable to certain areas it becomes important to study the patterns of behaviour and use to ensure, as with any deign, that the siting is appropriate and responds properly to its context. If the intention of the installation is to respond to those potential changes in the location and use of a physical site it would need to have the ability to be temporary, transportable or disposable itself. A new methodology that recognised this inherent component of North American living along with the impact of ICTs would need to develop in order to accurately access the proper location of these installations. While it may be argued that the North American lifestyle and the available infrastructure might make the suburbs the most fitting testing grounds; a physical site that would allow for pedestrian activity and foster casual coincidences was preferable being that social interaction is the ultimate goal in this endeavor. The Exchange District in down town Winnipeg is chosen as being indicative of the human scale and a dense cultural activity that could act as a platform for social interaction.

BACKTRACKING

Figure 26 - Aerial photograph of Winnipeg's Exchange District which shows the mix of the grid and riverlot systems of space allocation.

As with Soho, the Exchange District and other similar neighbourhoods in North American they have developed their own unique character and are able to thrive, fostering cultural events and a certain sense of civic pride.

It is import to at this point make clear that this system is viewed as being applicable to any North American city, that one could effectively go to Toronto or Chicago, link their personal virtual site to that cities database and they have the same personalised experience with a different set of installations and participants. There may be a completely different manifestation of the same interests based on the patterns of behaviour and use unique to that city. In this way each environment is in essence creating its own versions of the same information based on context and social will. Therefore the model that is propose is really only a mere gesture of the potential and restricted to not only the interpretations of the physical site, but to imaginations as to how any one participant might choose

to express him/her self in this context. That being said the site in question has certain qualities that are very similar to many North American, cities. Seeing increased development in the late 1800's and early 1900's, Winnipeg was a bit of a boom town. With much of its economy being based in transportation and manufacturing there was, at the turn of the last century, an influx in the construction of warehouses in what is now the Exchange District (see figure 26). However after the opening of the Panama Canal in 1914, the economy was adversely effected. "Fortunately, reasons for decline can also become reason for revitalisation. While in relatively narrow and tall lofts with a less than direct access to markets, were unfavourable for modern industry, they were favourable for a

group of pioneering artist ...The open loft spaces of SoHo permitted artistic experimentation on a grand scale with, for instance the heavy sculptures, and easily reached by freight elevators. It was also a cheap place to live and a place where relationships could be struck up easily with neighbouring manufacturing industries and other related blue-collar workers." (Rowe 1997: 135) While this talks of SoHo in New York, the Exchange District underwent the similar transformations with the exception that there is also a community of musicians and filmmakers concentrated in this area. As with Soho, the Exchange District and other similar neighbourhoods in North America they have developed their own unique character and are able to thrive, fostering cultural events and a certain

sense of civic pride (Rowe 1997).

As each intervention is highly dependent on it context to determine the locations of the various installations, a site inventory and analysis is done. As mentioned, the Exchange District, once the manufacturing hub of Winnipeg, is located just south-west of the famous Portage and Main intersection. Once outfitted with spur lines that moved goods to and from the warehouse to the Red River, many of the buildings are of masonry construction and range in height from three to six stories, though there is now some infill. The area is bordered on the east and south side with the more recent and much taller buildings of Winnipeg's corporate centre. To the north of the site is what is sometimes referred to as China Town, which quickly deteriorates into North Main; an area characterised by an abundance of what were once very high-end hotels that have fallen into disrepair. To the west of the site exists a transitional area that is a mix of low end residential, smaller manufacturing companies, parking and vacant lots. The format of the physical site inventory followed the typical methodology of data collection. Climatic influences, existing and potential land use patterns, vehicular and pedestrian circulation are all recorded; but

to this collection virtual data such as digital surveillance and availability of wireless networks present are added (see figures 27 and 28). The investigation into these electronic variations of the typical site inventory proved to be problematic. As they are an invisible entity one had to go to the source to find what kinds of signals and in what density they occur. The source, being the ISPs, WPANs, the service providers, etc., are privately owned corporations and will not give out that information for privacy reasons regardless of how ambiguous the data. It is important to note that if there is to be the integration of ICTs and wireless availability into data collection methodologies one must first free up this type of data for proper investigation and interpretation. The maps displaying the data collected through the course of the site inventory can be found in the appendix #2.

Through analysis of the inventory four distinct public space morphologies are recognised based on their spatial characteristics and patterns of use. The first morphology that is defined are the back lanes; tall and narrow in volume they are primarily used to service the adjacent industries, as shortcuts for inhabitants that are familiar with the physical

Figure 27 – Map which seeks to spatialise the virtual connectivity of the area.

Figure 28 – Map that incorportaes notions of surviellance and remote observation into the physical expression of the area.

38
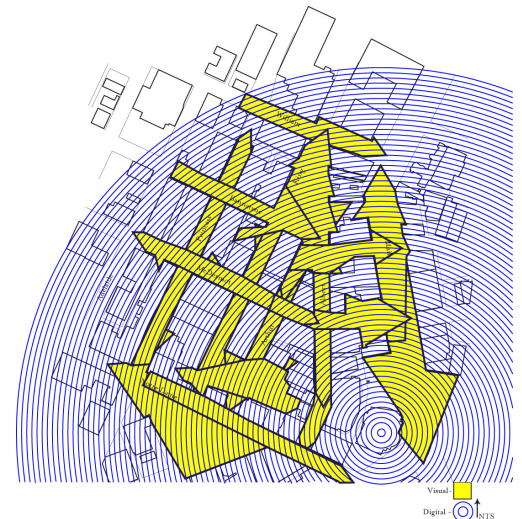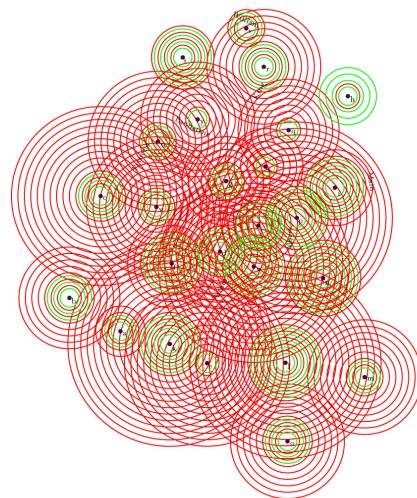
site and as places for illegal or illicit behaviours that the hidden quality of the space encourages. These spaces are referred to as the Closed Sets for their inconspicuous nature and potential for some form of projection due to the narrow space and the building height that keeps it in shadow. The Open Fields are the vast parking lots that now fill what was once dense with built form. Typical of many North American cities, personal transportation takes precedence over the use of a public system. As such there is an imbalance in the number of parking stalls required for those that work in this district. Usually travelling one person to a vehicle, from Monday to Friday, 9-5, these lots are full of cars, after this time, however they are often left vacant. (though it must be said that in this area many of the cultural activities manage to keep these lots in use a good portion of the time). Functional or not the vastness of these spaces framed by the adjacent buildings opens the site up to long views that often span three of the city blocks and create visual interest in this otherwise dense urban area. The term Through Fares is attributed to the axial streets that run in a very deliberate near north-south and east-west manner. Very strong and fixed in its form the street reinforced the block which reinforced the building which reinforced the building's internal structure. Practical in function the majority of both vehicular and pedestrian traffic moves along these axes. Seen as part of the formal framework, they become the defining geometry and have great influence on the massing that occurs within them. The last public space morphology is The Public site. Old Market Square, as the open space is currently called, is a true expression of the urban square. Being that the presence of the river is very strong in Winnipeg, one will find certain areas where the initial river lot system of dividing land and newer grid system intersect. These conditions create interesting anomalies in the geometry of the city. The Public Site is one of those conditions and sits at the termination of three major axes and is adjacent to three others. Spatially this creates a natural focus and destination as it becomes visible through multiple vantage points and these sight lines are intensified by the strong axial nature of the streets. With obvious implications as a landmark and a beacon in the area this becomes potentially a very important physical site. With the four major public space morphologies defined, the next step is to establish what type of intervention would be appropriate in each.

DESIGN CONCEPT

Though there are many considerations of availability of technology and service, it is still maintained that ICTs will continue to permeate the North American city making them a necessity as opposed to a luxury.

As a result of the extensive investigation into locative media, three levels of interaction are established to suggest design solutions. The more passive expression based on motion detection or proximity that might only show a minor change in the installation and might allow for non-device users to engage with the system; the more active RFID or device detection that would allow for an increased level of engagement; and the customised engagement where the personal expressions of the participant are mediated though the city via the device. The varying levels of engagement are meant to address the notion that while it has been a general assumption of the work that the majority of North American inhabitants have already integrated ICTs into their lives,

to prohibit those who have either chosen not to or cannot afford this type of technology from participated would be counter productive to the goal of increased social interaction (see figure 41). The vary degrees are also chosen to allow for different intensities and augmentations of the city. It is not expected that the same sort of installation appropriate for a festival would be appropriate at other times of the year when the space is being occupied more passively. The use of motion detection can allow for all the city's inhabitants to engage with the system. The limiting of the personalisation of certain spaces also creates the potential for areas to be reserved for public announcements, community events or more simply the protection of valued areas of the city

from what might be considered poor taste. The next level of engagement becomes more personalised and is related to the participant carrying either the device or an RFID chip. Limiting this engagement to the device may foster more social separation than interaction as it could lead to focusing on the stratification of the cities inhabitants. RFID chips are a commonly used and inexpensive technology, while they do not allow for the same level of personalisation; they do create a direct relationship between the participant and the city. The fully customised and personalised engagement requires the device in tandem with the database. Though there are many considerations of availability of technology and service, it is still maintained that ICTs will continue to permeate the North

American city making them a necessity as opposed to a luxury. There is also the question of time; which areas would merit permanent installations while other are better suited to transportable or even disposable installations. Given that North America is defined in this work as being transient and temporary it is important to treat the installations as responses to that condition. With the information acquired through an inventory and analysis of the physical site each installation must be considered in terms of permanence. Dependent on the types and patterns of use certain installations may be portable in nature and are moved as nodes of activities and circulation patterns change. Other installations may be disposable, meant only to function for one specific occasion. In locations deemed as having long standing use, a versatile nature or being at a geometrically important hub of the city the installations might be a permanent investment. There is also the question of what kind of aesthetic or function each installation should exhibit. Intended as being a response to the context and the physical site, each installation would seek an appropriate expression that did not simply blanket the city in technology, but enhanced the present function and aesthetic. A quick synthesis of locative media precedents and the established public space morphologies was performed as a way of exploring the design potentials.

This process moved to a more sophisticated investigation into ways of linking the virtual activity that might be required for participation. At the most engaged level of system the participant is required to register at a virtual location in order to participate in the physical site. There is a potential for virtual and physical inhabitation of the space simultaneously and for each to influence the other. This brings about the culmination of much of what is being addressed in this work (see figure 30). There is an opportunity to give spatial qualities to the virtual and personalisation to the city. This urban/virtual morphology is then the focus as it speaks to the all of the issues that have been raised throughout the discussion. At the risk of catering to the more privileged participant, this higher level of engagement is investigated purely for its suitability to the conversation and should not be interpreted as superseding the other levels of engagement. It is still maintained that all levels have their place and that, that place would be considered with the appropriate rigor. Having established the virtual prerequisite of the system, a suitable parallel for each morphology is proposed. Based on the criteria for the definition of the public space morphologies, virtual parallels are suggested. Virtual spaces that offer the same types of activity and behaviour are paired with each morpholo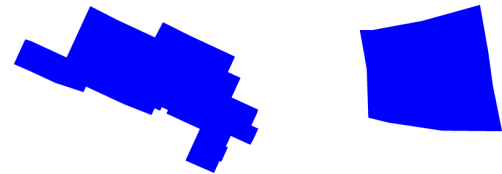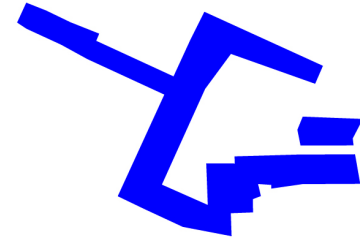gy. The Closed Sets are based on the spatial qualities and the behavioural patterns these qualities foster. Removed from the face

of the street and having the capacity to hide activities carried on within them, this morphology is paired with online pornography. Both sites offer a certain amount of anonymity and multiply levels of engagement that can allow for anything from casual participation to forms of addiction. This behaviour in both cases has become an assumed if not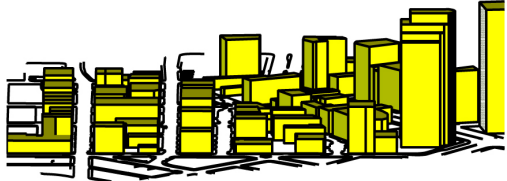 accepted part each entity; urban and virtual (see figure 31). The Open Fields are identified as being important to the functioning of the area though not necessarily enhancing it aesthetically or experientially. This condition can be seen in the sign in or home page; though it is a required and understood link to certain virtual activity, it is only the starting point to the subsequent engagement. The parking lot has the same qualities in that it is rarely the destination, but is an expected step in ultimately reaching that destination (see figure 32). Through Fares are defined by their strong geometry and integral link to the functioning of the city. Historically the street is seen as a public, social and economic space. This does not translate well into the North American condition and manifests into a private space that caters more to commercialisation than to social activity. The parallel of the potential use of what are considered virtual public spaces ,such as SNSs, for collection of marketing research data and subsequent ad campaigns closely follows the manifestation of traffic space in North America (see figure 33). The Public Site is formed by its relationship to the surrounding area and its consistent use for cultural events. The public square has developed into an assumed and required part of the urban context. This requirement has translated into an often empty gesture in the North American environment. Many theorists and internet enthusiasts are touting the internet as being a true representation of public space. Paralleled to the chat room or message board the relationship of these virtual and physical spaces may prove to reinforce each other as being social, public places (see figure 34). As a result of these parings, urban/virtual morphologies are emerging out of the initial public space morphologies. Each of these hybrid spaces is to be considered in terms of an appropriated design response. A matrix that regards each space in terms of its physical, virtual, temporal and spatial nature is introduced to further the associations and suggest appropriate design solutions.

Site Plan

Figure 30 – There is a potential for virtual and physical inhabitation of the space simultaneously and for each to influence the other. This brings about the culmination of much of what is being addressed in this work. There is an opportunity to give spatial qualities to the virtual and personalisation to the city.

Closed Sets –

Through Fares –

Open Fields –

Public Sites –

NTS

Closed Sets

Figure 31 – The Closed Sets are based on the spatial qualities and the behavioural patterns these qualities foster. Removed from the face of the street and having the capacity to hide activities carried on within them, this morphology is paired with online pornography. Both sites offer a certain amount of anonymity and multiply levels of engagement that can allow for anything from casual participation to forms of addiction. This behaviour in both cases has become an assumed if not accepted part each entity; urban and virtual.

Closed Sets -

NTS

OPEN FIELDS

Figure 32 – The Open Fields are identified as being important to the functioning of the area though not necessarily enhancing it aesthetically or experientially. This condition can be seen in the sign in or home page; though it is a required and understood link to certain virtual activity, it is only the starting point to the subsequent engagement. The parking lot has the same qualities in that it is rarely the destination, but is an expected step in ultimately reaching that destination.

Open Fields - NTS

Through Fares

Through
Fares –   NTS

THE PUBLIC SITE

Figure 34 – The Public Site is formed by its relationship to the surrounding area and its consistent use for cultural events. The public square has developed into an assumed and required part of the urban context. This requirement has translated into an often empty gesture in the North American environment. Many theorists and internet enthusiasts are touting the internet as being a true representation of public space. Paralleled to the chat room or message board the relationship of these virtual and physical spaces may prove to reinforce each other as being social, public places

Public Sites – NTS

PART 3 – VIRTUAL ASSOCIATION

Figure 35- Image illustrating the relationship of the physical to the virtual and the paramount importance of the interface.

An incredible powerful medium, and one in which we are already steeped, the image is the predominate tool for communication, marketing and entertainment.

Having gone through the conventional site inventory, which was supplemented with some wireless data, the spatial analysis had revealed four major public space morphologies. The spatial synthesis revealed that there were components that this physical study had not taken into account. The subsequent virtual parings start to define the nature of the installations by creating urban/virtual morphologies. However, there are more decisions and assumptions that need to be made in order to move forward with the installations. One of these decisions is that all of the installations would be image based, but using various forms of the medium associated to each urban/virtual morphology. With the endless possibilities this system presents it becomes important for

the clarity of the study to reduce the number of variables so that we can engage in a sensible dialogue. From here the matrix is then used to inform the nature of each installation.

An incredibly powerful medium, and one in which we are already steeped, the image is the predominate tool for communication, marketing and entertainment (see figure 35). With the advent of first moving pictures and now digital imagery we have increased the quantity of images exponentially. Without even entering into the discussion of magazines, illustrations, photography, movies or video games, we can see the effects of this visual preference in the city itself. Littered with billboards, street signs, store fronts, and so on we have become

selectively impervious to the image; it moves in and out of our registry as it becomes useful. In most media, the image cannot be separated as the media is dependent upon the image for communication; even music has become as much a visual experience as an aural one. As we have discussed, the city has had to adopt the use of signage and images to make navigation possible and the capitalist environment encourages the advertising of services and products in the urban context. This creates an environment saturated in images; a spectacle that has come to be expected of a thriving urban centre. "The commodification of the city based in mass media, simulacra, and the inauthentic that has been generated out of a perhaps less-than-fortuitous mix of the proliferation of popular culture,

new communication technologies and global capitalist expansion has been well documented." (Scherr 2006) There might be an opportunity to take back these urban canvases which face onto what are considered public spaces; placing them into the public realm and giving the citizens the choice to decide what fills them. If we look at the virtual experience it is further steeped in imagery; referred to as remediation, it takes on various mediums and is able to reconfigure and layer these forms into more complex and laden information. "...remediation operates according to two representational strategies. The first, which is 'transparent immediacy', attempts to erase or conceal the process of remediation by making the medium invisible. Linear perspective painting since the Renaissance, most photography, and the Hollywood film style all pursue transparent immediacy. The second strategy, which is 'hypermediacy', calls attention to the process of remediation by acknowledging or highlighting the medium itself. Much of television, rock music stage productions, and the World Wide Web are hypermediated. In either case, the producer seeks to arouse in the viewer 'a desire for immediacy', and it is this desire that leads digital media to borrow avidly from each other as well as from their analogue predecessors." (Bolter 2006)

This hypermediacy is the form of image employed by the virtual, regardless of the potential for using, for example, text and sound based mediums alone. The instant messaging craze started as just that, a text and sound (in the form of alerts and notifications) based communication tool. Then one was able to associate themselves with an image which they could upload and change at a whim. There is now the capacity to set up a webcam and to be watched while sitting in front of the computer, typing responses. Whether image is a preference guided by the proliferation of mass media or a conscious decision on society's part, it is
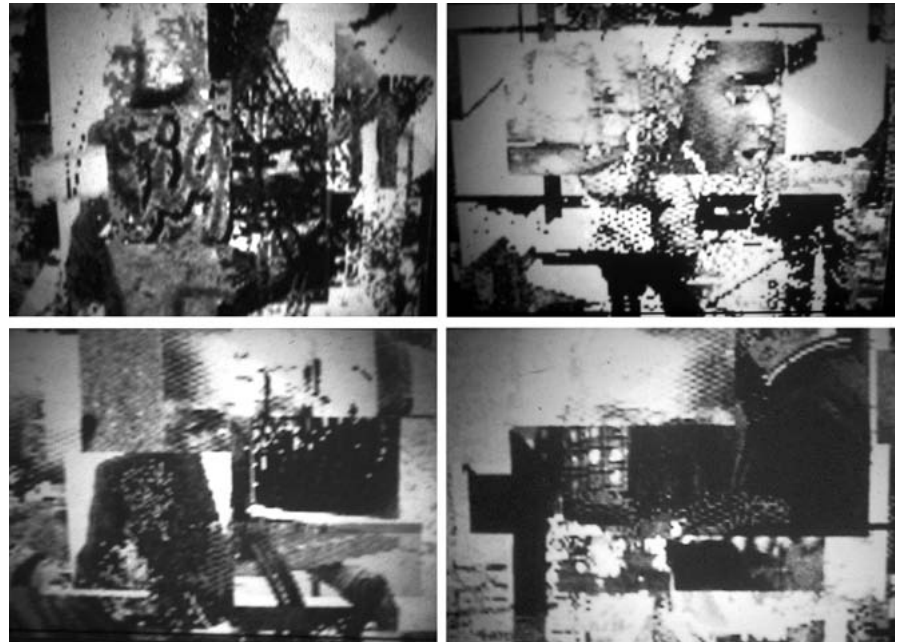

Figure 36 - This image of stills from Robert Pepperell and Miles Visman's ATV (Automatic Television), shows the use of the layering by cutting and pasting live video feeds to create a more provocative collage.

really irrelevant to the fact that it is the most predominant and freely embraced form of communication. Being that the intention of the interventions is to allow for the participant to personalise and customise their experience, it is important to not pre-abstract the format, but to provide a collectively recognised and familiar medium upon which the participant could then decide what form their personal expressions might take (see figure 36). The final reason for deciding on one format was to reduce the number of variables. As has become evident, the complexity of this topic is difficult to manage and, as is common in scientific experiments, it is important to reduce the number of variable so that there is commonality from which to draw conclusions. It is encouraged that in each unique situation that all of the potentials need to

be investigated and that there may be particular places where an audio based intervention is better suited, or a more tactile engagement that includes motion detection and touch screens. However for the purposes of this study it is important to restrict the scope to a digestible morsel of sensible thought.

Having established the general format of the installations, the individual installations themselves are addressed. As outlined previously, there is an unavoidable virtual experience that is prerequisite to the physical installation. As such, it is important to recognise this as a component of the system, and that this virtual component is able to assist in giving form to the nature of the installations. Using a word matrix the

physical characteristic of the morphology are related to a virtual parallel, after which more terms are introduced to give temporal and spatial inspiration to the form of the installation. The physical is meant to refer to the tangible site within the city into which the installation is being placed. The virtual is meant to refer to the online activity and experience that parallels the activity in the physical site. The temporal is meant to define the chronological qualities of the public space morphologies as they relate to the terms introduced for both the physical and virtual conditions. The spatial is meant to address the qualities of the public space morphologies' space in relation to the terms introduced for both the physical and virtual conditions. Though there are some discrepancies and ambiguities with some of the terms, it helped to organise a set of somewhat disjointed sensibilities. Please see the appendix #3 for the specific definitions.

Starting with the Closed Set, the morphology is the back lane condition which has a particularly tall and narrow volume that are often casts the space in shadow and primarily functions as a service corridor, a shortcut and a hidden site for illicit and illegal behaviours (see figure 37). The parallel virtual experience is the practise and participation of pornography on the internet. Responsible for 4.2 million, 12% of all web sites, online, pornography has an undeniable virtual presence (Family Safe 2007). Given the

anonymity offered by the online experience coupled with the increased diversity and availability of websites, attitudes to pornography are nearing complete indifference if not social expectance

The Open Fields are paralleled with the registration, or sign-in pages found in numerous online examples. For everything from privacy, identity validation and marketing purposes many virtual sites require some form of membership (see figure 38). Paid websites vary from adult entertainment to online academic databases and there is often a way to find, or hack, the same information through a different route for free. Some virtual sites allow, for example, free membership for women while men have to pay; implying that there are certain services women will not pay for. From these sign-in pages the participant is then able to navigate through the website or link to others. Similarly, many of the parking lots are privately owned and one must pay to use them. In the Exchange District, as with most downtown parking lots, the bulk of the lot is filled with monthly permit owners, whom have essentially bought membership and who move from this location into the rest of the physical site and to other activities. After the regular working hours these lots become free and can be used by anyone, which again parallels the range of free and private online sites.

Figures 37 and 38 – The two matrix developed in the virtual associations of the Closed Sets and the Open Fields.

Closed Sets			
Physical	Virtual	Temporal	Spatial
departure	exploration	fleeting	subordinate
addiction	escapism	transferable	projected
illicit	voyeuristic	fickle	ephemeral
hidden	anonymous	disposable	banal

Open Fields			
Physical	Virtual	Temporal	Spatial
functional	platform	determined	structural
pragmatic	informative	springboard	gathering
framework	archived	scheduled	memory
urbane	interface	consistent	threshold

49

The Through Fares are related to the online marketing strategies which are driving the continued funding of most free websites (see figure 39). The popularity of a site, by nature exposes it to a great number of participants and therefore a broad marketing audience. While participation on the websites is often free, one has agreed to be constantly marketed to through various mediums. As was mentioned of MySpace, the participant is giving free market research data to a corporation that can in turn personalise advertising for each of those participants. Similar to the function of the street, while it is considered a public space and use is only mildly restricted (traffic laws and vehicular dominance) inhabitants are increasingly subject to billboards store fronts and the more recent phenomenon of planting the centre boulevard with a barrage of small temporary advertisements for local businesses. This coupled with the strong economic history of the street, especially in a city that is based in manufacturing and transportation, made this a logical parallel.

The Public Site is matched with message boards or chat rooms in its importance as a public forum (see figure 40). A reoccurring theme through these writings, the internet carries the potential to become the true expression of public space which has been sorely over looked in North American cities. Viewed at present as a tool for everything from, frivolous banter and general tomfoolery, to question and

answer sessions regarding any topic imaginable, to serious political and social issues that may have not otherwise found a form of expression; this medium cannot be overlooked as a new kind of public space. Becoming more and more visual in presentation, these interactions are often supplemented with personal avatars, images and webcams in a motivation to create a more personalised level of communication. It has been argued that the physical public space, increasingly subject to private concerns, regulations and ownership, is still only a gesture, required of all urban centres. However, due to the age of the district, the geometry of the physical site and the vibrant artistic community, Old Market Square is a successful example of a public space, hosting various festivals and events throughout the year.

The virtual associations made clear that each installation would have both online and physical interactions happening in the space simultaneously. The nature of this interaction is physical and virtual site dependent and further augmented by the participant. Paralleling the spatialisation of the virtual and customisation of the city becomes a tactic in humanising both. While not all of the interventions lend themselves to what might be an idealistic end, they draw from current trends and behaviours. While they may highlight or showcase certain aspects of humanity that we are not comfortable with, it is ultimately up to the participant to self censor and monitor that which they feel is appropriate behaviour.

Figures 39 and 40 - The two matrix developed in the virtual associations of the Through Fares and The Public Site.

Through Fares			
Physical	Virtual	Temporal	Spatial
transport	medium	sporadic	axiomatic
pageantry	performance	fading	display
public	accessibility	continual	evident
economic	trend	cyclical	malleable

Public Sites			
Physical	Virtual	Temporal	Spatial
recreational	entertainment	relative	personalised
civic	community	incidental	nexus
occupation	presence	permanence	constitutional
spectacle	immediacy	occasional	visible

INSTALLATIONS

The GSP enabled wireless devices allow the physical participant to locate clusters of activity and to have a series of mediated experiences as they move to these clusters. At the same time online navigation is creating the remote inhabitation of the city via projections and cameras.

Having established the four predominate urban/virtual morphologies the next step is to insert the installations. Each of the four urban/virtual morphologies has been suited with a specific expression that included the local and remote inhabitation of space at one moment in time (see figure 41). The GSP enabled wireless devices allow the physical participant to locate clusters of activity and to have a series of mediated experiences as they move to these clusters. At the same time online navigation is creating the remote inhabitation of the city via projections and cameras. As a result these spaces might be populated by an incalculable number of people based on random chance and endless combinations of participants. A step by step set of schematics are created for each urban/virtual morphology. Each schematic is then supported by in situ images that help to contextualise the interventions. While not always the focus of the schematics, the device always maintains the capacity to filter out any unwanted interactions and always retains its function as a navigational tool.

The Closed Sets are expressed using projectors that have been placed at rhythmic intervals along one side of back lane. These projectors are mounted closer to the ground plane and display their images along the adjacent building surface. They are played at all times of day and therefore come in and out of view with changes in light. The images that the projectors display come from both virtual and physical sources with each having different intentions and functions.

The virtual source is based on the browsing, viewing and participation in pornographic sites. Once the online participant has signed in to the database their subsequent exploration is filtered by the interface. While it is not being archived or tracked for the purposes of surveillance what it does enable is the potential for the participant's avatar, image or personal expression to be randomly displayed, via the projectors into the various Closed Sets in the city. These images will remain at one projector for as long as that online participant visits the site, as they move onto other pornographic sites their image will be displayed at another randomly selected location. These

projections are real-time only and one can only be in the virtual and physical space at the same time if they happen to be browsing pornography while in the physical site that the projection has been randomly displayed. This creates the situation which caters to the notions of exhibitionism and voyeurism as a predominate theme such as in many sexual fantasies.

In the physical expression of the installation, the participant is offered a variety of experiences. If the participant has chosen to use their device as a navigational tool and their Closed Set is acting in effect as a shortcut, then a personalised colour will temporarily override the virtual image being projected based on proximity to the projector. This creates a condition in which the physical participant only ever sees the virtual images in the distance and in passing rendering them unable to navigate and watch at the same time. The physical expression has been restricted to a colour in order to preference the illicit behaviours and imply that if the physical participants want to engage in the behaviour that they will be required to act that out in real live time as well. They are of course able to turn off the navigational component of their device and start to engage with the projections which will lead to a change from passing through to inhabitation of the space and this is a different experience. Another potential is for simultaneous illicit acts to be performed virtually and physically. Being that the Closed Sets have already been indicated as the scene of questionable and often illegal acts the two can now feed off each other. At the conservative end of the experience is the idea of others engaged in sexual acts and at the more explicit end is the co-participation as each inhabitant gets caught up in the expression.

Temporally the projections are only visible either at night or on dreary days; this correlates with the chronology of the physical site in which
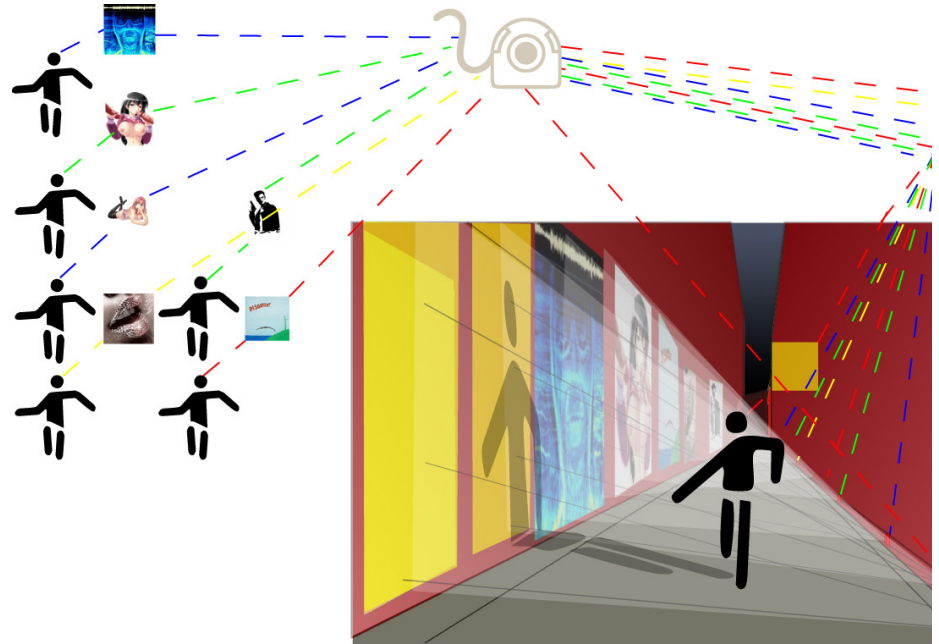

Figure 42 - Schematic drawing of the physical and virtual co-inhabitation of the Closed Set morphology.

most of the illicit and illegal behaviours takes place at night while recognising that the parallel virtual activity often takes place at any time of day, dependent on the online participant's personal schedule. As mentioned, the online projections will only appear for the duration of their visit to any one site after which the image will be redirected to another random location, this is intended to highlight the fleeting and fickle nature of this behaviour. This may also encourage the movement of physical participants as they try to locate specific online participants or better building surfaces for viewing images.

Spatially the intervention responds to the form of the space by exploiting the tall narrow volumes and creating a series of rhythmic thresholds that correlate to the scale of the back

lane. As the physical participant moves through the projections they, by virtue of standing in front of the low-mounted projector, become a distorted part of the image; an image that is already distorted due the building surface being projected onto. The use of building surface make the image less determinate and more provocative while playing up the grainy quality of the space (see figures 42 - 46).

The entire installation is intended to be transferable; as the overarching purpose is to facilitate social interaction, the physical site must correlate with the physical inhabitation. If for example, a certain route or shortcut falls out of favour and is no longer physically populated then the installation might be transferred to a location that lies en route

Figure 43 - Step-by-step schematic drawings of the physical and virtiual co-inhabitation of the Closed Set morphology.
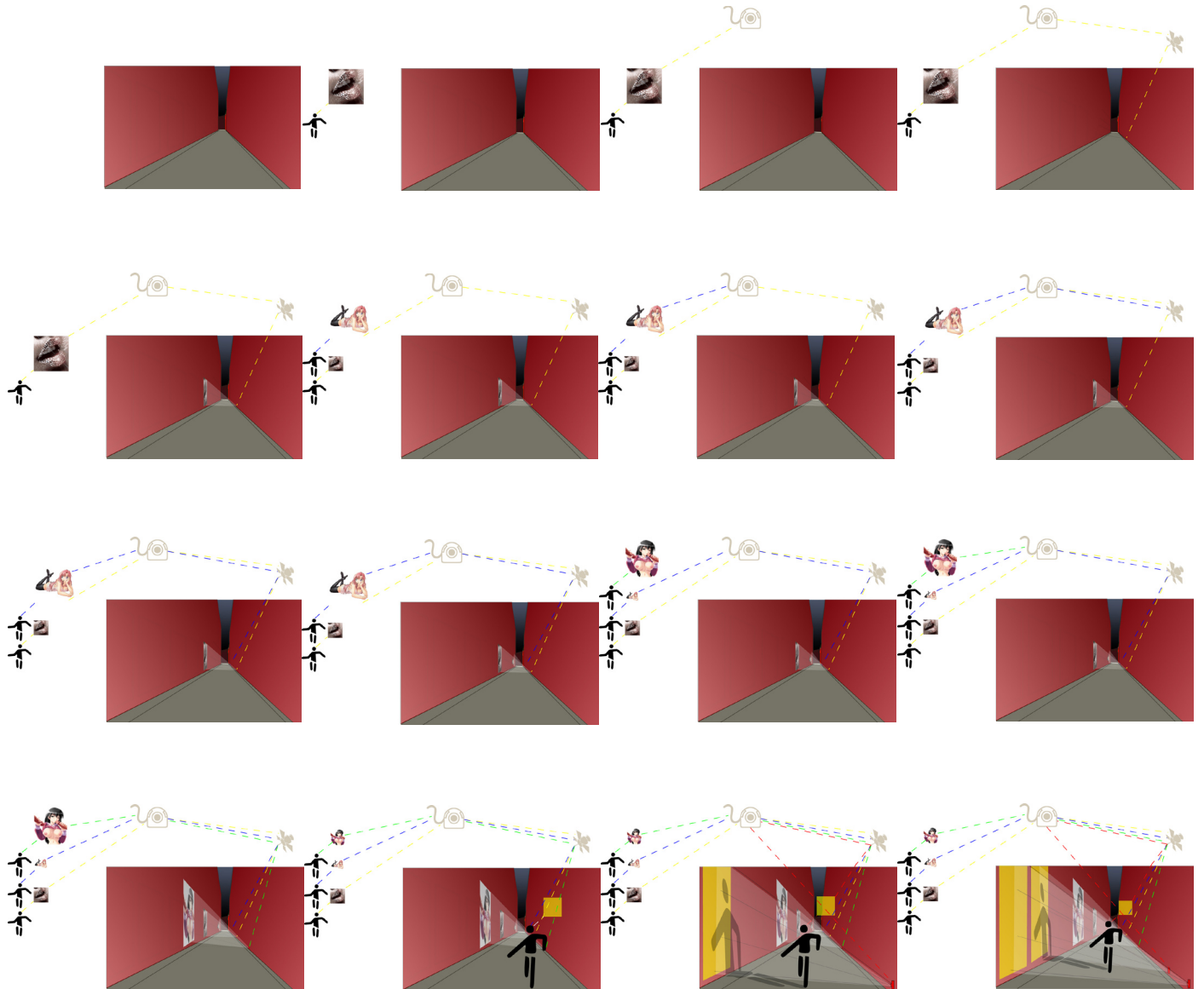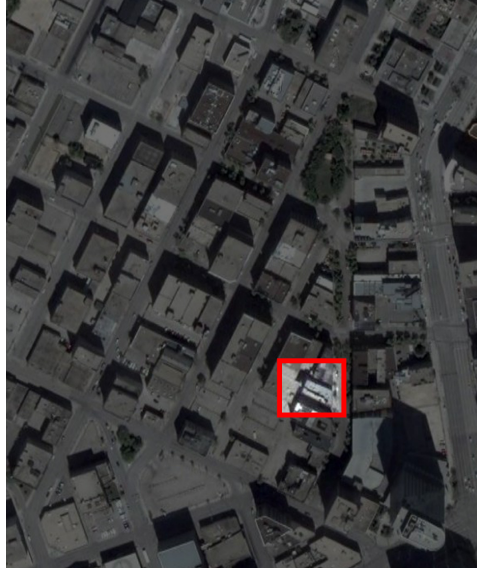
Figures 44 - Location of the Closed Set in the Exchange Disrict.

Figures 45 - Plan of projection locations in the Closed Set.

Figures 46 - Perspective of intervention in the Closed Set .

to the newest urban destination points. By the same token it might become more populated by voyeurs and exhibitionists as its authenticity as being 'off the beaten path' is renewed.

The Open Fields manifest themselves through a series of large liquid-crystal display (LCD) screens which have been mounted on the sides of adjacent buildings and opposite cameras that have been built into a series of parking benches. The parking benches have been built into the parking lot and flank the vehicular access between the blocks. The screens display a series of information from online and physical sources.

The virtual participant will sign into the data base and then move through other pages or links. As they sign in their avatar, image or personal expression is displayed onto one of the Open Fields' screens; the duration of which will correspond with the cumulative number of times that participant signs in; for example if the participant is an avid inhabitor and visits the virtual site four times a day then their image will remain visible on the screen for five minutes. Other online participants avatars will be directed to other screens for that five minute period unless either, their archived visits out number those of the first participant, or the remote population is particularly high and all the screen are full; in which case the lesser of the two will flash momentarily and that moment will not be considered part of the greater's five minutes.

The physical intervention, while always retaining its navigational qualities, will have a similar hierarchy of screen occupation; the more frequently the physical participant visits the site the longer the duration of the personal image. There are, as with the last intervention, a few different physical experiences that dominate this installation. To pair the physical experience to an archiving or online history, an image of the
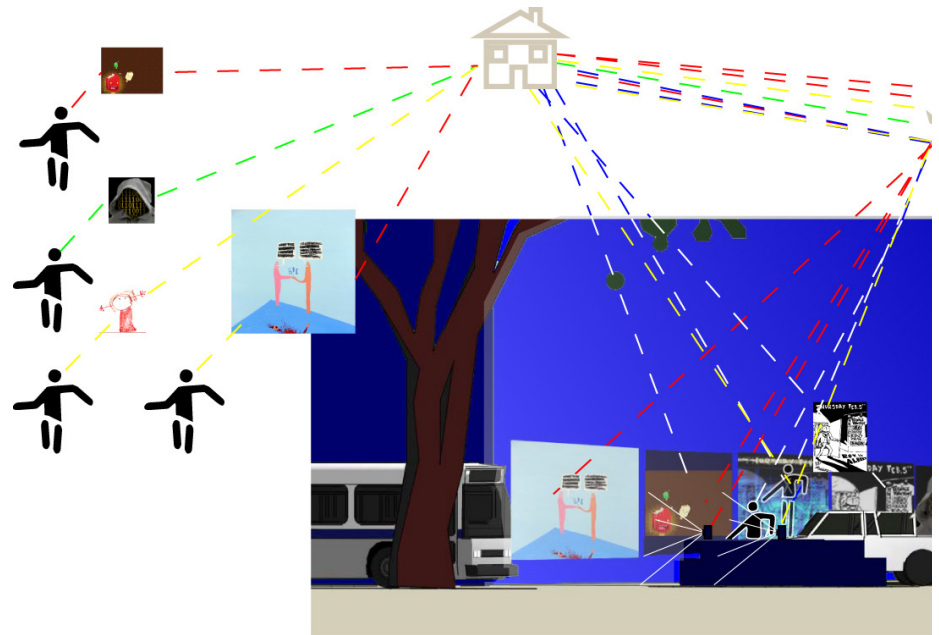

Figure 47 - Schematic drawing of the physical and virtual co-inhabitation of the Open Fields morphology.

physical participant will be taken as they, with their enabled device, pass between the cameras and adjacent screens. The image will include the physical participant and the coincidental image of the online participant that is signing in. This image will be archived in the database and the next time the participant visits the physical site that image will be displayed back to them, while recapturing their current visit. In this way a personal history and narrative with both the physical city and the virtual participant starts to develop. The physical participant can view the snapshot of experiences that may have happened that morning or may have happened a year before. Remote and local participants are recorded as inhabiting the same space at one time. If the physical participant chooses, they can play with the system and have themselves

captured as many times as they desire, or until they have managed to get a perfect shot with the right virtual co-inhabitant. Though there are many possibilities the scheduled and regular nature of the capture and display is meant to speak of the determined and pragmatic way in which the physical and virtual sites are used. As a navigational tool the images can always be overridden momentarily to allow for wayfinding. In this morphology the personal expressions are unrestricted and can be highly customised as a landmarking tool. The device can always be turned off allowing the physical participant to simply view the array and durations of the images.
Temporally the installation responds to the archived and scheduled nature of the physical and virtual public space morphologies. The

55

Figure 48 - Step-by-step schematic drawings of the physical and virtiual co-inhabitation of the Open Fields morphology.
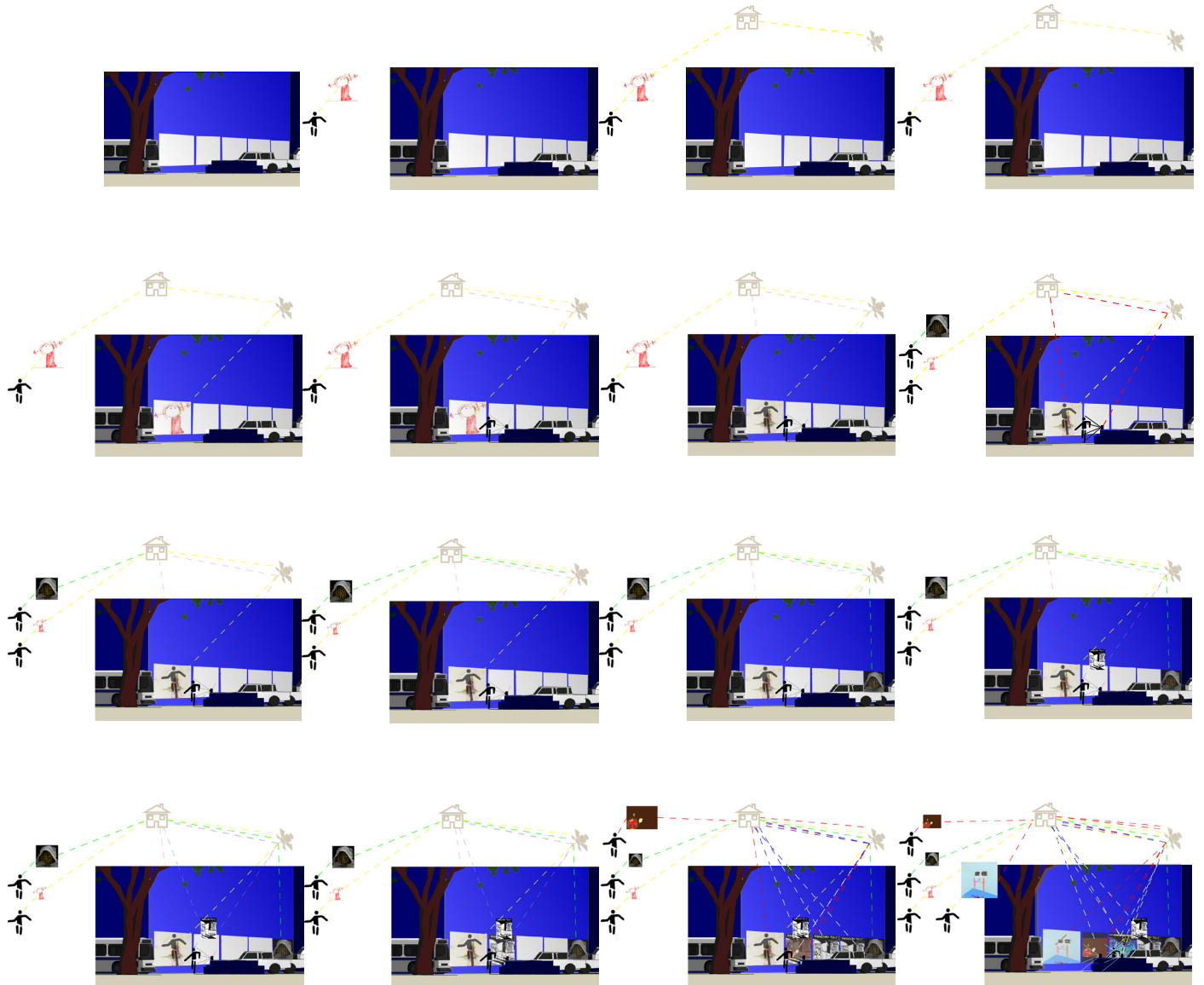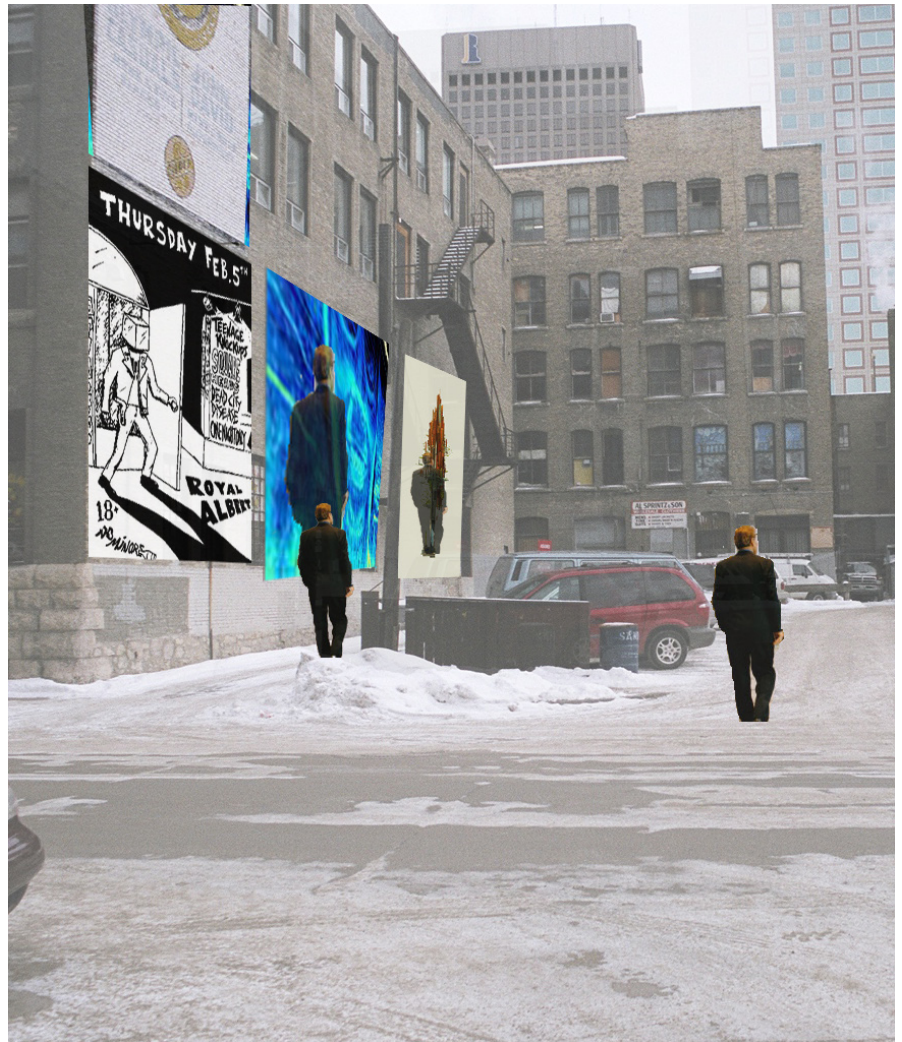
Figures 49 - Location of the Open Field in the Exchange District.
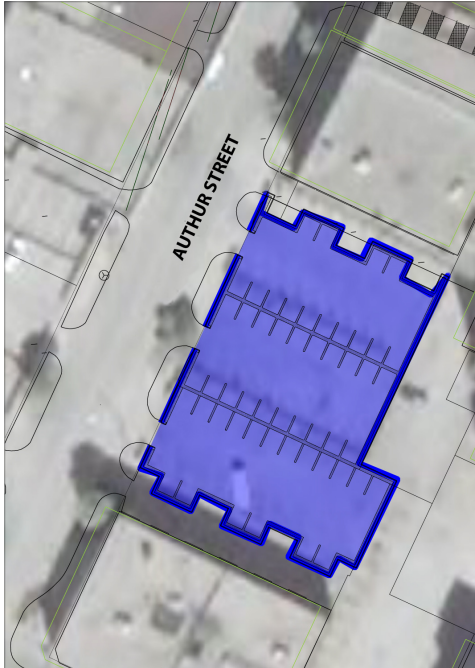
Figures 50 - Plan of parking benches in the Open Field.

Figures 51 - Perspective of LDC screens in the Open Field .

use of duration and hierarchy preference participants that frequent the sites and therefore encourage increased inhabitation in both realms. The functional characteristics and consistency of the physical and virtual sites determined the choice to build a seating area and mount large permanent LCD screens; while shortcuts and destination points change, relocate or relink, the Open Fields remain constant as a springboard to other the physical and virtual sitess of activity.

Spatially the screens are proportioned to the scale of the buildings and maintain a balance between the built form and the human scale. The parking benches act as mediators between the function of the parking lot and the potential for other uses; they are designed for human comfort while still allowing the space to operate as a framework for the infrastructural needs of the local economy. There is also the potential, due to the open views made available by these spaces, to use the personal images as a way of advertising local business, art, music and other cultural activities. The proliferation of commercial entities using the Open Fields as a form of free advertising is a real possibility and needs to be considered as a by-product to this type of system (see figures 47-51).

The Through Fares are economic and commercial in nature therefore this morphology becomes the domain of mass marketing. Display cases that line the street at the edge of the sidewalk double as seating benches. Within these cases images are projected onto a film that is applied to the transparent surface which allows for this projection to be seen in the daylight (Holopro 2007). The projections are from both virtual and physical sources, but it is not always simultaneously inhabited.

The virtual participant may or may not be displayed in the physical site. In the case of online shopping or purchases that take place in
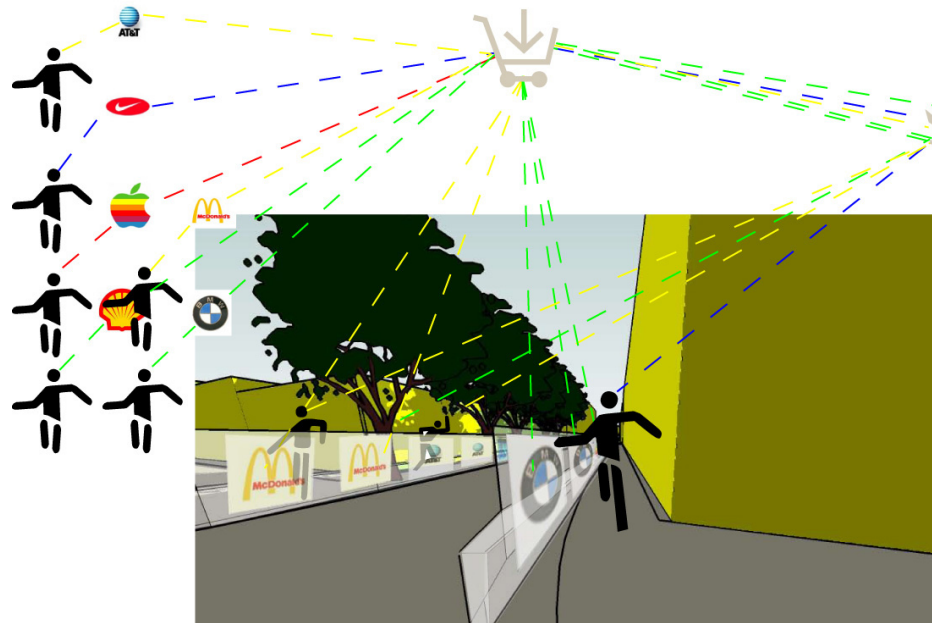

Figure 52 - Schematic drawing of the physical and virtiual co-inhabitation of the Through Fares morphology.

private spaces like shopping malls, the virtual participant will be adding to the history of spending habits and records of inferred income and payouts, while they are either linking through the database or carrying their enabled device. The participant is always in full control of what information they allow to be public and may choose to seek ways of disabling this data collection from happening. Otherwise, this information is stored in the database and can be displayed on the participants profile as an 'interest'. If the participant uses a bank or credit card at a vendor or street side shop then that individual purchase may affect the advertising that will then appear instantaneously to that participant as the purchase goes through. This creates the duel inhabitation of the the physical and virtual sites in relation to currency.

The physical participant will be advertised to as they come into proximity of these display cases; personalised ads will play for each participant based on the histories collected through the virtual site. The duration and hierarchy of the advertisements are based on the credit rating of each inhabitant as recorded through the online activity. Though not necessarily the case, the intervention assumes that the participant with the highest credit rating, or greatest purchases is the most likely to continue this trend and is then preferenced by having their personal advertisements both override those of lesser ratings and also have the longest duration. This has implications in the establishment of social status and notions of how participants want to be perceived.

Figure 53 - Step-by-step schematic drawings of the physical and virtiual co-inhabitation of the Through Fare morphology.
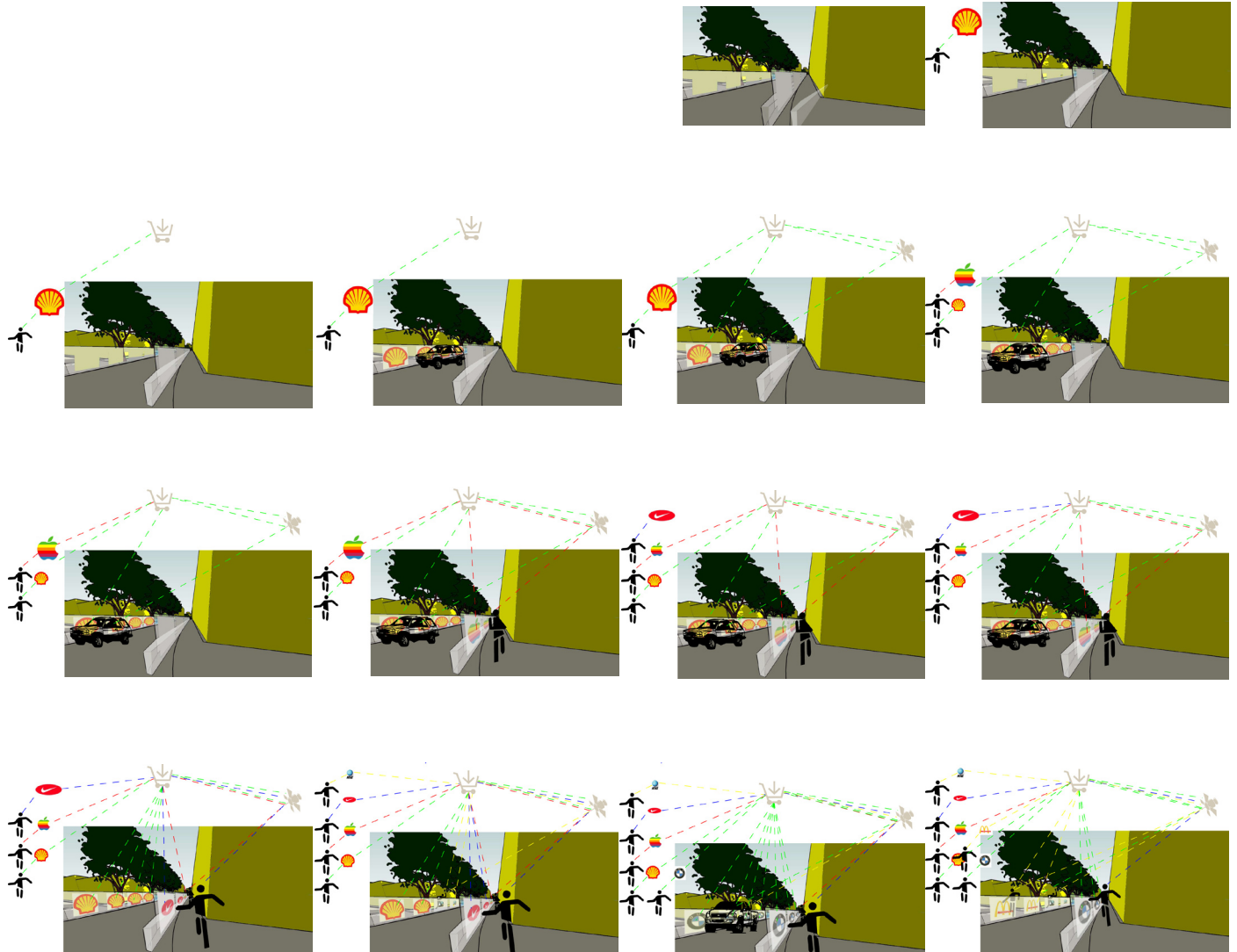
Figures 54 - Location of the Through Fares in the Exchange Disrict.

Figures 55 - Plan of display cases locations in the Through Fares.

Figures 56 - Perspective of advertisment potential of the Through Fares.

As always the system as a navigational tool will override the advertisement for the time that the participant is within a certain proximity to the closest projector. This allows for the preference of navigation and wayfinding while still recognising the commercial characteristics of the street; more importantly though, it gives the participant a choice and a potential way to override the marketing scheme by virtue of collective physical occupation.

Temporally the intervention allows the market to determine the duration of the displays. Relative to a valuing system based on online financial activity and the posting of purchases, corporations are able to hone their marketing skills in hopes of appealing to very narrow targets. Dependent on the market trends and economic cycles the targets may fluctuate from teens to the elderly changing the type and duration of advertising. Given the ultimate power to override the system, the urban traveller then may at times take to the streets, so to speak.

Spatially the display cases are long low transparent boxes that follow the axial geometry and, with the exception of the projection, are meant to disappear into the street. The viewing benches run along the length of boxes and face into the side walk. Designed for human comfort, the height of the cases is at the eye level of the automobile drivers while not impeding any views of the pedestrian. Though it might be seen as creating a further separation from the street, it is thought that the transparency of the material and the potential for pedestrian inhabitation will encourage more roadside activity than it would hinder (see figures 52 -56).

The Public Site comes to life with a garden of media screens that are outfitted with webcams. Large double sided LDC screens are placed perpendicular to the multiple site lines that define this morphology as a central location and
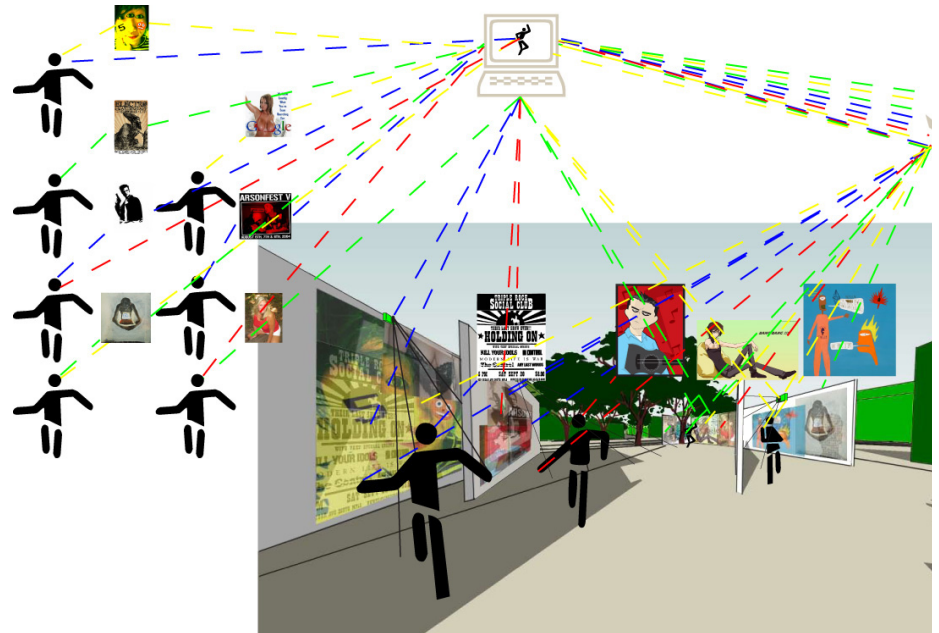

Figure 57 - Schematic drawing of the physical and virtiual co-inhabitation of The Public Site morphology.

area of interest. The screens are supported by steel posts and employ a pulley system to allow for vertical movement as different sizes and styles of events occur. This morphology is inhabited virtually and physically simultaneously.

In the virtual experience the online participant signs into the database and links through to the public forum. This forum not only allows for live chat between online participants and posting of messages and information, but also gives the capacity for the participant to watch the live activity in the physical site. As the online participant chooses a view they want to see their avatar, image, or personal expression appear on the screen to which the webcam is mounted. The online participant is then able to both view the events and activities of the

Public Site and to interact with the physical inhabitants through their personal expression which may be changed to messages or other forms of communication. This creates a dialogue that can be generated, translated and responded to in both realms instantaneously. Since the screens would become increasing indeterminate as populations increases it would be left up to the participants to assign certain functions or messages for certain screens. Through the course of the a democratic system developed by the participants, they would vote for which screens would be reserved for community messages, which would be reserved for events listing or for posting works by local artists.
The physical participant will be moved towards the Public Site as product of the geometric

Figure 58 - Step-by-step schematic drawings of the physical and virtiual co-inhabitation of The Public Site morphology.
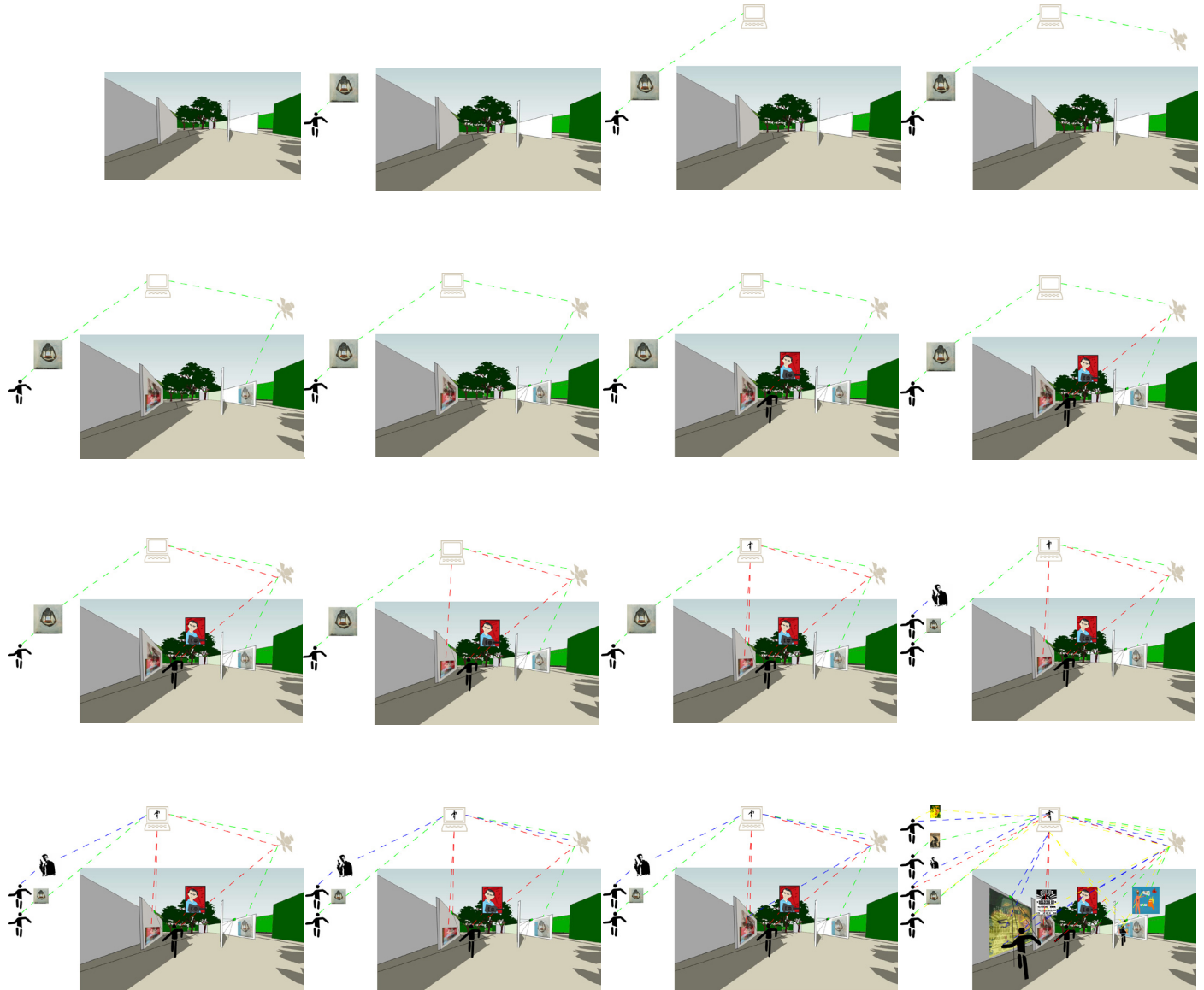
Figures 59 - Location of The Public Site in the Exchange District.

Figures 60 - Plan of oriented screens in The Public Site.

Figures 61 - Perspective of the media gallery in The Public Site .

character of the morphology and the beacon –like quality of the careful placed screens. Displaying anything from notifications of events to community news to clues left in games of electronic hide and seek, the screens become a place of true public expression. The participant, with their enabled device, will leave their trace as they move, linger or stay in the space. As an expression of both the local and remote populations, the assorted personal images will begin to overlap and gain degrees of transparency. The resulting collage becomes its own unique piece of collective work that could only exist at that one time. As the Public Site is used for various events there is the potential for remote and local populations to show their presence and have a shared experience while being geographically separated. As an example, there may be a band playing in the Public Site and many of the local inhabitants have chosen to attend this event physically. Upon occupation of the physical site the presence of thousands of avatars and onscreen images would imply that there are many more remote participants than expected and it becomes apparent that this event has drawn attention outside of the city. This sort of situation might appeal to certain participants that want to be seen by the thousands of remote inhabitants as present at the event and if it has the opposite effect, the participant can always opt for the online inhabitation. This situation could also lead to the physical site being empty while the virtual site is full, allowing for artists that may not be locally supported to perform and gain remote followings from online inhabitants redefining the notion of the live performance.

Temporally the participant is given equal opportunities to share the Public Site. Both online and physical participants will be displayed on the screen in relation to either proximity in the physical or to view in the virtual, for as long as they are present. Physical and online participants can set the durations of their avatars for certain screens that have been allocated for a type of 'tagging'. Other screens will be allocated for use by online voting and other democratic exercises, the function of the Public Site will remain in the domain of the public based, active participation in the decisions making.

Spatially the installation responds to the geometries of the site and the prominent sight lines. Acting as a media garden the screens, while large enough to be seen from afar are still not disproportionately oversized. As the placement of the screens has been dictated by the perpendicular relationship of the sight lines, many interesting spaces are created as a result of the seemingly random orientations. With these screens being vertically adjustable the space can be opened up for larger events, reconfigured as one would a gallery space for

different exhibitions or increase the attention to the Public Site by raising the beacons and making them more visible from further away (see figure 57-61).

Each intervention has been intentionaly limited to an image based expression for the purpose of this work. However it is encouraged that the interventions be expanded upon to further respond to the context. The system is intended to be dependent on varying ranges of engagement and experiences for two distinct reasons. The ability for the participant to customise their personal experiences is seen as being the key component to creating a greater attachment to the city and the reservation of certain places for specific functions and experience. As was discussed earlier, it is a result of thorough inventory and analysis that interventions are to be based and they should not be allowed to fall into the category of shallow novelty. The urban/virtual morphologies are hoped to have the necessary ingredients to both generate a sense of ownership and to authenticate the virtual space with its promise for a new public realm. Allowing this synthesis to play itself out in the city may result in the true expression of North American public space this work has been attempting to find. This expression, however, is dependent on private ownership of much of the technologies and services. The importance of access to the ICTs, internet technologies and data about its operations in and impact on the city cannot be overstated. With each of the installations defined in this work it is important to note that the selected resolutions are largely based on current trends found in the particular physical sites and in the used of ICTs and internet technology. It is not assumed that these are the most responsible solutions; it is however assumed that these are very real potentials that may happen with out any consideration for urban design or social benefit. Some of the interventions that are suggested seek to be controversial and provocative, not as a result of over-exaggeration but as a literal translation of much of our current behavioural trends. In presenting the various manifestations of the urban/virtual morphologies it is hoped that the dialogue which results will move towards ensuring the integration of the contemporary North American condition; the re-evaluation of the methodologies currently employed when designing for the urban context; and the continual questioning of ownership issues, rights to privacy and freedom of information.

EPILOGUE

The advent of the mobile phone has sparked an entirely new way of living. Beyond the ability of the car to offer freedom, the cell phone has essentially done away with the need for location. Participants become the location.

As a result of the initial investigation into the lack North American public space very little could be concluded upon. What is uncovered are the complexities of function, use and perspective. Issues of transience, loss of meaning, and inappropriate use of traditional methodologies are considered by this work as being potential culprits. However at the end of this discussion, though necessary to understand, these culprits are less important than developing a way to proceed. All of the factors considered in the development of North American public space are important to the mentality of the culture and it is not productive to expect that space to reflect the mentality of another location and time. In addition to the nature of North American public space is the notion that relationships between the city and it inhabitants are in constant flux. This statement can be made for most it not all urban environments. Though the pace of change will vary from culture to culture, and it could be argued as moving much faster in the North American context, it is still a constant urban factor.

This constant flux is being greatly influenced by the use of ICTs in the city. The advent of the mobile phone has sparked an entirely new way of living. Beyond the ability of the car to offer freedom, the cell phone has essentially done away with the need for location. Participants become the location. Paralleling this shift in being is the internet; a technology that acts to further this notion of freedom by offering opportunities for disembodiment. Though many of the claims made of the internet have not proven to hold true, there are definite social ramifications. Subject to the same, or greater, flux as the city, internet environments are changing and morphing before the previous version has been understood. There starts to develop new social codes and individualised method of using the various technologies. While some may try to reject ICTs and internet technology entirely, by virtue of their engagement in an urban context they are engaged with the technology. While there is certainly a place for the study of the internet activity and its social implications, the priority should lie within the appropriation of the technology. The varying degrees

of comfort levels as well as coping mechanisms in regards to the use of ICTs and internet technology make it impossible to impose or regulate a set of commonly acceptable expression or use of this technology in the city. In addition this technology is already been adopted and integrated into the culture, more be gained by investigating methods of integration that increase validity and socially benefit than by looking towards ways to minimise this expression in the city. At the intersection of ICTs and internet technology lays incredibly impacting potentials. Beyond the questions of privacy and service providers is the spatialisation of the virtual and the opportunities for an urban experience based on personalised meaning. There is and the opportunity to offer an unprecedented relationship with the city. This opportunity is as easily captured by the commercial and corporate interests as it is by the planner and designer. Actually, given the well intended tendencies of the planner and designer to study and evaluate as compared the fast moving and market savvy corporate entities, private enterprise is most likely to capitalise on these opportunities.

The design proposals in this work are meant to be thought of as only one set of possibilities. The device, database and city offer endless opportunities. These interventions may not be the most desired solutions to the proposed situations; however they outline a set of scenarios that are all very close to becoming our present condition. Being estranged from the decision making regarding what kinds of technology are used in the city and the location of the required services puts the designer at a disadvantage. However the nature of ICTs and internet technologies still offers many opportunities. There are countless virtual sites that give free information and ideas for taking ownership of personal technologies. There are many forms of free software that allow for the DIY hijacking of ICTs. Pure Data is an example of user-friendly freeware that allow for the modification and manipulation of raw data. "PD (aka Pure Data) is a real-time graphical programming environment for audio, video, and graphical processing…. The core of Pd is written and maintained by Miller Puckette and includes the work of many developers, making the whole package very much a community effort…. Pd is free software and can be downloaded either as an OS-specific package, source package, or directly from CVS. Pd was written to be multi-platform and therefore is quite portable; versions exist for Win32, IRIX, GNU/Linux, BSD, and MacOS X running on anything from a PocketPC to an old Mac to a brand new PC. It is possible to write externals and patches that work with Max/MSP and Pd using flext and cyclone" (Pure Data

2007) Originally paired with music to create sound based effects PD has become a tool used by various types of media artists and is finding its way into urban design. With the experimentation of locative media new perspectives on ways of inhabiting the city are being explored. Though much of the research into locative media is happening in Europe, there are local examples of technology assisted reclamation of public space. Critical Mass, where cyclists and pedestrians converge upon a predetermined urban location to protest the dominance of the car is one local example of what is called a smart mob. The smart mob or flash mobs are groups of people characterised by the use of mobile technology to plan often spontaneous acts. As outlined in Howard Rheingold's *Smart Mobs: the Next Social Revolution*, "The people who make up smart mobs cooperate in ways never before possible because they carry devices that possess both communication and computing capabilities. Their mobile devices connect them with other information devices in the environment as well as with other people's telephones. Dirt-cheap microprocessors embedded in everything from box tops to shoes are beginning to permeate furniture, buildings, neighborhoods, products with invisible intercommunicating 'smartifacts'. When they connect the tangible objects and places of our daily lives with the Internet, handheld communication media mutate into wearable remote control devices for the physical world" (Smartmobs 2008). There are some other works that are related to locative media that are important to reference. Steven Mann, a professor from the University of Toronto, has been doing work and research on the presence of surveillance in our environment for over twenty years. Much of his work addresses notions of privacy and society's acceptance of being captured and recorded in many day to day activities. His works include 'Existential Technology', the 'EyeTap' and other forms of 'Wearable Computing'. Mann advocates not only taking ownership if this technology, but the literal physical integration of it into our bodies. "Humanistic Intelligence (HI) is proposed as a new signal processing framework in which the processing apparatus is inextricably intertwined with the natural capabilities of our human body and mind. Rather than trying to emulate human intelligence, HI recognizes that the human brain is perhaps the best neural network of its kind, and that there are many new signal processing applications, within the domain of personal technologies, that can make use of this excellent but often overlooked processor. The emphasis … is on personal imaging applications of HI, as we take a first step toward an intelligent wearable camera system that can allow us to effortlessly capture our day-to-day experiences, help us remember and see better, provide us with personal safety through crime reduction, and facilitate new forms of communication through collective connected humanistic intelligence." (Mann 1998: 2123). The culmination of a device he has been developing since 1970's (see figure

63) "EyeTap is a device which allows, in a sense, the eye itself to function as both a display and a camera. EyeTap is at once the eye piece that displays computer information to the user and a device which allows the computer to process and possibly alter what the user sees. That which the user looks at is processed by the EyeTap. This allows the EyeTap to, under computer control, augment, diminish, or otherwise alter a user's visual perception of their environment, which creates a Computer Mediated Reality" (EyeTap 2007). Other projects include participants wearing visible surveillance cameras into private places of business and claiming that they are required for insurance purposes to wear the camera. Using the same rational as the private business does for installing the surveillance camera, the participant is able to legitimise what is considered a restricted act. Another entitled the Wearcam creates a situation in which the camera the participant is wearing is remotely activated by 'managers'. In this way if the camera wearer is asked if they are taking pictures they can answer honestly that they do not know, that their 'managers' would have to be contacted in order to find this out. Mann sets up very interesting scenarios in which power is ultimately put back into the hands of the individual.

"As our world becomes more and more globally connected, the official hierarchies of corporations and governments become larger and more complicated in scope, often making the chain of command and accountability more difficult for an individual person to question. Bureaucracies spanning several countries provide layers of abstraction and opacity to accountability for the functionaries involved in such official machinery. Thus, policy affecting our everyday life is moved further from our ability to influence, affect or even understand it. At the same time, the increased use of surveillance and monitoring technologies makes the individual more vulnerable to, and accountable to, these very organizations that are themselves becoming less accountable to the surveilled populace." (Mann 2003: 19). Manns work brings back into question notions of securty and suveillance; ownership and awareness of GPS and ICTs is critical to more that just the potential expression of true public space, it is critical to society retaining its right to privacy. Forward thinking and continual questioning must accompany any investigation into the North American, or any, city if we are to produce relevant and meaningful *public* environments.

Figures 63 - Image of Steven Mann's EyeTap, a device that allows for the capture and augmentaion of data using the natural functioning of the eye.

At the end of this process there are a few key thoughts that the work strives to send away with the reader; the importance of the physical site and a tangible engagement with the city, the importance of critical awareness of the prevailing technologies and the issues of privacy and ownership, and the acceptance of the technology as a powerful tool that is and will be employed regardless of the urban designers participation. This work has been intended to create a dialog regarding the use of ICTs and internet technologies, about the condition of public space and concerns with commercialisation and privatisation of space; all kinds of space.

The navigational system and device proposes incalculable potentials for use and it is difficult to limit ones thinking to any singular form of expression. The fact that it is largely based on an appropriation of existing technologies makes it a relatively easy idea to implement and, as the existing technology has already been accepted and integrated, it is arguable that this type of system that could be unquestioningly instituted. The question is then implemented and instituted by

APPENDICES

Appendix # 1
Web Sites - In no particular order.

Galen Johnson - http://galenhjohnson.com/index.htm
Brilliantly talented and prolific artist working out of Winnipeg. Contact him for more information.

Geosimulation - http://www.geosimulation.org/
"Wi-Fi marries Internet-based networking and radio broadcasting. While still nascent, the technology is wildly popular. Geography is a central consideration in the functioning of Wi-Fi technology. Yet, its influence is just beginning to be investigated. Examination of the space of Wi-Fi poses problems as wireless data traffic is invisible to the eye and its underlying apparatus is impromptu and veiled to traditional geographic inquiry." (Geosimulation 2008).

The Khronos Projector- http://www.k2.t.u-tokyo.ac.jp/members/alvaro/Khronos/
"The Khronos Projector is an interactive-art installation allowing people to explore pre-recorded movie content in an entirely new way. A classic video-tape allows a simple control of the reproducing process (stop, backward, forward, and elementary control on the reproduction speed). Modern digital players add little more than the possibility to perform random temporal jumps between image frames." (The Khronos Projector 2008).

Camille Utterback - http://www.camilleutterback.com/
"Text Rain is an interactive installation in which participants use the familiar instrument of their bodies, to do what seems magical—to lift and play with falling letters that do not really exist. In the Text Rain installation participants stand or move in front of a large projection screen. On the screen they see a mirrored video projection of themselves in black and white, combined with a color animation of falling letters. Like rain or snow, the letters appears to land on participants' heads and arms."(Camille Utterback 2008).

Rafael Lozano-Hemmer - http://lozano-hemmer.com/
"Subtitled Public consists of an empty exhibition space where visitors are tracked with a computerized infrared surveillance system. As people enter the installation, texts are projected onto their bodies: these "subtitles" consist of thousands of verbs conjugated in third person and they follow each individual everywhere they go. The only way to get rid of a subtitle is to touch someone else: the words then are

exchanged between them." (Rafael Lozano-Hemmer 2008).

Tschumi Pavilion - http://www.tschumipaviljoen.org/index.php?lang=nl
"The pavilion is managed by the foundation Tschumipaviljoen, whose scope is to realise art projects inside. The main projects are those in which multi media is used. Expressions of e-culture are given the chance to be manifested in a public place in the centre of Groningen, in this way being shown to a wide audience." (Tschumi Pavilion 2008).

Amsterdam RealTime - http://realtime.waag.org/
"Every inhabitant of Amsterdam has an invisible map of the city in his head. The way he moves about the city and the choices made in this process are determined by this mental map. Amsterdam RealTime attempts to visualize these mental maps through examining the mobile behavior of the city's user. During two months (3 Oct to 1 Dec 2002) all of Amsterdam's residents are invited to be equipped with a tracer-unit. This is a portable device developed by Waag Society which is equipped with GPS: Global Positioning System. Using satellite data the tracer calculates its geographical position. These tracers' data are sent in realtime to a central point. By visualizing this data against a black background traces, lines, appear. From these lines a (partial) map of Amsterdam constructs itself. This map does not register streets or blocks of houses, but consists of the sheer movements of real people."(Amsterdam RealTime 2008).

Ludic-Society.Net – http://www.ludic-society.net/
"The ludic society exists to provoke an artistic research discipline best to be addressed as ludic studies. The goal is to provide a playful theoretical starting point of a methodology around the act of play as a state of transformation. Finally games as laboratory situations quit the experimental system into real games by real players. The main argument is the nascence of an experience based emotionally charged reflexion by playing through game systems, to all intents and purposes the il-ludere of illusion in the ludic-society. Its contributors enforce experiments in game cultures by focusing on the concept of flow in playful situations. As an international association of game practitioners it meets the needs of scholars and artists. It offers unequal opportunities to evolve a new epistemic object around game and play as sustained practice in glitching forms of contemporary lifeworld (Lebenswelt)." (Ludic-Society.Net 2008).

Crystalpunk: - http://www.socialfiction.org/index.php
"Crystalpunk is a simpleton stampede, a coxcomb carnival, a daydreamers cabal, a platitude-peddling potlatch, a nihilists ambulation on tiptoe, an incantation of the language in the corners of your eyes, a wild farrago of

those who run before they can walk, an ABD of being Free from the NOW! NOW! NOW! We wear non-matching socks: that is who we are! (socialfiction.org 2008).

Layla Gaye's Portfolio - http://www.viktoria.se/~lalya/
"I am an engineer and PhD student working in multidisciplinary projects at the convergence of art, technology, and design. My research is prototyping-based and explores new potentials for everyday aesthetic practices enabled by ubiquitous computing. It focuses in particular on mobile media for urban space and on computational repurposing of everyday objects. Since 2002, I am working on various research projects at Future Applications Lab, Viktoria Institute in Göteborg, Sweden. I also work on smaller new media projects with friends and I am an actively involved in the mobile music and NIME communities." (Layla Gaye 2008).

Future Applications Lab - http://futureapplicationslab.blogspot.com/
"The Future Applications Lab currently works with two themes: Mobile Media and Ubiquitous Displays. Additionally, we have a number of projects where we developing Enabling Technologies, and we are also active in Education."(Future Applications Lab 2008).

ARS Electronica - http://www.aec.at/en/about/index.asp
"With its specific orientation and the long-standing continuity it has displayed since 1979, Ars Electronica is an internationally unique platform for digital art and media culture consisting of four divisions: Ars Electronica Festival, Prix Ars Electronica. Ars Electronica Center, The Futurelab." (Ars Electronica 2008).

we make money not art - http://we-make-money-not-art.com/
"Régine Debatty (BE/DE) studied Classics in Belgium and England, worked as a teacher of Latin and ancient Greek, then moved to media, working as a documentary director for the Belgian national TV, as a reporter for the radio Onda Cero in Spain then as a consultant for the MEDIA programme of the European Commission in Italy.
She's now a full-time blogger, a new media art curator and she writes about the intersection between art, design and technology on we-make-money-not-art.com as well as on design and art magazines such as Art Review (UK). She also speaks at conferences and festivals about artists, hackers and interaction designers (mis)use of technology" (we make money not art 2008).

Geocaching – The Official GPS Cache Hunt Site - http://www.geocaching.com/
GPS based scavenger hunt.

ETH-Computer Science Department - http://www.inf.ethz.ch/news/focus/res_focus/jun_2004/index
"blue-c: A Spatially Immersive Display and 3D Video Portal for Telepresenceblue-c [1] combines the qualities of total immersion experienced in CAVE™-like immersive projection environments with simultaneous, real-time 3D video acquisition and rendering from multiple cameras. This concept enables users to interact and collaborate inside an immersive, virtual world, while perceiving the photorealistic three-dimensional representations of their collaboration partners in real time. The blue-c project addresses a variety of challenging research issues, including immersive projection using active screens, advanced 3D video processing, network communication architectures, and user interface technology. In addition, we developed a variety of applications comprising information visualization, shopping experiences, and product development." (ETH-Computer Science Department 2008).

Architecture Radio - http://www.architecture-radio.org/learn/public/20051003-ANGELIL
"Marc Angelil's research addresses contemporary developments in urban design. Using various case studies from Europe, Asia, and the United States, he investigates large metropolitan areas in view of their physical structures. Major attention is given to sustainable processes as well as the dynamic forces that impact the formation and transformation of a city. Angelil is professor of architecture and design at the Swiss Federal Institute of Technology (ETH) in Zurich and the author of Inchoate: An Experiment in Architectural Education, published by ETH Zurich. He is a practicing architect for agps architecture, with offices in Los Angeles and Zurich." (Architecutre Radio 2008).

International ArtExpo - http://www.lucacurci.com/artexpo/
"ArtExpo is an international art event. Its object is to use new technologies to globalize the language of art, to connect the conceptual points of contact of artists working in every part of the world, all united in the thick plot of the world net." (International ArtExpo 2008).

KultureAXE - http://www.kulturaxe.com/rep005-e.html
"Landscapes of desire (LOD), are territories between reality, fiction and utopia, with the freedom not to be limited by national borders. LOD stands for themes such as identity, longing, emotion, networks and alternative geographic models. The symposium is an active and

vivid platform for collaborative art practice and art making, for sharing experience and learning together. It also actively engages in reinventing and reshaping spaces and energies in order to create environments for interaction and communication." (KultureAXE 2008).

International Telecommunication Union – http://www.itu.int/net/home/index.aspx
"ITU is the leading United Nations agency for information and communication technologies. As the global focal point for governments and the private sector, ITU's role in helping the world communicate spans 3 core sectors: radiocommunication, standardization and development. ITU also organizes TELECOM events and was the lead organizing agency of the World Summit on the Information Society. ITU is based in Geneva, Switzerland, and its membership includes 191 Member States and more than 700 Sector Members and Associates." (International Telecommunication Union 2008)

kazys.varnelis net – http://kazys.varnelis.net/
"Kazys Varnelis [CV] is the Director of the Network Architecture Lab at the Columbia University Graduate School of Architecture, Planning, and Preservation. In 2005-2006 he was a visiting scholar at the University of Southern California's Annenberg Center for Communication's "Networked Publics" program. Kazys is also a member of the founding faculty at the School of Architecture at the University of Limerick, Ireland. Together with Robert Sumrell, he runs the non-profit architectural collective AUDC and occasionally works with the Center for Land Use Interpretation. Kazys's teaching and research explores contemporary architecture, late modernism, architecture and capitalism, and the impact of recent changes in telecommunications and demographics on the contemporary city. Click here for more." (kazys.varnelis net 2008)

ELSE/WHERE: MAPPING: New Cartographies of Networks and Territories –http://www.elsewheremapping.com/whois.html
"Mapping has emerged in the information age as a means to make the complex accessible, the hidden visible, the unmappable mappable. As we struggle to steer through the torrent of data unleashed by the Internet, and to situate ourselves in a world in which commerce and community have been redefined in terms of networks, mapping has become a way of making sense of things." (E/W, p12)

Mappa.Mundi Magazine – http://mappa.mundi.net/
"Mappa.Mundi examines information discovery on the Internet via an eclectic mix of ideas about technology, history, and the future of cyberspace." (Mappa.Mundi Magazine 2008)

Epic 2014 – http://epic.makingithappen.co.uk/
"In the year 2014 the New York times has gone offline. The Fourth Estate's fortunes have waned. What happened to the news? and what is EPIC? Epic 2014 is the original flash online movie made by Robin Sloan for the Museum of Media History. Set in 2014 it charts the history of the Internet, the evolving mediascape and the way news and newspapers were affected by the growth in online news. It coined the word "Googlezon" from a future merger of Google and Amazon to form the Google grid, and speaks of news wars with the Times becoming a print only paper for the elite culminating in EPIC Evolving Personalised Information Construct. As a flash animation, this film is extraordinary, not just for it's use of technology but for it's fantastic perception looking forward. Epic 2015 is a new updated vision of the future set in 2015." (Epic 2014 2008).

Fondation Cartier pour l'art Contemporian – http://www.onoci.net/virilio/index_uk.php
"Unknown Quantity will attempt to explore one of the most important issues raised in Paul Virilio's most recent writings: the increasing development of accidents as an indirect consequence of man's inventions. This exhibition, however, does by no means intend to provide a complete overview of the history of accidents, nor does it explore the many ways in which the accident manifests itself in art. Instead, through a selection of documents and the work of contemporary artists, it aims to open up a discussion on the accident and its impact on our world." (Fondation Cartier pour l'art Contemporian 2008).

apophenia :: making connections where none previously existed – http://www.zephoria.org/thoughts/bestof.html
"Over the years, i have written numerous posts about social media, social software, social networks and other industry-relevant topics. Colleagues often remark that it is difficult to sift through my personal blog to find relevant material. For that reason, i decided to put together a "best of" to highlight the essays that are most interesting to newcomers interested in social media. Right now, these are just recent essays and blog posts that deal with particular issues in depth. If you think that a particular entry should be listed here, please let me know! Better yet, add it to del.icio.us or to digg – i'm watching these sites to see what entries are particularly popular or useful." (apophenia 2008).

consume the net - http://dek.spc.org/julian/consume/consume.html
"the aims of consume.net are; define a sustainable network development **utilise low cost and license free radio IP systems** optimise infrastructual expenditure and reduce network connectivity costs increase network speed re-distribute access promote common ownership increase resilliance aggregate avaliable 'internet' bandwidth develop top level peering status and of course have more fun" (consume the net 2008).

nothingness.org - http://www.nothingness.org/
"Reality belies description. Nonetheless, if there's nothing else to go on, here's the story: I live in Baltimore, Maryland, a city whose name was scarcely in my vocabulary prior to my arrival. I grew up in Chicago, and went to school at Indiana University, graduating with a degree in Philosophy and Political Science, with minors in French and English. I eventually started my own company, Dada Typo, working as both consultant and contract worker on jobs ranging from print design to web application development.
I am by turns a poet, translator, programmer, culture jammer, philosopher, anarchist, and inside my little head I carefully balance a joyous optimism and a cynical dose of doubt. I have an online chapbook, Everyone's a Fucking Poet, if you're interested in reading (even if you're not a big fan of poetry). It's a few years old now, but I swear, it's not atrocious; I hate most poetry too. Just try reading it, and if you don't like something you've started, skip to the next one. I'm working on translations of Jacques Prévert's Paroles, a brilliant and vastly underappreciated book here in the States." (nothingness.org 2008)

Leonardo On-Line - http://www.leonardo.info/index.html
Really good journals, particularly the Electronic Almanac.

Anne Galloway Research & Design - http://annegalloway.com/
"Current Projects Touch-This multi-disciplinary research project, based at the Oslo School of Architecture and Design in Norway, investigates Near Field Communication—a technology that enables connections between mobile phones and physical things. I am currently studying the cross-cultural meanings of touch, working on exploratory design probes, interviews and observations, and creating design briefs around the findings."(Anne Galloway 2008)

Visual Complexity - http://www.visualcomplexity.com/vc/
"VisualComplexity.com intends to be a unified resource space for anyone interested in the visualization of complex networks. The project's main goal is to leverage a critical understanding of different visualization methods, across a series of disciplines, as diverse as Biology, Social Networks or the World Wide Web. I truly hope this space can inspire, motivate and enlighten any person doing research on this field. Not all projects shown here are genuine complex networks, in the sense that they aren't necessarily at the edge of chaos, or show an irregular and systematic degree of connectivity. However, the projects that apparently skip this class were chosen for two important reasons. They either provide advancement in terms of visual depiction techniques/methods or show conceptual uniqueness and originality in the choice of a subject. Nevertheless, all projects have one trait in common: the whole is always more than the sum of its parts." (Visual Complexity 2008).

Tracking Transience - http://trackingtransience.net/
Site of participant that is allowing themselves to be tracked via GPS then displayed on the internet and uploads pictures constantly. There is also what looks like a running tally of what money is spent at each retail outlet visited.

Smart Mobs - http://www.smartmobs.com/book/
"A Website and Weblog about Topics and Issues discussed in the book Smart Mobs: The Next Social Revolution by Howard Rheingold" (Smart Mobs 2008)
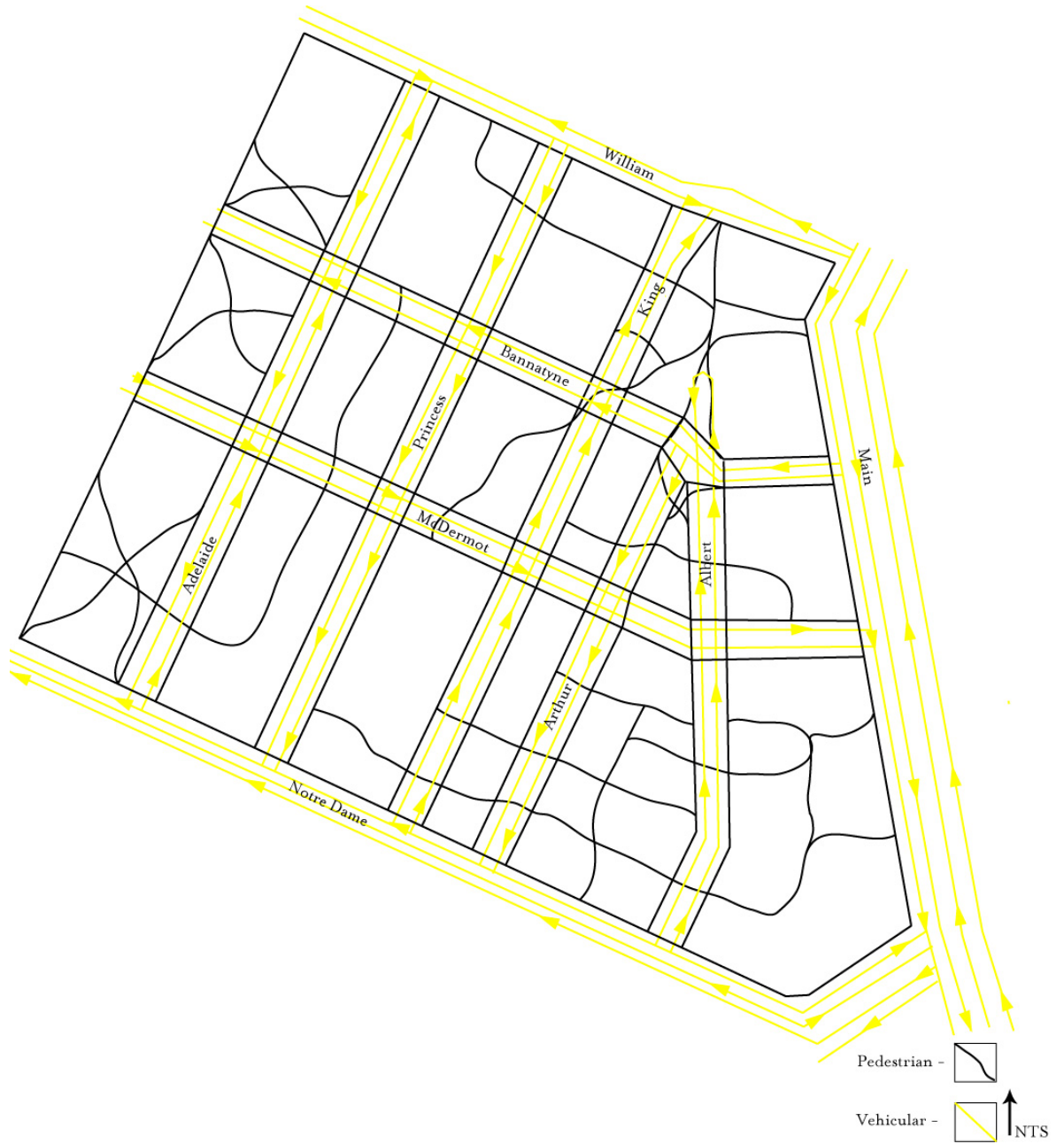
Wired - http://www.wired.com/
Lots of cool blogs.

William

King

Bannatyne

Princess

Adelaide

McDermot

Main

Albert

Arthur

Notre Dame

Permanent –

Temporary –

NTS

Circulation

Pedestrian –

Vehicular –

NTS

Infrastrucature

Utilities –
Streets and Curbs –
NTS

William
King
Bannatyne
Princess
Adelaide
McDermot
Albert
Main
Arthur
Notre Dame

Activity

William

King

Bannatyne

Princess

McDermot

Main

Albert

Arthur

Notre Dame

Exsiting –

Potential –

NTS

Landmarks

William

King

Bannatyne

Princess

Main

McDermot

Adelaide

Albert

Arthur

Notre Dame

TD Building –

Old Market Square – –
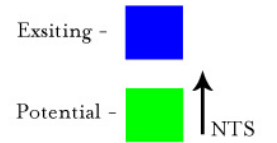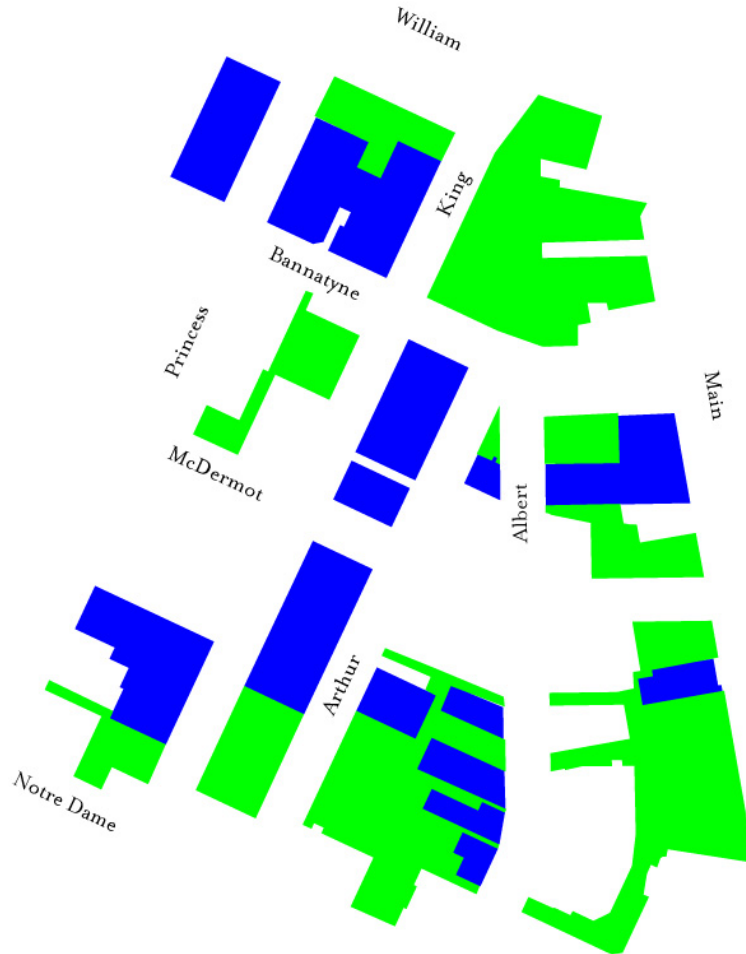
NTS
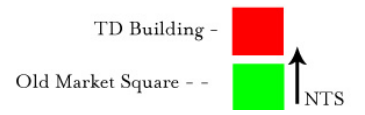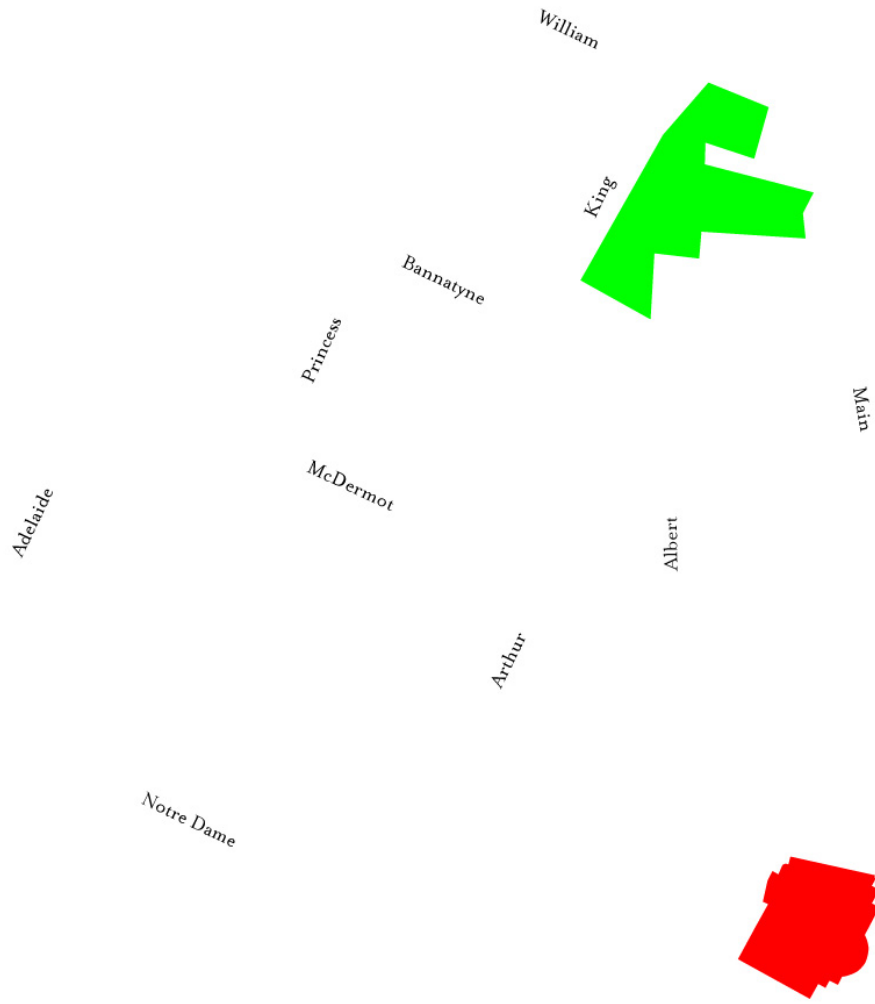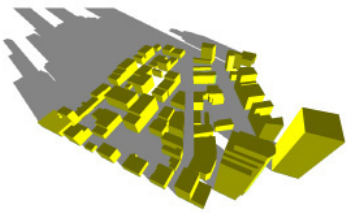
Sun Patterns

9:00
01/01
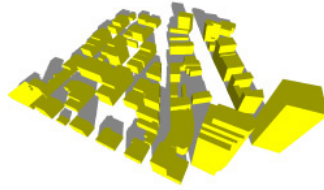
12:00
01/01
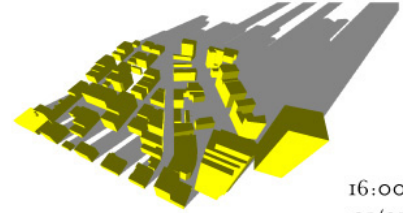
16:00
01/01
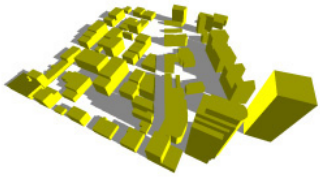
9:00
04/01

12:00
04/01
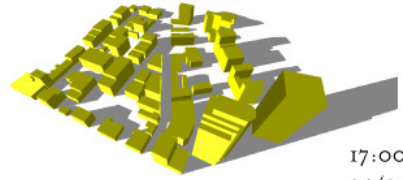
17:00
04/01
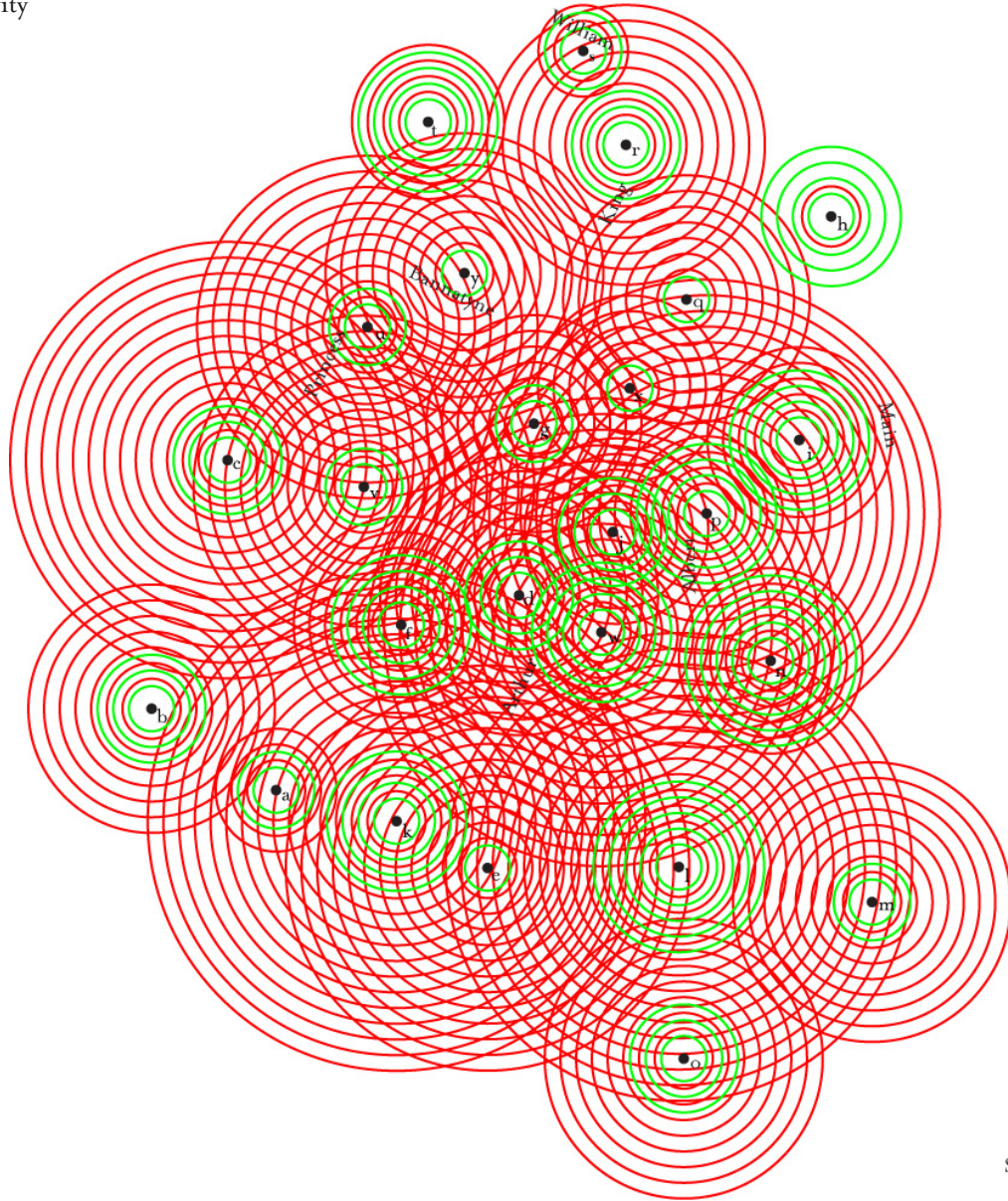
9:00
07/01

12:00
07/01
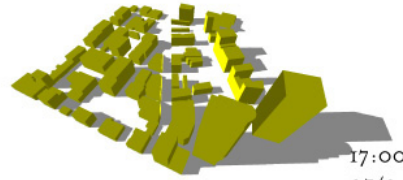
17:00
07/01
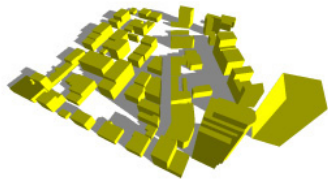
9:00
10/01

12:00
10/01

17:00
10/01

↑ NTS

Vegetation

William

King

Bannatyne

Princess

Adelaide

McDermot

Albert

Arthur

Notre Dame

Main

Street Trees –

Surface Vegetation –

NTS

Wind Patterns

William

King

Bannatyne

Princess

McDermot

Adelaide

Albert

Main

Arthur

Notre Dame
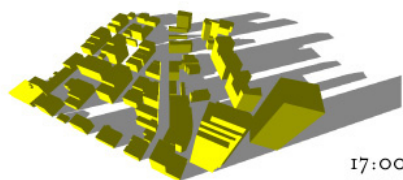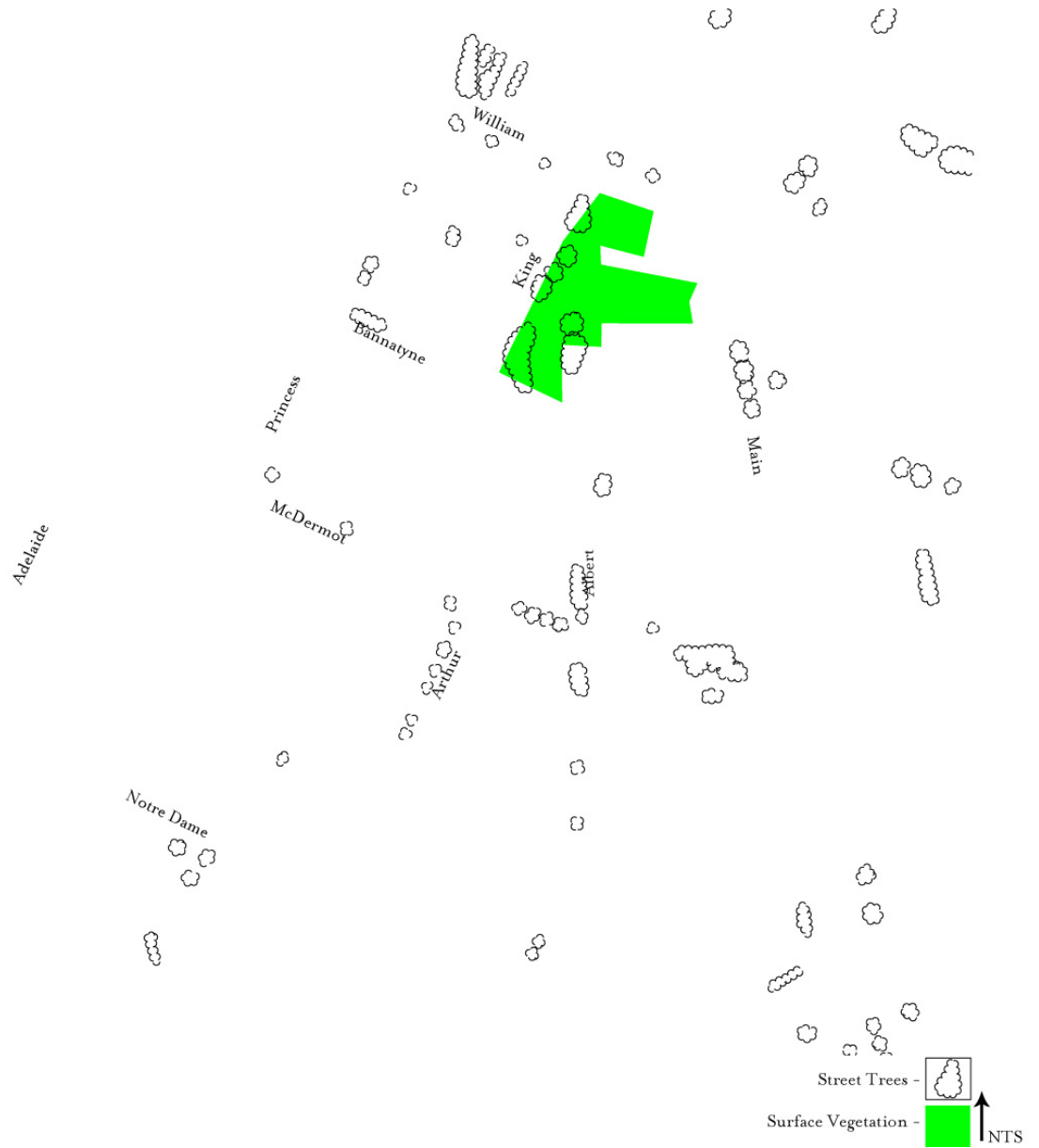
Northwesterlies - NTS

Connectivity

Surveillance
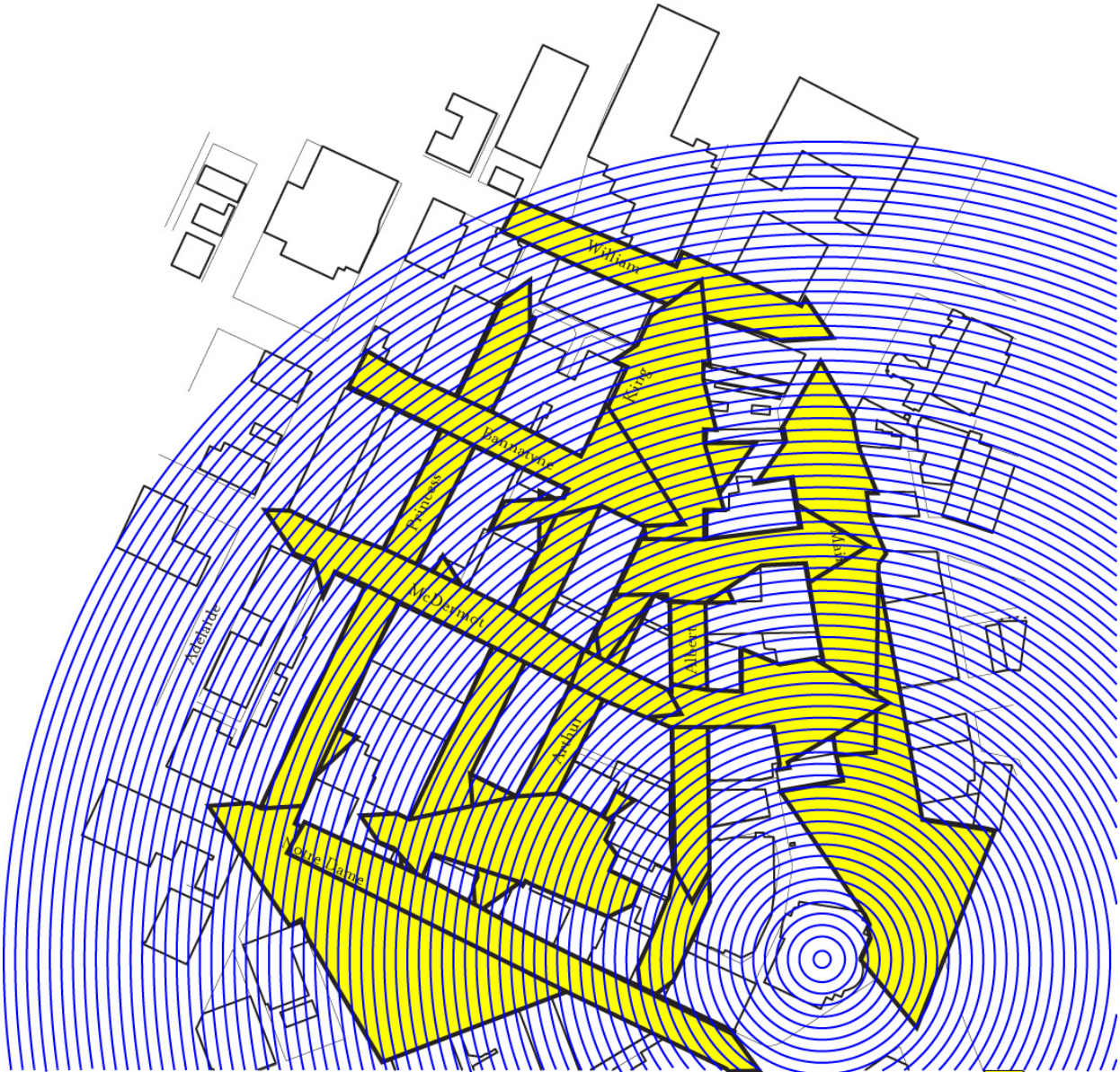
Appendix #3
Closed Set Matrix

Physical

"Depart-to vary, as from a regular course; deviate: depart from custom."
(*The American Heritage Dictionary* 2004: ed. s.v. "depart"); the Closed
Sets act as a route of departure both in terms of the physical movement
from a main axis to a secondary street, and also when engaging in the sorts
of behaviour common the this morphology one is in essence deviating from
what is socially acceptable.

"Addiction-the condition of being habitually or compulsively occupied
with or involved in something." (*The American Heritage Dictionary* 2004:
ed. s.v. "addiction"); building on the notion of the kinds of activities that
frequent this morphologies, the term addiction refers to both the nature of
the activities and to the catalyst of much of this behaviour.

"Illicit-not sanctioned by custom or law; unlawful." *(The American
Heritage Dictionary* 2004: ed. s.v. "illicit"); again referring to the nature
of the common behaviours.

"Hidden-to prevent the disclosure or recognition of; conceal." (*The
American Heritage Dictionary* 2004: ed. s.v. "hidden"); referring to the
physical characteristic of the morphology and the logic behind some of the
behaviours.

Virtual

"Explore-to search into or travel in for the purpose of discovery." (*The
American Heritage Dictionary* 2004: ed. s.v. "explore"); this term refers
to characteristic of the way in which websites are navigated, especially with
pornographic sites there is a curiosity that encourages further exploration
than that of other sites.

"Escapism-the tendency to escape from daily reality or routine by indulging
in daydreaming, fantasy, or entertainment." (*The American Heritage
Dictionary* 2004: ed. s.v. "escapism"); common to many online activities,
much of the pornographic experience is based in fantasy.

"Voyeuristic-a person who derives sexual gratification from observing
the naked bodies or sexual acts of others, especially from a secret vantage
point." (*The American Heritage Dictionary* 2004: ed. s.v. "voyeuristic");
essentially all of online pornographic experiences are based on this
condition.

"Anonymous-having no distinctive character or recognition factor." (*The
American Heritage Dictionary* 2004: ed. s.v. "anonymous"); what could
be the single most contributing factor to the massive proliferation in that
viewing of pornography is the availability of online anonymity.

Temporal

"Fleeting-to fade out; vanish." (*The American Heritage Dictionary*
2004: ed. s.v. "fleeting"); this indicative of the pleasure derived from
both the physical and virtual engagement with many of the illicit acts
of the morphology.

"Transferable - to convey or cause to pass from one place, person,
or thing to another." *(The American Heritage Dictionary* 2004:
ed. s.v. "transferable"); many of these activities have little to with the
particular physical or virtual site, they are more associated with the
activity and will often find other opportune sites to frequent.

"Fickle - characterized by erratic changeableness or instability,
especially with regard to affections or attachments; capricious." (*The
American Heritage Dictionary* 2004: ed. s.v. "fickle"); inherent to
the nature of addiction and illicit engagement the loyalty is to the
behaviour and not the specific locations or fellow participants.

"Disposable - an article, such as a paper diaper or hypodermic
syringe, that can be disposed of after one use." (*The American
Heritage Dictionary* 2004: ed. s.v. "disposable"); this term can be
interpreted to refer to the fickle nature previously mentioned or to
the moral judgements often made of individuals engaged in these acts.

Spatial

"Subordinate-belonging to a lower or inferior class or rank;
secondary." (*The American Heritage Dictionary* 2004: ed. s.v.
"subordinate"); is closely related to: the physical hierarchy of the main
thoroughfare and the back lane; the social structure and assumptions
of who engages in these sorts of behaviours; and the place of such
behaviours in society.

"Projected - to externalize and attribute (an emotion or motive, for
example) unconsciously to someone or something else in order to
avoid anxiety." *(The American Heritage Dictionary* 2004: ed. s.v.
"projected"); closely related to the notions of escapism, addiction and
transferability, which all could be argued to forms of projection.

"Ephemeral-lasting for a markedly brief time." (*The American
Heritage Dictionary* 2004: ed. s.v. "ephemeral"); relates back to the
nature of the experience which is often characterised by short bursts of
pleasure and temporary satisfaction.

"Banal- drearily commonplace and often predictable; trite." *(The
American Heritage Dictionary* 2004: ed. s.v. "banal"); the absorption
of this behaviour and acceptance as a common urban and online
activity to which most have become indifferent.

Open Field Matrix

Physical

"Function-something closely related to another thing and dependent on it for its existence, value, or significance." (*The American Heritage Dictionary* 2004: ed. s.v. "function"); this morphology is really dependent on the continued use of the car and the economic viability of the area for its existence.

"Pragmatic-dealing or concerned with facts or actual occurrences; practical." (*The American Heritage Dictionary* 2004: ed. s.v. "pragmatic"); directly linked to the practical use of the space and the repeated occurrence of that use.

"Framework-a structure for supporting or enclosing something else, especially a skeletal support used as the basis for something being constructed." (*The American Heritage Dictionary* 2004: ed. s.v. "framework"); related to the continued reliance on personal transportation moving one person at, time this morphology will be required to support the area.

"Urbane-of or relating to cities or towns." (*The American Heritage Dictionary* 2004: ed. s.v. "urbane"); the parking lot, a by-product of the car, has become an assumed necessity in the North American city.

Virtual

"Platform-the basic technology of a computer system's hardware and software that defines how a computer is operated and determines what other kinds of software can be used." (*The American Heritage Dictionary* 2004: ed. s.v. "platform"); similar to the relationship of the parking lot to the surrounding area, the platform, dictates online activities.

"Informative-serving to inform; providing or disclosing information; instructive. (*The American Heritage Dictionary* 2004: ed. s.v. "informative"); characteristic of the many online site, particularly true of sign in and home pages that strive to link the participant to other pages.

"Archived-A repository for stored memories or information: the archive of the mind." (*The American Heritage Dictionary* 2004: ed. s.v. "informative"); a built in function of many online sites, archives often house records of frequency of use.

"Interface-the point of interaction or communication between a computer and any other entity, such as a printer or human operator." *(The American Heritage Dictionary* 2004: ed. s.v. "interface"); again, viewed as paralleling the relationship of the parking lot to the surrounding activity and offering an important potential for the virtual component.

Temporal

"Determined-to be the cause of; regulate: Demand determines production." (*The American Heritage Dictionary* 2004: ed. s.v. "determined"); seen to reflect the function, use and resultant cyclical inhabitation of the morphology.
"Springboard-something that helps to launch a career or activity." (The American Heritage Dictionary 2004: ed. s.v. "springboard"); indicative of both the virtual and physical characteristics, this speaks to the types of occupation.

"Consistent-being in agreement with itself; coherent and uniform: a consistent pattern of behaviour." (*The American Heritage Dictionary* 2004: ed. s.v. "consistent"); illustrates the understanding and inhabitations of both spaces.

Spatial

"Structural-of or relating to organic structure; morphological" (*The American Heritage Dictionary* 2004: ed. s.v. "structural"); regarded as being a functioning and integral part of the virtual and physical systems.

"Gathering-to collect into one place; assemble." *(The American Heritage Dictionary* 2004: ed. s.v. "gathering"); a characteristic of both virtual and physical spaces; data in one instance and vehicles in the other.

"Memory-the period of time covered by the remembrance or recollection of a person or group of persons: within the memory of humankind." (*The American Heritage Dictionary* 2004: ed. s.v. "memory"); related to method in which these spaces are inhabited and the subsequent relationship developed with the environment.

"Threshold-the place or point of beginning; the outset." (*The American Heritage Dictionary* 2004: ed. s.v. "threshold"); refers again to the manner in which the spaces are used and that they are understood to connect to a destination.

Through Fare Matrix

Physical
"Transport-the system of transporting passengers or goods in a particular country or area." (*The American Heritage Dictionary* 2004: ed. s.v. "transport"); the nature of the morphology, its main function is as transport space.

"Pageantry-empty show; flashy display." (*The American Heritage Dictionary* 2004: ed. s.v. "pageantry"); identified as speaking to the superficial and very occasional inhabitation of the street for civic and public interests.

"Public-maintained for or used by the people or community: a public park." *(The American Heritage Dictionary* 2004: ed. s.v. "public"); refers to the historical inhabitation of the street that may be in question due to the North American obsession with the car.

"Economic-of or relating to the production, development, and management of material wealth, as of a country, household, or business enterprise." (*The American Heritage Dictionary* 2004: ed. s.v. "economic"); speaks of the integral relationship between the morphology, the movement of goods, commerce, and the financial well being of the area.

Virtual

"Medium-an intervening substance through which something else is transmitted or carried on." (*The American Heritage Dictionary* 2004: ed. s.v. "medium"); seen as being similar to the functioning of the street the internet is the medium carries goods and services in the form of data and information.

"Performance-the way in which someone or something functions: The pilot rated the airplane's performance in high winds." (*The American Heritage Dictionary* 2004: ed. s.v. "performance"); related to the potential for self promotion and display the reference has strong ties to behaviours in both the physical and virtual spaces.

"Accessibility-easily approached or entered." (*The American Heritage Dictionary* 2004: ed. s.v. "accessibility"); being one of the inherent functions of both the virtual and physical spaces, the virtual has made claim of being a more true expression.

"Trend-the general direction in which something tends to move. (*The American Heritage Dictionary* 2004: ed. s.v. "trend"); this can be interpreted to both mean the use of the media to predict trends and the easy adaptation of the mediums dependent on those trends.

Temporal

"Sporadic-occurring at irregular intervals; having no pattern or order in time." (*The American Heritage Dictionary* 2004: ed. s.v. "sporadic"); speaks to the occasional occupation of the street for civic or public good as well as the economic trends that can be associated with the spaces.

"Fading-to lose strength or vitality; wane: youthful energy that had faded over the years. (*The American Heritage Dictionary* 2004: ed. s.v. "fading"): seen as being a by-product of economic trends or the transience of the North American condition this morphology, has a tendency to exhibit decline as well as the way in which virtual space come in and out of favour often a whim

"Continual-recurring regularly or frequently: the continual need to pay the mortgage" (*The American Heritage Dictionary* 2004: ed. s.v. "continual"); while the expressions themselves may be sporadic and fading the form in both cases is integral to the city or medium.

"Cyclical-of, relating to, or characterized by cycles: a cyclic pattern of weather changes." *(The American Heritage Dictionary* 2004: ed. s.v. "cyclical"); related to the economic trends associated with the spaces and the patterns of use.

Spatial

"Axiomatic-of, relating to, or resembling an axiom; self-evident: 'It's axiomatic in politics that voters won't throw out a presidential incumbent unless they think his challenger will clean house' (Peter Grier)". *(The American Heritage Dictionary* 2004: ed. s.v. "axiomatic"); meant to relate that the form and function of the street or the internet is self evident in dictating its spatial qualities

"Display-objects or merchandise set out for viewing by the public." (*The American Heritage Dictionary* 2004: ed. s.v. "display"); associated with notions of economics and pageantry both spaces rely on display for the communication of information.

"Evident-easily seen or understood; obvious." (*The American Heritage Dictionary* 2004: ed. s.v. "evident"); relating back to the historical understanding of the street as a public space and as a part of the navigational system the function of the street should remain obvious.

"Malleable-easily controlled or influenced; tractable." (*The American Heritage Dictionary* 2004: ed. s.v. "malleable"); seen as relating to the types of inhabitation are allowed to inhabit the space this definition relates more to the physical expression and helps to separate it from the virtual.

The Public Site Matrix

Physical

"Recreation-refreshment of one's mind or body after work through activity that amuses or stimulates; play." (*The American Heritage Dictionary* 2004: ed. s.v. "recreation"); typical of public urban space which found their inception in the need for diversion.

"Civic-of relating to, or belonging to a city, a citizen, or citizenship; municipal or civil." (*The American Heritage Dictionary* 2004: ed. s.v. "civic"); traditionally associated to the workings of the city and an assumed component of the city.

"Occupation-the act or process of holding or possessing a place." (*The American Heritage Dictionary* 2004: ed. s.v. "occupation"); related to the potential for this morphology to be used as a base of civic activity and public expression.

"Spectacle-a public performance or display, especially one on a large or lavish scale." (*The American Heritage Dictionary* 2004: ed. s.v. "occupation") viewed as offering civic places for public festivals performances and displays.
Virtual

"Entertainment-something that amuses, pleases, or diverts, especially a performance or show." (*The American Heritage Dictionary* 2004: ed. s.v. "entertainment"); the virtual equivalent of recreation it is thought that private entertainment may supersede the need for public recreation.

"Community-sharing, participation, and fellowship." *(The American Heritage Dictionary* 2004: ed. s.v. "community");" traditionally associated with a geographic location the virtual has helped to make community more about sharing interests than about sharing resources.

"Presence-the state or fact of being present; current existence or occurrence." (*The American Heritage Dictionary* 2004: ed. s.v. "presence"); while disembodied by nature, virtual occupation becomes about trying to prove presence.

"Immediacy-lack of an intervening or mediating agency; directness: the immediacy of live television coverage." (*The American Heritage Dictionary* 2004: ed. s.v. "immediacy"); relating to both the expectation instant response and the lack of substantialtion of information.

Temporal

"Relative-dependent on or interconnected with something else; not absolute." (*The American Heritage Dictionary* 2004: ed. s.v. "relative"); is meant to address the inherent relationship of both spaces based on social and political conditions.

"Incidental-occurring or likely to occur as an unpredictable or minor accompaniment: the snags incidental to a changeover in upper management." (*The American Heritage Dictionary* 2004: ed. s.v. "incidental"); is seen as being indicative of the potential interaction both spaces much of the social interaction is unpredictable.

"Permanent-not expected to change in status, condition, or place: a permanent address; permanent secretary to the president." (*The American Heritage Dictionary* 2004: ed. s.v. "permanent"); in the terms of the physical space it is thought that the public civic space is a permanent entity, in terms of the virtual the existence of various communities is the permanent entity.

"Occasional-occurring from time to time." (*The American Heritage Dictionary* 2004: ed. s.v. "permanent"); while the location or existence may be permanent the times and ways are often occasional.

Spatial

"Personalisation-to attribute human or personal qualities to; personify." (*The American Heritage Dictionary* 2004: ed. s.v. "personalisation"); viewed as becoming a prevalent trend in virtual spaces, this personalisation is finding its way into the city via wireless technologies.

"Nexus-a means of connection; a link or tie: 'this nexus between New York's . . . real-estate investors and its . . . politicians' (Wall Street Journal)." (*The American Heritage Dictionary* 2004: ed. s.v. "nexus"); related to the location of the physical space and the potential for the virtual to link to the true public expression.

"Constitutional-of or proceeding from the basic structure or nature of a person or thing; inherent: a constitutional inability to tell the truth." (*The American Heritage Dictionary* 2004: ed. s.v. "constitutional"); in both cases the function and use of the spaces are thought to be an inherent part of the structure and are assumed as being required.

"Visible-possible to see; perceptible to the eye: a visible object." (*The American Heritage Dictionary* 2004: ed. s.v. "visible"); more in relation to the physical site, it is often placed at central and accessible points in the city as a gesture to its importance, but may also be related to the virtual in that it may be only ever visible.

BIBLIOGRAPHY

Books and Periodicals

Bolter, Jay David, Blair MacIntyre, Maribeth Gandy and Petra Schweitzer. "New Media and the Permanent Crisis of Aura." Convergence: The International Journal of Research into New Media Technologies, v.12, n.1, 2006, 21-39.

Bolter, Jay David. "Formal Analysis and Cultural Critique in Digital Media." Convergence, v.8, n.4, 2002, 77-88.

Bolter, Jay David. "Remediation and the Desire for Immediacy." Convergence, v.6, n.1, 2000, 62-71.

Bonnett, Alastair. "The Nostalgias of Situationist Subversion." Theory, Culture and Society, v.23, n.5, 2006, 23-48.

Butt, Danny. "Local Knowledge: Place and New Media Practice." Leonardo, v.39, no.4, 2006, 323-326.

Castells, Manuel. "Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age" In The Cybercties Reader ed. Stephen Graham, 82-92. London: Routledge, 2004.

Court, Spencer David. Event Perception: Sensory Urban Space Anomalies. Winnipeg: Faculty of Architecture, University of Manitoba, 2005.

Crang, Mike. "Urban Morphology and the Shaping of the Transmissible." In The Cybercties Reader ed. Stephen Graham, 129-132. London: Routledge, 2004.

Cullen, Gordon. The Concise Townscape. Oxford: Architectural Press, 1971.

Dodge, Martin and Rob Kitchin. Mapping Cyberspace. London, Routledge, 2001.

Dreyfus, Hubert L. On The Internet: Thinking In Action. London: Routledge, 2001.

Epp, Eduard. The Arcadian Metropolis: Towards a Sustainable Urban Form. M.Arch. McGill, 1992 (advisor: Annmarie Adams).

Fernandez, Francisco. Responsive Environments: Digital Objects in the Landscape. Winnipeg: Faculty of Architecture, University of Manitoba, 2004.

Gadamer, Hans-Georg. "Play as the Clue to Ontological Explanation." In Truth and Method. Trans. Joel Weinsheimer and Donald G. Marshall, 101-134. New York: Continuum, 2003.

Galloway, Anne and Matthew Ward. "Locative Media as Socialising and Spatialising Practices: Learning From Archaeology." Leonardo: Electronic Almanac, v.14, n.3, 2006. <http://leoalmanac.org/journal/Vol_14/lea_v14_n03-04/gallowayward.asp>

Gaye, Lalya. "Enabling the Emergence of New Everyday Aesthetic Practises with Ubiquitous Computing." 2005. <http://www.viktoria.se/~lalya/texts/Gaye_Ubicomp05_doc_coll.pdf>

Gehl, Jan and Lars Gemzoe. New City Spaces. Copenhagen: The Danish Architectural Press, 2000

Gehl, Jan. Life Between Buildings – Using Public Space. Copenhagen: The Danish Architectural Press, 2001.

Gibbs, Michael. "Locative Media." Art Monthly, v.280, October 2004, 40.

Graham, Stephen, ed. The Cybercties Reader. London: Routledge, 2004.

Graham, Stephen. "Strategies for Networked Cities." In The Network Society: A New Context for Planning. ed. Louis Albrechts and Semour J. Mandelbaum, p – p. London: Routledge, 2005.

Hemment, Drew. "Locative Arts." Leonardo, v.39, n.4, 2006, 348-355.

Jacobs, Jane. The Death and Life of Great American Cities. New York: Random House Inc., 1961

Jacobson, Clare, ed. XYZ – The Architecture of Dagmar Richter. New York: Princeton Architectural Press, 2001.

Kiefer, Matthew J. "Public Planning and Private Initiative: The South Boston Waterfront." In Urban Planning Today, ed. Williams S. Saunders, p – p. Minneapolis: University of Minnesota Press, 2006.

Kunstler, James Howard. <u>The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape</u>. New York: Touchstone, 1994.

Lynch, Kevin. <u>The Image of the City.</u> Cambridge: The MIT Press, 1960.

Mann, Steve and Hal Niedzviecki. <u>Cyborg: Digital Destiny and Human Possibility in the Age of the Wearable Computer</u>. Toronto: Doubleday, 2001.

Mann, Steve, Humanistic Intelligence: `WearComp' as a new framework and application for intelligent signal processing. <u>Proceedings of the IEEE,</u> Vol. 86, No. 11, November, 1998, 2123-2151

Mann, Steve. "Existential Technology: Wearable Computing Is Not the Real Issue!" <u>Leonardo</u>, v.36, n.1, 2003, 19-25.

McCullough, Malcolm. "On the Urbanism of Locative Media." <u>Places,</u> v.18, no.2, Summer, 26-29, 2006.

McLeod, Mary. "Henri Lefebvre's Critique of Everyday Life: An Introduction." <u>In Architecture of the Everyday.</u> ed. Steven Harris and Deborah Berke, 9-29. New York: Princeton Architectural Press, 1998.

Mitchell, William. <u>City of Bits — Space, Place and the Infobahn</u>. Cambridge: The MIT Press, 1995.

Mulder, Arjen, ed. <u>Transurbanism</u>. Rotterdam: V2 Publishing/NAI Publishers, 2002.

Pepperell, Robert. "Seeing without Objects: Visual Indeterminacy and Art." <u>Leonardo,</u> v.39, n.5, 2006, 394-400.

Pullen, Kristen and Abby Goodrum. Second Life and First. Calgary <u>CBC Radio: Ideas.</u> 2007-09-30

Rowe, Peter G. "Chapter 4 — Individual Space and Collective Places." In <u>Civic Realism</u>. 124-161. Cambridge: The MIT Press, 1997.
Russell, Ben. "Locative Media and Social Code." <u>Receiver,</u> n.10, 2004, 1-4. <http://www.receiver.vodafone.com/flash/receiver/archive/index.html>

Scherr, Richard. "The Synthetic City: Excursions into the Real-Not Real." <u>Places</u>, v.18, no.2, Summer, 6-15, 2006.

Sennett, Richard. "Introduction - Body and City." <u>In Flesh and Stone: The Body and the City in Western Civilization.</u> 15-27. New York: W.W. Norton & Company, 1994.

Sennett, Richard. T<u>he Fall of Public Man.</u> New York: Vintage Books, 1976.

Shane, Ed. <u>Disconnected America: The Consequences of Mass Media in a Narcissistic World.</u> Armonk: M.E. Sharpe, 2001.

Shepard, Mark. "Tactical Sound Garden [TSG] Toolkit." In <u>306090 Architectural Journal,</u> August, 64-71. New York: Princeton Architectural Press, 2005.

Strickland, Roy. "Background into Foreground: Film as a Medium for Teaching Urban Design." <u>Places</u>, v.18, no.2, Summer, 44-51, 2006.

Strickland, Roy. "From Tiles to Pixels: Media and the City." <u>Places</u>, v.18, no.2, Summer, 4-5, 2006.

Svendsen, Lars. <u>A Philosophy of Boredom</u>. Trans. John Irons. London: Reaktion Books, 2005.

<u>The American Heritage Dictionary of the English Language,</u> Fourth Edition. Houghton Mifflin Company, 2004

Toffler, Alvin. <u>Future Shock.</u> New York: Bantam Books, 1971.

Toffler, Alvin. <u>The Third Wave</u>. New York: William Morrow and Co. Inc., 1980

Townsend, Anthony. "Locative Media Artists in the Contested-Aware City." <u>Leonardo</u>, v.39, no. 4, 2006, 345-347.

Tuan, Yi-Fu. <u>Space and Place — The perspective of experience.</u> Minneapolis: University of Minnesota Press, 1977.

Tuters, Mark and Kazys Varnelis. "Beyond Locative Media: Giving Shape the Internet of Things." <u>Leonardo</u>, v.39, n.4, 2006, 357-363.

Tuters, Mark. "The Locative Commons: Situating Location-Based Media

in urban Public Spaces." 6 May, 2007. <http://www.futuresonic.com/futuresonic/pdf/Locative_Commons.pdf>

Van Kranenburg, Rob. "How To: The Will to Organize." Leonardo, v.39, n.4, 2006, 305-309.

Van Toorn, Roemer. "Against the Hijacking of the Multitude." In Transurbanism, ed. Arjen Mulder, 123-136. Rotterdam: V2 Publishing/NAI Publishers, 2002.

Virilio, Paul. "The Third Interval." In The Cybercties Reader, ed. Stephen Graham, 78-80. London: Routledge, 2004.

Virilio, Paul. The Lost Dimension. Trans. Daniel Moshenberg. New York: Semiotext (e), 1991.

Waldheim, Charles. "Landscape Urbanism: A Genealogy." Praxis, n.4, 2002, 10-17.

Zmudzinska-Nowak, Magdalena. "Searching for Legible City Form: Kevin Lynch's Theory in Contemporary Perspective." Journal of Urban Technology, v.10, n.3, 2003, 19-39.

Web Sites

Amsterdam. "Amsterdam Realtime" Projects and technology pages online Available from http://realtime.waag.org/: Internet accessed 24 April 2007.

Anne Galloway. "Technosocial devices of everyday life," Anne Galloway Research & Design. Current projects page online. Available from http://annegalloway.com/; Internet; accessed 9 November 2007.

apophenia. "apophenia :: making connections where none previously existed." Pages research online. Available from http://www.zephoria.org/thoughts/; Internet accessed 5 August 2007.

Crystalpunk. "Crystalpunk." .walk pages online Available from http://www.socialfiction.org/: Internet accessed 22 April 2007.

Epic 2014. "Epic 2014" Home page online. Available from http://epic.makingithappen.co.uk/: Internet; accessed 19 April 2007.

EyeTap. "EyeTap Personal Imaging Lab Wearables" Wearables page online. Available from http://www.eyetap.org/research/eyetap.html: Internet accessed 22 April 2007

Family Safe. "Family Safe Media." Pornography statistics page online. Available from http://www.familysafemedia.com/pornography_statistics.html: Internet accessed 22 December 2007.

Geocaching "Geocaching: The Official GPS Cache Hunt Site" Home page online. Available from http://www.geocaching.com/: Internet Accessed 22 April 2007.

Geosimulation. "Geosimulation." Pages WiFi online. Available from http://geosimulation.org/; Internet accessed 4 March 2006.

Holopro. "Holopro" Product page online. Available from http://www.holopro.com/index.html?&L=1: Internet accessed 7 December 2007.

Jabberwocky. "Jabberwocky: A Mobile Phone Application for Visualising our Urban Familiar Strangers." Available from http://www.urban-atmospheres.net/Jabberwocky/: Internet accessed 22 April 2007.

Layla Gaye. "Layla Gaye's Resume." Projects pages online. Available from http://www.viktoria.se/~lalya/;Internet accessed 22 April 2007.

Lozano-Hemmer. "Untitled Public." Rafael Lozano-Hemmer Projects. Projects page online. Available from http://lozano-hemmer.com/: Internet; accessed 26 April 2007.

Ludic-Society.net. "Ludic-Society.net." Tagged page online. Available from http://www.ludic-society.net/tagged/: Internet accessed 7 April 2007.

Paloworeless. "Palowireless." Who owns Bluetooth page online. Available from http://www.palowireless.com/infotooth/knowbase/general/97.asp); Internet accessed on 13 December 2007.
Pure Data. "Pure Data." Home Page online. Available from http://puredata.info/: Internet accessed 23 June 2007.

Smart Mobs. "Smart Mobs: The Next Social Revolution" Summary page online. Available from http://www.smartmobs.com/; Internet accessed 3 January 2008.
Urban Tapestries. "Urban Tapestries/Social Tapestries" Home page

online. Available from http://urbantapestries.net/: Internet accessed 24 April 2007.

We Make Money Not Art. "We Make Money Not Art." Pages locative media online. Available from http://www.we-make-money-not-art.com/; Internet accessed 22 April 2007.

List of Figures

Figure 17 - Sonic City. http://www.viktoria.se/fal/projects/soniccity/prototype/proximity_sensor_bg.jpg, 2007.

Figures 18 to 21 - Context Photography. http://www.viktoria.se/fal/projects/photo/effekter.JPG, 2007.

Figure 22 - Aerial photograph of Winnipeg overlaid with GPS generated data created by author, 2005

Figure 23 - Image illustrates the change in points of reference and in notions towards location. By author, 2007.

Figure 24 - Map of potential activity clusters in the city that replace location and address. By author, 2007.

Figure 25- Schematic drawing of how the navigational system will operate as an appropriation of exiting technologies. By author, 2007.

Figure 26 - Aerial photograph of Winnipeg's Exchange District. Taken from Google Earth, 2007.

Figure 27 - Map which seeks to spatialise the virtual connectivity of the area. By author, 2007.

Figure 28 - Map that incorportaes notions of surviellance and remote observation into the physical expression of the area. By author, 2007.

Figure 29 - The Khronos Projector. Alvaro Cassinelli collection's, 2007.

Figure 30 - Site Plan by author, 2007.

Figure 31 - Closed Sets by author,2007.

Figure 32 - Open Fields by auhtor, 2007.

Figure 33 - Through Fares by author, 2007.

Figure 34 - The Public Site by author, 2007.

Figure 35- Interface. http://www.codekit.com/source/webdesign/gallery/images/interface.jpg, 2007.

Figure 36 - This image of stills from Robert Pepperell and Miles Visman's ATV (Automatic Television),"Seeing without Objects: Visual Indeterminacy and Art." Leonardo, v.39, n.5, 2006, 395.

Figures 37 and 38 - The two matrix developed in the virtual associations of the Closed Sets and the Open Fields by author, 2007.

Figures 39 and 40 - The two matrix developed in the virtual associations of the Through Fares and The Public Site by author 2007.

Figure 41 - Diagrammatic representation of the morphologies identified through the course of this study by author 2007.

Figure 42 - Schematic drawing of the physical and virtiual co-inhabation of the Closed Set morphology by author, 2007.

Figure 43 - Step-by-step schematic drawings of the physical and virtiual co-inhabation of the Closed Set morphologyby author, 2007.

Figures 44 - Location of the Closed Set in the Exchange Disrict by author, 2007.

Figures 45 - Plan of projection locations in the Closed Set by author, 2007.

Figures 46 - Perspective of intervention in the Closed Set by author, 2007.

Figure 47 - Schematic drawing of the physical and virtiual co-inhabation of the Open Fields morphology by author, 2007.

Figure 48 - Step-by-step schematic drawings of the physical and virtiual co-inhabation of the Open Fields morphology.

Figures 49 - Location of theOpen Field in the Exchange Districtby author, 2007.

Figures 50 - Plan of parking benches in the Open Field by author 2007.

Figures 51 - Perspective of LDC screens in the Open Field by author 2007.

Figure 52 - Schematic drawing of the physical and virtiual co-inhabation of the Through Fares morphology by author 2007.