SURVEILLANCE CITY IN A POST 9/11 ERA

WANTING DONG
MLA CANDIDATE 2017
Rhode Island School of Design
A thesis submitted in partial fulfillment of the requirements for the Master of Landscape Architecture Degree in the Department of Landscape Architecture of the Rhode Island School of Design, Providence, Rhode Island.

By Wanting Dong
Date May 25, 2017

Approved by Masters Examination Committee:

______________________________
Scheri Fultineer, Department Head, Landscape Architecture

______________________________
Suzanne Mathew, Primary Thesis Advisor

______________________________
Theodore Hoerr, Secondary Thesis Advisor
Contents

06 Thesis Overview
07 Site Introduction
09-19 Phase 1 Investigation
21-32 Phase 2 Investigation
33-48 Phase 3 Investigation
49-51 Overall Assessment
52 Bibliography
Overview

Surveillance City in A Post 9/11 Era is a thesis investigation trying to understand our privacy, perceived safety and public realm in the large context of evolving terrorism worldwide by promoting a conversation about how surveillance would change our city, our new relationship with the city under surveillance, and how people will live with surveillance in the future.

Phase one seeks to understand terrorism and terrorist attack in general, and the opportunities and limitations of the existing security design strategies that have been implemented by US government. In phase two, a specific investigation direction is determined and a series of perceived safety assessment are conducted in order to understand terrorism target, criteria of perceiving safety in public spaces, and the constrains and opportunities of the site to develop appropriate future strategies. Phase three is focused on the long-term discussion triggered by the extensive use of surveillance camera in New York after 9/11.

A radical city mode, SURVEILLANCE CITY, is provoked at the end of this investigation to promote a conversation to better understand how surveillance would change our city, the way we live and our new relationship with the city in the large context of evolving terrorism worldwide.
Site

In phase one and phase two, the thesis investigation is located in Lower Manhattan in New York City as an ideal testing ground for terrorism-related topics because of the many changes of security policy, design of built environment and people’s state-of-mind due to the happening of 9/11 in 2001.

In phase three, the site of Lower Manhattan is no longer a place to propose a design strategy, but a place giving a rich context for this provocative approach being used to help understand the questions and involve a wider range of participants into this conversation. The extensive implementation of surveillance camera in Lower Manhattan, which increased by three times, is the trigger of a long-term conversation among New Yorkers about the perception of safety and the possibly violated privacy in this context. This difficult trade off is what this thesis investigation intends to understand.
Phase 1 Investigation
How to design public spaces that could strengthen the defense system of terror attacks?
Abstract

In phase one, the investigation seeks to understand the three layers of systems in Financial District, which includes the urban fabric, street networks, subway system and public open spaces. It also includes an in-depth research into the existing security design strategies that have already been implemented by designers and policy-makers.

By observing and measuring on site, collecting GIS information, mapping out the layers of system, and typology studies, the questions are answered: the hub of busy street, subway station and high-profile public space is easy to become the target of terrorist attacks nowadays. And these hubs are under certain levels of protection by the government using different strategies but still vulnerable. So there could be new and better security strategies that strengthen the defense system without sacrificing the freedom of citizens enjoying city life.

Conceptual diagram
Introduction

The investigation in phase one aims to understand terrorism in general and find out the interrelationships among different layers of systems in Lower Manhattan in order to help define a specific design area in the later phases.

And this investigation also includes the typology study of the existing security design strategies that have been implemented by US government. By investigating these strategies, it informs that there is no perfect strategy that can totally prevent terrorist attacks from happening. A smarter way of thesis investigation is to understand the opportunities and limitations, and either to develop a strategy or adjust the direction accordingly.

At the end of phase one, the significance of designing a counter-terrorism system is questioned because of the evolving feature of terrorism itself. A new direction is discussed to design for the perception of safety in the large context of terrorism, which turns out to be more significant and solvable in the field of landscape architecture.

Methods

1. Site visit including site observation, measurement, notes taking and photograph helps to understand the research area from different perspectives and holistically.
2. Mapping takes advantage of GIS information and helps to understand the relationship between different layers.
3. Diagramming helps to visualize the findings from mapping information.
4. Digital modeling spatializes the research area.
5. Typology study visualizes and spatializes the different existing security strategies, and helps to understand their opportunities and limitations.
6. Literature review helps to understand terrorism in general, and how people react to it.
Phase 1 City System Study

Layers of system in Lower Manhattan
1. open spaces
2. buildings
3. subway system
Phase 1 System Study and Existing Strategies

1. restrict area
2. subway stations
3. threatened streets

Mapping of Financial District

- Street Safety
  - Poor
  - Fair
  - Limited Space

- Restricted Area
  - Closed Space
  - Limited Space

- Threatened streets

Miles
0 0.075 0.15 0.3 0.45 0.6
Phase 1 Defense System and Existing Strategies

1st Layer of Defense System Against Terrorist Attack

Existing Design Strategies
Phase 1 Defense System and Existing Strategies

DEFENSE LAYER #2

placement of buildings
site circulation
access control
landscape
Phase 1 Defense System and Existing Strategies

3rd Layer of Defense System Against Terrorist Attack

existing Design Strategies

DEFENSE LAYER #3

- interior of buildings
- structure / materials
- utilities
- IT

bollards
underground utilities
street lighting
security camera

speed bump
bollards:
leave a clear path
of 8" of sidewalk

pavement treatment
bollards:
leave a clear path
of 50% of sidewalk

security lighting & camera

apply different
streetscape elements
when a continuous
line of bollards reaches
100'
Phase 1 Defense System Study by Modeling

Conceptual model 1 seeks to see the relationship between subway hub and surveillance camera spatially.

Conceptual model 2 seeks to explore a possible way that the technology of lighting and surveillance camera could inform the design of defense system.
Findings + Conclusions

The findings and conclusions in phase one include three aspects in terms of the general understanding of terrorism after 9/11, urban systems in Financial District, and the advantages and disadvantages of the existing security design strategies.

First, by researching on terrorism worldwide, the statistics and literature records reveal that there is an apparent shift of the types of terror attacks in United States and Europe. Before the appalling disaster of 9/11, the main attack targets are usually symbolic buildings, landmarks, energy source or targets supporting the economy of a country. And these attacks are usually in large scale which involve more armed force and funding, and need to be carefully plotted and operated by a core leading organization such as al-Qaeda. However, the terror attacks nowadays tend to be harder to detect and prevent because they are in smaller scale which can be conducted without large funding support and people involved. The targets are now transportation system of a city, high-profile public open spaces, recreational and educational institutions. These types of attacks are easier to carry out by bomb-laden vehicle or suicide bombing, which are not confrontational but like a hit on the back.

Second, based on the understanding of attack types after 9/11, the investigation into the different systems in Financial District is focused on subway system (includes routes and stations), adjacent public open spaces and streets (includes grid, safety condition and restricted area). The mapping of these information shows there are some places in Financial District that are hubs locating on busy subway line, unsafe streets and city plazas, which means there are usually high volume of commuters, gathering people and traffic, thus potential attacks. This finding narrows down the design areas that will be investigated in the later phases.

Third, there is also a change of security design strategies in the United State, partially because of realizing how important it is to ensure safety as well as maintain the maximum freedom of citizens to enjoy city life without being over-secured and dominated by the fear. The strategies include three layers. The first layer looks at urban fabric, neighborhood, urban activities and transportation infrastructures. The second layer look at the perimeter scale including placement of buildings, site circulation, access control and landscapes. The third layer looks at building interior, material, structure utilities and IT (includes surveillance camera system). Specifically, the design of bollards and other streetscape elements replace the old concrete block (e.g. Jersey Barrier) as new types of barrier. Vegetation and change of landform are also methods to create natural barrier. Access control is also a key strategy which includes traffic calming, pedestrian-only zone etc. The use of blast-resilient materials and structures help to mitigate the damage of a potential bombing, while the application of security lighting and camera help to deter the potential attacks.

However, security design is largely based on the different levels of protection needed, vulnerability of the target and the potential threat level. So, vulnerability assessment and threat assessment are key to a successful security design. In phase two, a specific design area will be determined and a series assessment will be conducted in order to create appropriate security plans.
Assessment

Basically, the process of phase one follows the schedule.

The investigation of phase one generates useful information in order to answer the questions and move on to the next step to locate the design area, but it will be better to have demographic data, specifically numbers and distribution of commuters on subway, and surveillance camera information. Also, due to the problem of time management, the goal of making an info-graphic to illustrate the general knowledge of terrorism is not achieved, but all information needed is prepared so it will be easy to make up for it in phase two.

The preparation of digital models is important in the past three weeks. They help to spatialize the investigation of existing security design strategies and the review of official design guidelines ensure the accuracy of these information. At the same time, the first field trip to the site also helps to collect first-hand information. But it could be better to have more analysis on the photographs of site and compare with the strategies written in the guideline, to find out whether these implementations function well and how people react to them. So, in phase two, the analysis of these strategies will be included rather than just an inventory.

The goal of phase one is achieved but the final outcome after three phases is still not clear. It will be helpful to locate the design area in phase two in order to quickly figure out what the results will be in the end of thesis.
Phase 2 Investigation
How to create public spaces that could bring the perception of safety without undermining the perception of freedom?
Abstract

Moving from phase one, the direction of this topic is focused on the conflicts between perception of safety in public spaces and the loss of freedom of citizens to enjoy civic life, which is more significant in the context of constantly evolving terrorism world wide.

In phase two, the investigation seeks to understand the features of attack target and where the potential targets are in lower Manhattan. In addition, it also seeks to understand how people perceive safety in general and what the criteria are. Based on the study of perception of safety and the observation of the site, the investigation utilizes the criteria drawn from the study to exam the site, and to understand the constrains and opportunities to develop design strategies in the future.
**Introduction**

The investigation in phase two aims to understand what and who are mostly likely to be the targets of terror attacks, which includes soft targets, city infrastructure and high profile places. And the question of how people perceive safety in public spaces is another main part of this investigation.

After understanding the targets, the investigation is located in Zuccotti Park which is a high profile that is always occupied by various city activities and surrounded by several soft target with multiple busy subway entrances. A detailed site observation is conducted to help understand the physical features of the site and to exam the factors that influence people’s perception of safety in and near the site. A perceived safety analysis is carried out basing on these criteria and a set of data collected by MIT Media Lab.

At the end of phase two, a specified direction within this big question is determined: how our perception of safety and privacy in public spaces are influenced by the use of surveillance camera.

**Methods**

1. Site visit including site observation, measurement, notes taking and photograph helps to understand Zuccotti Park from different perspectives and holistically.
2. Mapping shows what and where are the potential targets of terrorist attacks.
3. Transact helps to show what the site looks like and what the factors are that could influence perception of safety.
4. Literature review helps to figure out the nine influencing criteria and a appropriate investigation method.
WHO/WHAT IS THE TARGET?

PUBLIC SPACES IN THE LARGER CONTEXT OF EMERGING TERRORISM THREATS.

Could create the perception of SAFETY without undermining the perception of FREEDOM?

INFRASTRUCTURE
- Transportation
- Energy/water supply

SOFT TARGET
- Bank
- Shopping mall
- Supermarkets
- Schools
- Church
- Place of entertainment

HIGH PROFILE
- Landmark
- Government building
- Historic place
- Cultural symbol

Subway Ridership in Lower Manhattan
Phase 2 Site Overview and Target Analysis

WHO/WHAT IS THE TARGET?

Potential Targets in Lower Manhattan

INFRASTRUCCURE
transportation
energy/water supply
...

SOFT TARGET
bank,
shopping mall
supermarkets,
schools,
church,
place of entertainment
...

HIGH PROFILE
landmark
government building
historic place
cultural symbol
...
The scoring was used to study how people perceived the safety of a street based on the appearance of buildings, the presence of trees, and how the sidewalks looked.

Fast forward about five years, and more than 80,000 people from around the world have participated, resulting in more than 1.3 million clicks on more than 100,000 photos.

**LIMITATIONS**

1. This data should be interpreted in the narrow context defined by the data collection method used for this algorithm.
2. The scores were estimated using the images available at the time of scoring. They were calculated statically at a given time period (spring of 2014).
Phase 2 Site Overview and Perceived Safety Analysis

This map shows the location of subway stations, street lights, surveillance cameras and drop-off/pick-up locations which are important indicators according to the criteria of perceived safety.
Phase 2 Street Transact and Perceived Safety Analysis

Transact of Streets Adjacent to Zuccotti Park
Phase 2 Street Transact and Perceived Safety Analysis

Transact of Streets Adjacent to Zuccotti Park

Broadway St. (look west)

Broadway St. (look east)
Phase 2 Design Ideas for Perception of Safety

HOW DO WE MAKE SPACE PERCEIVED SAFE?
Physical Strategy + Technological Strategy + Biological Strategy

Concept Diagram of the Potential Design Strategies
Findings + Conclusions

The findings and conclusions in phase two include three aspects in terms of the understanding of terrorism target, criteria of perceiving safety in public spaces, and the constrains and opportunities of the site to develop future strategies.

First, by researching on terrorism target, the statistics and records from homeland security reveal that the main attack targets are usually city infrastructures, soft targets without enough security and high profiles. And these include symbolic buildings, landmarks, energy sources or targets supporting the economy of a country, public transportation, schools, shopping malls, churches and places for entertainment. In Manhattan, there are 3,940,000 people during the daytime. Specifically, Lower Manhattan has a population of approximate 270,000 vulnerable people according to the research of subway ridership by MTA. The facts show how many people are directly exposed to the potential terror threat, and where the potential targets are in Lower Manhattan.

Second, based on the understanding of attack targets, the investigation was located in Zuccotti Park which is open to the public and always occupied by various city activities. With four subway stations within a walking distance and a few potential targets nearby, this site is an ideal experiment site for the study of this topic. After determining the site, the investigation seeks to find out how people perceive whether it is safety or not, in order to understand the perception of safety in this area and also the criteria to perceive. According to a set of data collected by MIT media lab showing a score mapping of perception of safety in New York, it shows an interesting result of very different safety scores in the same area, and it leads the investigation to find out what the factors are that influence people’s perception of safety. At the end of this study, the factors include the presence of green infrastructure, crowdedness in a certain area, visual surveillance, availability of streetlight, maintenance of the area, road type, season of the year, time of the day and alone/together. Although there are many limitations of MIT’s methodology, such as the lack of context for people to rate a place just by looking at pictures, it still gives instruction when looking at the site critically. Examining the site using the nine criteria, the differences of visual surveillance and the presence of street vendors are of great interests.

The investigation in phase two gives clues on how to develop strategies in phase three. It shows the constrains and opportunities of the selected site, and the different potentials to deal with this question.
**Assessment**

Phase two is a little bit adjusted from the initial direction of thesis topic in phase one.

The direction of phase one is to investigate how to design public spaces that could make it physically safe. However, the significance of this direction is questioned in the context that terrorism evolves much faster than landscape architects could come up with solutions. So the direction of phase two is changed to study how to create perception of safety without undermining the perception of freedom in public spaces.

This question was only partially answered in phase two. Because of the lack of convincing data set, the research and analysis didn’t manage to answer how people perceive safety in this site. And the other important part of this question -- how to ensure the perception of freedom -- was also not covered in phase two.

The goal of phase two is not achieved but gives a lesson for phase three. It is still not too late to break down the question in this phase and answer it in phase three. And it also raises the question that how to engage people into this conversation about the conflicts and trade-offs between safety and freedom in public spaces in the larger context of emerging terrorism threat.
Phase 3 Investigation
How to understand our privacy, perceived safety and public realm in the large context of evolving terrorism worldwide?
Abstract

In phase three, the focus of this thesis is more specified according to the feedbacks gather from topic exploration and self-questioning in the phase two.

In phase three, the investigation seeks to understand our privacy, perceived safety and public realm in the large context of evolving terrorism worldwide by promoting a conversation about how surveillance would change our city, our new relationship with the city under surveillance, and how people will live with surveillance in the future.

Rather than taking on a traditional landscape design method, a more provocative approach is used to help understand the questions and involve a wider range of participants into this conversation. In this context, the site chosen in phase two is no longer applicable due to the limitations that are brought into this investigation. So, this investigation looks at Lower Manhattan in general as an experimenting field.
**Introduction**

The investigation in phase three aims to understand five main parts of the big question, which includes the changing policy of using surveillance camera in public spaces after 9/11, the different voices and main arguments over the use of surveillance camera, how surveillance influences the perception of safety, the precedents how people provoke radical ideals, and the possible ways that surveillance would change our city and our way of living in the city.

These explorations are supported by the research of history and changing policy in Lower Manhattan, the study of social phenomenon and psychology in this context, and the bold brainstorming of spatial or programmatic interventions. And at the end of phase three, a narrative in the form of comic book is produced to better articulate the ideal to a wider range of audience.

**Methods**

1. Literature review helps to understand terrorist attack and when hand how surveillance camera could help in the process.
2. Data collection and analysis helps to understand people’s different attitudes toward the use of surveillance camera in public spaces, and their thoughts about the privacy in this context.
3. Typology study and diagramming help to visualize and spatialize ideas.
4. Modeling is an effective tool to develop ideas spatially and adjust these ideas immediately.
5. Case study gives clues on how to illuminate the question and develop the ideas in a provocative way.
6. Storytelling provides a narrative way of promoting the conversation.
Phase 3 The Changing Policy of Surveillance Camera

The Number and Location of Surveillance Camera in Lower Manhattan

The Number of Surveillance Camera in NYC before/after 9/11
Phase 3 The History and Operation of Surveillance System

The Process of Delivering Surveillance Data

The Development of Surveillance System in the US

Closed Circuit Television (CCTV) is invented and was first used in the U.S. military.

NYC government installs surveillance cameras to combat crime.

Banks and retailers began to use CCTV as an added security measure against theft.

Use of surveillance cameras rapidly increases.

The first attack on World Trade Center results in increased monitoring of high-profile locations.

It also raised increased awareness in the possibility of terrorist attacks.

The first IP camera is released. It allows to share information across computer network.

The second attack on World Trade Center and its subsequent destruction push the public towards more personal-safety-oriented surveillance.

Facial recognition programs became a higher priority.

Internet-based surveillance cameras become increasingly common.

Surveillance cameras can now be watched from anywhere in the world using the Internet and wireless communication.
Phase 3 The Opportunities of Surveillance System

terrorists conduct preoperational surveillance to determine the target’s patterns of behavior or possible weaknesses and attack methods.

The plotters conduct more surveillance to determine who, how, where and when to carry out the attack.

the attackers will leave their safe houses, collect weapons, assemble explosive devices, form into teams and move to the location of the target.

the point of no return

in suicide attacks, do not need to take into account an escape route.

The Attack Cycle of A Terrorist Attack
Phase 3 The Challenges of Surveillance System

**Do you favor or oppose the use of surveillance cameras in public places?**

- Favor: 67.6%
- Oppose: 32.4%

**Have you ever felt that a surveillance camera violated your privacy?**

- Yes: 44.6%
- No: 55.4%

**Challenges of Surveillance Camera System**

- 43.2% lack of camera network
- 23% technical issues
- 10.8% unable to respond in real time
- 27% poor image quality
- 20.3% no future expansion
- 18.9% privacy issues

**Different Attitudes Toward the Use of Surveillance Camera**

The Opportunities and Challenges of Surveillance System
Phase 3 Precedent Study

Frank Lloyd Wright
BROADACRE CITY  1932

Le Corbusier
CARTESIAN SKYSCRAPER  1938

SUPER STUDIO
THE CONTINUOUS MONUMENT:
An Architectural Mode for Total Urbanization.  1969

Big cities will be decentralized with only automobile connecting all the low-density dwelling clusters, which responses to the “anti-democracy” urban planning.

One super block equipped with living and working units to leave more space for parkland on the ground thus confirming the ideal of Radiant City.

A moderate utopia in which architecture will be created with a single act abandoning all chaos of design to understand the natural motives of human being.

Three Precedents of Radical Provocation
Phase 3 Typology Study

Six models experimenting how surveillance camera would change our city

- adds to crowdedness
- less effective eyes
- street becomes a soft target

★ 90% people + 10% car
★ people attract people
★ more eyes on the street
★ social mixing
★ safer street life

★ sitting people observe their environment
★ more effective eyes
★ more eyes from the surrounding buildings
★ social media creates shared city experience

★ social media as way for terrorist publicity
★ the possibility of violating privacy

★ watch tower brings effective visual surveillance
★ new city landmark for wayfinding

★ the fear of being watched
★ the lack of vegetation undermines street life
★ infrastructure becomes a terrorist target

★ the fear of being watched
★ the fear from un-human scale
★ landmark becomes a terrorist target

★ reflective surfaces are mirrors
★ a welcome opportunity to check ourselves & the environment in the privacy of our own gaze

★ the fear of being watched
★ the possibility of violating privacy

★ terraced building brings effective visual surveillance
★ more eyes from the surrounding buildings

★ the fear of being watched
★ the fear from un-human scale
Phase 3 Typology Study

Typology of six ideas looking at our new relationship with the city under surveillance, and how we will live with surveillance in the future.
Phase 3 A Provocation - Part i

WHAT DOES A CITY WITH EXTREME SURVEILLANCE LOOK LIKE?
WHAT DOES PERCEIVED SAFETY MEAN TO US? WHAT DOES PRIVACY & FREEDOM MEAN TO US IN THE CYBER AGE?
WHAT ARE WE TRADING OFF?
IS THERE A MOMENT WE ENJOY BEING WATCHED?
WHAT IF SURVEILLANCE CAMERAS ARE NO LONGER CAMERAS?

Huge screens will gradually occupy every building surface...
They share the images from the street to a wider range of audience, as well as a way for self-publicity...

Lee: I can see you there.

Rob: Stand right there. I'm going to take a photo for you from here.

Social media creates shared city experiences among people who don't know each other...
Phase 3 A Provocation - Part ii

Dogs are incredible sensors for detecting potential terrorist attacks...

Distinguished Citizen

Dog has the priority to use our parks...

Our new warhorses!
YEARS LATER, ALL THE STREETS IN MANHATTAN WILL BE REPLACED BY NYC-EXPRESS WHICH IS THE MAIN COMMUTING TOOL...

WATCH TOWERS ARE BUILT UP AT IMPORTANT INTERSECTIONS OF THE GRID TO WATCH OVER WHAT'S HAPPENING ON THE GROUND...

WATCH TOWERS ARE NEW LANDMARKS OF THE CITY.
Phase 3 A Provocation - Part iv

TERRORISM SEEMS TO EVOLVE MUCH FASTER THAN WE CAN COME UP WITH SOLUTIONS...

THERE IS NO PERFECT CITY MODE LIKE PANACEA. ONCE ONE PROBLEM SOLVED, ANOTHER PROBLEM ARISES.

THE POINT LIES IN HOW WE THINK & DESIGN FOLLOWING THE PARADIGM SHIFT...

IS BIG APPLE STILL WATCHING ME?
Findings + Conclusions

As the end of thesis investigation, the findings and conclusions of phase three answered a couple of questions raised in the entire process of thesis. There are three aspects included in these conclusions:
1. an urban mode that reshape people’s relationship with the city under surveillance in the context of terrorism.
2. a new approach that landscape architects could take on.
3. a new vision how landscape architecture could influence social psychology and the built environment.

Starting from the study of terrorism in general, what is interesting is that there is always a dilemma in this context: people would like to have a safe city to live in, both physically safe and perceived to be safe. But at the same time, people’s perception of safety is always impacted differently by those security design strategies. Among the many strategies that have been implemented by the US government, the extensive use of surveillance camera in New York after 9/11 triggered a long-term discussion among people. The main argument is about the conflicts and trade-offs between safety and privacy. Even though there are more than 20% of people against the use of surveillance camera in public spaces, and around 30% of people think their privacy are violated, the fact that these cameras do help detect and investigate a certain terrorist attack and other crimes cannot be ignored.

Basing on this finding, an urban mode is provoked in order to explore how surveillance would influence our perception of safety and privacy, our way of using the city spaces in daily life, thus changing the physical feature of the city in the long term. In this mode, the level of visual surveillance is set to be the highest. In order to achieve this goal, a couple of spatial interventions including elevated street, shared public transit, highly visible watchtower and social media incorporated screens are implemented in the city.

In terms of the knowledge of landscape architecture, terrorism is a highly interdisciplinary topic that is relevant to security design, social psychology, civic right, policy making, crime and many other underlying fields of knowledge. However, the exploration of phase one and phase two indicates that terrorism seems to evolve much faster than we can come up with solutions. So, the conclusion is that, rather than trying to solve the problem by designs, the new approach should illuminate the problem and provoke a bold ideal, thus involving more people into this conversation which can influence decision making in the future when people are more equipped to confront this problem.
Assessment

Phase three is on the right track and successful at the end after adjusting the direction in the assessment of phase two.

The exploration of phase one and phase two indicates that terrorism is quickly evolving and terrorists are smart to react, so that any solutions would turn out to be ineffective eventually. So, rather than trying to solve the problem by designs, the significance and goal of this thesis topic is changed in phase three to find a new approach that could illuminate the problem and promote an open dialogue to a wider range of participants.

A series of case study, typology study and model experimentation are included in order to answer the questions raised at the beginning and during the process of phase three. These methods are very successful in addressing these questions. Case study is helpful in learning from the precedents and determining a provocative approach. Typology study helps to spatialize and visualize these ideals. And model experimentation serves as a straightforward way to develop, test and adjust these ideals three-dimensionally.

The graphic style is also strong and effective in visualize an ideal surveillance city in the future. The comic book constantly reminds people this is not the real design but a moderate utopia that informs what could happen in this context.

Because of the effective research and study methods, and graphic style as well, the investigation of phase three turns out to be very successful and achieves the goal of involving people into this conversation. The only thing that would be different is that more time would be assigned for phase three to think more in depth and produce a holistic SURVEILLANCE CITY blue script.
Overall Assessment
Final Conclusions

From phase one to phase three, the thesis investigation is a trial-and-error process. But it eventually contributes to the large body of knowledge in landscape architecture.

Phase one seeks to understand terrorism in general and the existing security design strategies that have been implemented by US government. The conclusion is that every strategy has a certain security level, so vulnerability assessment and threat assessment are key to a successful security design. In phase two, a specific design area in lower Manhattan is determined and a series assessment is conducted in order to understand terrorism target, criteria of perceiving safety in public spaces, and the constrains and opportunities of the site to develop appropriate future strategies. The conclusion is that not every security strategy brings people the same feeling of being protected, and some of them even undermine the perception of safety and privacy.

The first two phases indicates that the extensive use of surveillance camera in New York after 9/11 triggered a long-term discussion among people, and this strategy will change our relationship with the city in the long term. Additionally, a design proposal will not be effective to solve the problem since the evolving terrorism can always respond to whatever strategies we have.

Basing on these findings and conclusions, a provocative urban mode is brought about in order to promote an insight conversation about how surveillance would influence our perception of safety and privacy, our way of using the city spaces in daily life, thus changing the physical feature of the city. In this mode, the level of visual surveillance is set to be the highest, and a couple of interventions help to strengthen the visual surveillance. This mode is put to an extreme scenario in which every physical feature in the city is designed to ensure the maximum visual surveillance. The shape of EYE is a symbolic icon that informs people the transparency of surveillance: it is no longer something that is hidden from us.

Phase three promotes a conversation by provoking SURVEILLANCE CITY and posing a series of questions to better understand this moderate utopia city. In this future, our relationship with the city under surveillance also evolves as terrorism evolves. On one hand, terrorism may not be as serious as an issue that people care about, because our city and life may be more influenced by social psychology and built environment rather than the destruction and casualty of terrorist attacks. Losing the meaning of publicity, what is the future of terrorism? On the other hand, as the fast development of social network, it is even harder to say if we still have our privacy as we are enjoying the pleasure and convenience brought to us by posting ourselves on the internet. So, the presence of surveillance camera becomes even more ironic.

These are interesting findings and conclusions drawn at the end of this thesis investigation. Rather than proposing a practical design, the knowledge of landscape architecture is broadened by provoking and discussing about this SURVEILLANCE CITY in an insight conversation, which can shed light on decision making in the future when people are more confident to solve the problem.
Final Assessment

In this trial-and-error process, the original question has been adjusted from phase one which is to answer how to design public spaces that could strengthen our defense system against terrorist attacks. However, after questioning the significance of this solving the problem in an evolving context, the question is changed in phase two to study how people perceive safety and how to design spaces that could create the perception of safety in the large context of terrorism. This adjustment is the main change along the way and it directly influences the investigation in phase three. In phase three, this question is specified to study how surveillance influences our perceived safety, privacy and our public spaces in the city. Because of the adjustment after phase one, the thesis topic can be more significant in the field of landscape architecture.

In order to investigate this question, a couple of new investigation methods are used, which turn out to be successful. Case study is helpful in learning from the precedents to see how architects and urban planners provoke their radical ideals, and this study gives clues on how this thesis should promote the conversation. Typology serves as a straightforward way to develop, test and adjust these ideals three-dimensionally. The narrative in the form of comic book is also a strong and unconventional tool that landscape designers would use. Considering the uniqueness of this topic, comic book becomes the right choice: it not only makes the provocation more appealing to look at, which is the first step to start the conversation, it also informs audience the provocative and futuristic feature of this topic. And it is because of these features that this investigation cannot be tested currently. There is no testing tool included, but only prototyping by spatial models which intend to help develop the city mode and directly show people how it looks like.

These methods are effective and helpful for this particular provocation. It turns out to be very successful and achieves the goal of involving people into this conversation without leading to the misunderstanding.

Despite the success at the end, there is still something that could be done differently earlier in this process. There could be more time to think in depth about this ideal city mode, and a holistic SURVEILLANCE CITY blue script could be planned to help people understand more about this provocation. Given more thoughts and time, the comic book could be a stronger narrative without having the possibility to be interpreted superficially.
Bibliography