GRADUATION REFLECTION

LIFE ON THE LINE

The paper aims to trace back the initial goals and research themes of the project, followed by the methodology undertaken in the process of design. In the end, the effectiveness of the design approach will be evaluated and the planning of the entire project will be reflected.

I. The relationship between research and design

Research and design are inseparable in the process of thinking. Throughout the semesters, the design concept of the project was kept refining while finding new perspectives from the research. In the beginning, I was intrigued by the experience of crossing the border from Juarez to El Paso. Waiting in long queue and seeing mobile carts selling food to people in line was biggest impression in the trip. Then I read a lot of news articles on the two topics: border crossing and market, and unravel the deeper meaning of the issue, i.e. how it affects people’s everyday lives and how importance these issues are in the region.

![Fig.1 Mobile food stalls knocking the car door to sell products](image)

It is found that the Paso del Norte Bridge, is the busiest border-crossing bridge it is causing severe border congestion. In average, border crossers have to spend 1-2 hours waiting in line. Every person wastes 480 hours per year just waiting in line. On the other hand, El Paso and Juarez have very rich market culture. Crossing the border to shop is common for the border communities. Because of their proximity, the border communities are sharing a broader market than the rest of the US and Mexican cities and they could always enjoy the best from both countries in terms of variety, quality and prices. The market also serves as public space shared by both communities where cultural activities take place such as art, food culture and performing culture.
Then it comes to my very first idea, to create a market that allows people by-passing the queue to get products while alleviating the congestion problem. But later I found that the idea might not be efficient in solving the congestion problem. Would it actually draw more people in the congestion? How does the security work in the building? There was something unclear in the purpose and solution. So I relooked at what are the users in the checkpoints. In fact, the majority of the people at the checkpoints are in real need for crossing the border. So there was a twist in the idea to actually make use of the congestion instead of solving it. So instead of just crossing the borders, the project suggests that border crossers can make use of their queuing time to enjoy life on the line.

The project therefore proposes to create a hybrid building for the two totally unrelated programs—the border checkpoints and market and turns it into a place for cultural, intellectual and products exchanges, and also a meaningful experience when crossing the border.

Time is an important element in my project. I have studied the time charts and lots of statistics at the border crossing. This helps a lot with designing how the building should work throughout the 24 hours, what programs should I include. Taken into account the varying time spent at the market, the activities could range from buying groceries, having food, watching performances, reading recipes to learning cooking. And these activities could complement each other to become an unique experience. For instance, one could look up the recipe library to decide what groceries to buy; or one could buy fresh groceries and cooking them fresh at the cooking school.

II. The relationship between the theme of the graduation lab and the subject/case study chosen by the student within this framework (location/object)

The theme of the complex projects this year is about the Border. Border is an issue but it could be conditioned by architecture design. I decide to locate my building at the border because I wished to present a new perspective of seeing the “hostile” borderline. Instead of emphasizing on the political ownership, my building stresses more on usership. I hope the borderline becomes a place for the community than a space for political sovereignty, an opportunity rather than an obstacle. This has to be done by allowing activities “inside” the borderline and that explains why my building project is located on the borderline.

I am interested in the paradoxical nature of borderline. What I notice about the markets in El Paso and Juarez is that the territorial demarcation has enabled their differences but at the same time their diversity which attracts the communities to cross the border. I hope to bring this complexity into my building design, turning the borderline into a line of both distinction and attraction, a line of contrast and unity, and eventually a neutral line that is just embracing and celebrating their cultural differences and diversity.

III. The relationship between the methodical line of approach of the graduation lab and the method chosen by the student in this framework
The entire complex project approach is research to design. But in each stage, the research focus will shift in specific aspects as the project develops.

The initial approach from P1 to P2 is researching site investigation and mapping. Since border is an unfamiliar topic to me, huge amount of research is needed in the early stage for understanding the border issue. This has been done through locally- first person resources such as interviews, documenting with photos and videos, and globally- case studies around the world and how each of them approach the border issues. I think it is important to grab on the first instinct about the border issue after your site visit and then try to dig into it through further research. In my case, I had a strong impression about the hard time crossing the border. So it becomes one of my strongest starting point in my project. Mapping starts to layer the complexity of the border context and unveiled the relationship between each layer, for instance, the border checkpoint and the functional zoning reveals that commercial activities tend to cluster around the cross-border bridges and therefore would be an ideal site for market programs. Through these hard and soft data investigations are very useful and successful, it starts to make clear the appropriation of site selection, urban design, circulation and etc.

Fig. 1 Site investigation for primary sources of information

Fig. 2 Layer mapping to see relationship of each event
Fig. 3 Massing studies to get the sense of building scale, programmatic organization and circulation

From P2 to P3, further research is needed for working out the building scale. I have started with testing massing models. It helps with understanding the sizes and the relationship with the context. However, I think in my case circulation, security concept have to be thought of all at once when trying the massing. Market is a very flexible program that can adapt to different space but I want my market building be more specific to the region. So I conduct some studies about the typologies and morphologies in US and Mexico to work out the configuration of a shared market. Extensive comparisons of US and Mexican shops, in particularly, about what they sell, how they market their products and how customers approach the stalls would be useful in the design decisions such as stall sizes, stall furniture, relationship between the stalls and walkway, cooking and eating areas and etc. It is found that US and Mexican market shared some similarities in organizing the market stalls. It is comparable to see the linear organization of US arcade and Mexican tianguis; the supermarket and Mercado; the market square and zocalo. So my building project will organize accordingly with linear market linking the three main market squares featured with performing space, cooking school, recipe library.

Fig. 4 Studies about typologies and morphologies
The first half of the thesis year focuses more on “design by research”. But soon after the concept is consolidated, this method does not work quite well because the later part is more dominated by my own design intentions. And everything has to be “visualized” to evaluate the success of the project. Therefore, from P3 to P4 it becomes “research by design, i.e. digging into the detailing part, materialization, sustainability. The research in this stage, ranging from the climatic environment, local construction methods and materials will help rendering the final resolution of the project. These ideas can be incorporated into structural design, façade design, sustainable measures and building technology which makes the design concept even stronger. In my building design, canopy is one of the main features. Besides the aesthetics, the canopy fit into the local climate providing sun shading, wind tunneling that makes the shopping experience more pleasant. It could also be integrated into the structural design to extract exhaust air out (i.e. through ventilation pipes in hollow columns) from the cooking stalls.

IV. The relationship between the project and the wider social context

The border between US and Mexico can be described as a physical line of contradiction and reliance. On the one hand, the physical border acts as a barrier to keep social and political order, while on the other hand it is also a place of attraction and opportunities. Both sides are reliant on one another commercially, and to an extent, culturally. Colloquially, the cities of El Paso and Juarez also suffer from a bad reputation after years of drug related conflicts.

The project size is between urban and building scale. Lying in- between the two cities, the building has a critical role of dealing with the presence of the borderline urbanistically and architecturally. The current gap spans over a 600m wide border which composes of the 400m political “tabula rasa” and 200m of institutional border on both sides (i.e. border checkpoints). The main reason to create a bridge over the border is to narrow the alienating gap and to re-connect the two downtown districts. By turning the gap into a neutral zone, the border is broadened and opened with meaningful programs. It allows porosity of people flow, goods flow and cultural exchange. So that the border is no longer a “dead zone”.

Architecturally, the building is designed as a ramped bridge. The ramp gently touches on two sides of the sensitive borderland gives direct connection on the ground floor. Also, the programs are elevated above the borderline that emphasizes the minimal intervention and political neutrality of the building.

On the regional level, there are lots of markets scattered around the downtown districts in the border cities of El Paso and Juarez, but none of them are relating to each other. My project proposes to consider the twin cities as one border region and links all the main market as one whole shopping experience. The building at the borderline would be an important acupuncture point for creating an ecological market loop. Since each market specializes in certain aspects such as art, furniture (i.e. the border market will specialize in food culture), it will eventually foster the interflow between the two cities. The proposal aims to rejuvenate the border regions in order to bring about better and
more direct economical and cultural movement between the two sides, and reduce the effect that the existing barrier, and existing reputation, has on this flow.

Fig. 5 Relationship with the wider social context

V. **Process, Relevance, and Theme**

The graduation project, in general, is a themed design assignment that requires us to research and provide problem-solving ideas and techniques. By practicing these skills, we are preparing ourselves for future situations, be it in employment or even everyday situations.

The aim of the Complex Projects studio is to investigate the critical conditions that arise from developments comprising of multiple and often times, conflicting interests which have to be negotiated simultaneously. The studio focuses on the research and design involving borders, which are often a complex and strategic site in itself. The practice and knowledge gained from the project could be applied to borders of a different kind, and not just that of the physical border. The idea of dealing with multiple forces acting on a location requires a careful investigation and manipulation of the urban and social conditions; core or peripheral, dynamic or stagnant, traditional or without history, and I believe this studio, and its focus on borders, has given us the tools to truly investigate these methods and approach in designing and solving modern day issues.