American Picnickers

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SPECIAL THANKS TO:

Julie Botticello (Professor, Birkbeck, University of London)
For inspirations at the very beginning, insights, academic resources, comments on the first draft of the book, and all the help along the way

Ward D’Elia, AIA (Samyn-D’Elia Architects)
For sharing me information on the current project of the firm, and giving me advices and encouragement for thesis research

Alexander Kalb (Economist, Slovenia)
For talking with me about my thesis, and offering me different, unexpected, cynical, and ultimately helpful perspectives during and after my trip to Houston.

Henry Jankiewicz (Renee Crown University Honors Program)
For listening to and criticizing my organization and presentation of thesis project

Crown-Wise Award (Renee Crown University Honors Program)
For funding the absolutely crazy trip to Houston
EATING PRACTICES
EATING PRACTICES AND
SOCIAL RELATIONS
EATING PRACTICES AND
SOCIAL RELATIONS AND
SPATIAL PRODUCTIONS

Fig 0.1
The thesis re-imagines the operation and impact of the roadside food business, by studying commuter drivers’ eating practice through a social lens. Proposing a manual-product-test design mechanism, the thesis links roadside eating to the larger plurality of a city’s social life, and in return reconstructs the life of American cities based on the existing highway infrastructure and people’s common need for eating.

Commuters’ eating practice is problematic; the drive-thru as a prevalent building and business typology has created spatial and social isolation for various parties in the society. The social isolation has two implications. On one hand, as drivers eat alone in the car, they are isolated from other eaters, thus degrading the social value of food. On the other hand, because the drive-thru is standardized and franchised, people cannot shape the experience in their own creative ways, thus negating the social value of design.

Therefore, the thesis is a critique of both the space for commuter eating and the design process of how that space is made. This project thus proposes an alternative spatial type to liberate eating from its confined situations, and proposes a systematic design process in three steps: from a manual, to a product, and then to a local test, within which planners, architects, food vendors, commuter eaters, and the neighborhood community can together shape their space for food, eating socially and creatively.

The project tests the space and impact of the 3-step design process in five different scales, from the roadside, to buildings, to open spaces between roads and buildings, to the distance between highway and neighborhood, and finally to the entire highway in the city. The design system has a few fixed elements to ensure regularity, but they are not rigid or unchangeable. In fact, they encourage customizations and collective input by local users as designers, so that eating becomes a collective event, and the highway space is integrated back to the plurality of a city’s social life.

Therefore, the idea of picnic in this thesis is a metaphorical one. It means the concept of eating with others, while exploring new spaces and engaging with other social activities. Picnicking is the antithesis of rigidity, and the thesis addresses the issue caused by rigidity, with the proposal of design mechanisms that foster socialness, creativity, and spontaneity.
Architecture being interdisciplinary by criticizing

Architecture being interdisciplinary by incorporating

Architecture breaking the chemical bond and reconfiguring elements

THERE IS A TREND of expanding the relevance of architecture to other disciplines, and social movements usually become inevitable “sites” for architectural projects. Designers’ social vision/agenda is not entirely new, yet the degree to which architecture now operates in the “grey zones” between various disciplines is stunning: new hybrids such as architecture X ecology, architecture X economics, and architecture X fashion have become new degree programs in schools. However, how exactly architecture responds to different social subjects still remains debated. Among the various ways in which architecture sets foot in social issues, there are two extreme prototypes. At one end, architecture responds to social issues by being critical. Here designers should, as Michael Hays suggests, maintain their lucid commentary on social dynamics and assign judgment to found phenomena with manifestos (Somol and Whiting, 2002). For instance, in OMA’s 2004 book Content, the museum typology is criticized in explicit economic terms. At the other end, architecture responds to social issues by representing social or scientific movements, embracing topics of the larger discourse, and making use of those intellectual “ready-mades” from other disciplines.

Nevertheless, architecture can also step aside from this battle of labeling (either as proponent or as opponent) in the society, because architects, more often than not, do not have the necessary expertise outside the field of architecture. Therefore, when architects engage topics such as economics, politics, and sociologies, rather than criticizing social phenomena like an expert, or building “solutions” with existing materials formed by other experts, they shall respond to social issues by analyzing (and proposing) design’s relationship to those other disciplines (Somol and Whiting, 2002).

In fact, it is relatively easy to locate the specific agent in society that is responsible for the phenomenon that catch architects and other experts’ interests (either it being a problem or a merit). What is difficult, however, is to go further from it. Therefore, rather than as critics or as lobbyists, architects shall act more like chemists: they break the “chemical bonds” of social elements, to peer inside for possibilities. As understood, the whole usually demonstrates qualities not found in its part (for example, human body’s functioning is more than the mere sum of individual cells, and a computer’s performance cannot be understood by the sum of distinctive electrical elements); in other words, parts from a whole also demonstrate qualities not identified in the whole. This decomposition is where possibilities of design emerge. After identifying the social context and agents, architects shall properly “overlook” the seemingly intrinsic moral values of those macro entities (no matter how bitterly attacked or vehemently appraised they already are by economists, politicians, or sociologists), and analyze the smaller elements of those agents in their individual terms, as well as the infrastructural forces that bond them in the way they are and give them collective identity not found in the parts. Furthermore, based on this understanding of parts and connective infrastructures, reconfiguration is possible, instead of tabula-rasa-ish oppositions or reinforcement based on pure support/loyalty. Because elements within the whole are understood not only characteristically, but also spatially in relation to each other, architecture can re-inter the interdisciplinary game.

Therefore, for this research about American food consumption, the architectural methodology is: first, identify the social phenomenon currently under heated interdisciplinary debate, including its criticism and proposed alternative; second, decompose it, understanding the individual components within the packaged identity, in order to discover potential within each individual element that is somehow lost on the macro level; thirdly, find the chemical bond that give the connected parts the larger character, tracing the multiple infrastructures as the rule of reconfiguration; and finally, design with new configurations based on the components and infrastructure, to see how space can shape the alternative version of reconnections.
This chapter establishes the lens through which food consumption is studied as an architectural subject. The research begins by tracing the social practices of eating behaviors in the United States, probing their spatial implications, and identifying the particular "drivers" population and their lifestyle this project is addressing.
THERE IS A FOOD CRISIS in the United States, not of shortage, but of overabundance and confusion. Within current consumer culture, because people are offered so many choices that caters to and reinforce consumptive behaviors, the attention to the quality and of food and act of eating have been degraded. For instance, the TV dinners introduced by Swanson cater to and reinforce eating while intensely watching television, reducing the care about what and how exactly the household members are eating. America’s obesity rate has not been checked, despite the increasing public and academic attention on food issue, exemplified by a climbing number of government interventions and nutrition literatures. Architecture has also been actively engaged within this interdisciplinary debate, by designing the supply and display mechanism to bring people closer to healthy food. However, the issue is not only about the supply of food as items, but the construction of eating as events, which is a much thicker matter socially than the mere nutritional or material provisions. Through the event of eating, people establish individual identities, build interpersonal orders, and perform cultural rituals (Fischler, 1988), and the purchase, preparation, and consumption of food require use of the space (either it being a table, the car, the room, or the outdoor). Therefore, to understand eating’s social dimension, architecture responds by investigating the experience of eating, addresses the spatial parameter that shapes people’s social practice, and targets the particular elements of eater’s lifestyle which can be accommodated, used, and expanded by design.
America’s obesity rate has not been checked, despite the increasing public and academic attention on food issue. How can architecture respond?

Data Source:
United States Department of Agriculture, 2013
Fig 1.3: Frankfurt Kitchen and the Individualization of Domestic Dining

**FOOD IS JUST ONE PART** of larger packages of food consumption, aka, “combos”. Framed by the physical, social, and informational infrastructures, the event of eating in the contemporary society is a combined set of food, people, and place, seasoned with desire, experience, culture, and discourse. Furthermore, the food-human relationship is shaped by physical environment, and the design of space affects the consciousness of eating experiences. For example, the changing perception of eating is historically accompanied by new spatial prototypes of eating: the design of Frankfurt kitchen revolutionized domestic cooking experiences so that meal could be made quickly by kids with microwaves; the introduction of automobile tailgate enabled BBQs to be enjoyed away from one’s backyard (Muecke, 2004). The spatial agent thus influences the experience of eating, which further determines the consumers’ choice of food.
CONSUMERISM further produces combos as highly specialized entities. With the advance of technology and the advent of supermarket in the middle of 20th century and the expansion of fast food chains after WWII, food became much cheaper for America (Carney, 1995). Essentially, as food businesses competed for price and quantity, they turned to branding as the solution, wrapped their product with visual and cultural symbols, and enticed customers to choose one item over millions of other competing brands as customers shop down the aisle. In this way, food has changed from a raw starting point for various culinary potential into a universe of objectified and processed symbols that each advertise its own identity. Branding thus shrinks food’s context, reduces food to the idea or image of food, projects your own image onto it (through conceptually the commercial empathy or literally the reflectivity of TV screens), creates desire, and forces you to choose.

Fig 1.4: Betty Crocker, the American brand for microwave food and cookbooks, changes over time. The image is a part within the designed package, attached to the food.
THE BEHAVIOR BASES for many American eaters are driving and multi-tasking. First of all, the geographic distribution of the national obesity rate correlates most perfectly with the map of percentage of commuter drivers, instead of with low income, low access to grocery, or low concentration of fresh markets (Census, 2012). Secondly, according to studies by the United States Department of Agriculture, the rising pattern of American eating is “constant grazing”, which is to engage in secondary eating more often than primary eating. Secondary means eating is not considered as a primary act; it is performed during something else (USDA ATUS, 2013). In fact, as the same research reports, it is precisely driving that is the main place where secondary eating happens. Therefore, the way people in the United States eat is inseparable from the social value of mobile lifestyle – the desire for speed, and the fragmentation of eating rituals.

In spite of such fragmentation of contemporary American food ritual, eating experience is still inseparable from the sense of place (or the “non-place” such as highway rest stops described by Marc Auge and Ray Oldenburg), and eating rituals is affected by the kind of social relations those spaces produced via food (Browne, 1980). The spatial creation of food responds to the changing cultures of consumptive behaviors, which produces different relationships of people in relation to food.
Primary eating and drinking
Secondary eating
Secondary drinking
Either primary or secondary

Fig 1.8: Daily Eating Pattern, Average Americans

Fig 1.9: Daily Eating Pattern, “Constant Grazers”

Fig 1.10: Where Secondary Eating Takes Places, Percentage of Occurrences

Data Source:
United States Department of Agriculture, 2013
THE SOCIAL PRACTICES OF DRIVING AND SECONDARY EATING are manipulated by the spatial design of American food giants. Currently, the drive-thru restaurant is a highly successful model of food business that caters to drivers who commute daily and get their snacks or meals along the way. However, the single-linear spatial configuration of drive-thru only allows a highly individualistic social relationship, with which the food is too socially thin to offer anything else than calories (no food sharing, and seldom any conversations). Although drive-thru accommodates mobility, the spatial order in fact promotes further confinement in one’s own car, a miniature world of social segregation.
When compared longitudinally with other forms of away-from-home eating events, such as picnic scenes depicted by Eduardo Manet’s Dejeuner sur l’herbe (1862) and Royal Canned Fish’s advertising picture (1900), the experience of purchasing from a drive-thru and eating in the car captured by the documentary Food Inc (2007) differ greatly from those earlier modes of food excursions, precisely in terms of people’s relationship to each other via food. In Manet’s painting, food is relatively out of focus, acting as a currency of ladies and gentlemen’s gregarious verbal exchange. In the canned fish ad, every family member is engaged with someone else. In the Food Inc still, each person occupy his/her own seat with his/her own food, and there is no interaction between the eaters. The burgers in their hands are restrained in their packaging, and although the family members are eating the same thing at the same time, they are not eating together.
However, the purpose is not to simply identify driving and secondary eating as the cause of malnutrition and then to cure it, but to use those behavior bases as the projective context for a proactive rather than reactive alternative experience of eating, where individuals are encouraged to find new societies on the road to eat collectively. Cars will not go away; there are increasing number of registered drivers in the United States, and highways are receiving more funds from all levels of government (Federal Highway Administration, 2013). Mobility, together with the existing automobile infrastructure, is the cultural and physical site for food reform. The practice of multi-tasking, the fetish of efficiency, and the vista of driving on the road are opportunities with which new experience of eating can successfully enter the American way. Currently, the spatial linearity of the drive-thru subjugates eaters as passive participants of individualistic eating. However, mobility can liberate eaters from confined spaces of socio-economic stratification and personal seclusion onto larger social exchange. How can the rule of entering and making the roadside spaces for eating become an active game of collective creation?
To construct a new game, one should know what and where the available pieces are. This chapter studies different models of eating experiences, examining those combos by breaking them down into spatially proximate components of people, food, and physical environment/object. Different elements produce different relations among people and different relations to the city.
A GROUP OF lobbyists, nutritionists, and scientists have been rather quick in responding to these “threats of drive-thru”. Specifically, they design social movements with labels that are the total opposite of the idea of driving-related style of eating: as drive-thru symbolizes the speed of consumption under the impact of globalization, the new social movement is anti-mobility, and much about static and local agricultural production. One particular mode of such initiatives is called Community Supported Agriculture (CSA), which brings consumers back to the peaceful agrarian landscape (mostly through image and discourse-based advertising, and in some rare cases, literally through onsite labor participation), and hopes to chain the subscribers with a pastoral nostalgia. Typically, CSAs rent 15-20 acres of land from a larger livestock farm, and cultivate the land for vegetables and fruits. For CSA initiatives and the locavore movement in general, the disdain for mobility is also evident in their stigmatization of “food miles”, which renders the capitalist global transportation of food commodities as an evil scheme that obscure people’s connection with food (Morgan, 2010). If the idea of “food mile” triggers the anxiety of Americans in regard to potential environmental collapse after the exhaustion of oil, localism also spreads with the fear for economic and territorial collapse, the debate on which is inseparable from concerns of global geopolitics (especially wars in the Afghanistan), the weakening of US dollar, and the looming crises of peak oil (Lavin, 2009).

Therefore, local food movements are new combos, with every elements so radically different from drive-thru that these solutions to American food crisis are almost mistargeting the audience. By operating away from traffic, in limited schedules (most farmers market in the city open only two days a week, and CSA programs are closed in the winter), and relying on people’s acceptance of scientific and ideological “truth” of food ethics, they cater to already well informed and committed eaters, while missing the many drivers on America’s highway who seek immediate, affordable, and ubiquitous access to food.

In fact, if one consider the local food movement as the consolidation of community via food, localism is not too different from suburban regionalism. In suburbs, a very narrow conception of “the public good” is imagined by groups of people who retreat into their own racially and economically homogenous zone (Lavin, 2009). As Peter Singer argues, localism legitimizes a specific interest over the general one, and justifies limiting economic support to an already privileged population (Singer, 2006). Globally, local agriculture usually impedes fair trade, as grain farmers in the third world relies on international food mobility to survive (Morgan, 2010). In other words, regional localism stifles socio-economic mobility.
Therefore, granted that local food movement succeeds in providing healthy and fresh produce to certain urban and suburban population, it does not address the larger population on the road who are still confined within their individualistic spatial order from drive-thru restaurants to cars. If there are more diverse groups of people converging on the highway than meeting up in the local CSA, can the designed mobility of highway intervention and circulation of food consumption break such social seclusion?

After all, to address a certain population, combo cannot be replaced as a whole by another combo with completely new sets of components and values. Local food movement appears to offer customers a proliferation of combo choices, but those combos does not include people who are used to commuting and multi-tasking while eating as the basic element of alternative combos. The American food crisis happens on the roadside, so in order to target the drivers, alternative eating experience should be contextualized with the roadside space of food consumption, incorporating the existing physical, political, and informational infrastructures. To avoid the proliferation of mistargeted combos, architecture breaks down cultural packages of different modes of eating into pieces of people, food, and physical environment/object, and reconnects those components in different spatial relationships to influence social relationships.
ANATOMY OF COMBO COMPONENTS

COMBO 1: Fast Food Empire
- Commuters
- Constant Grazers
- Pre-fab Building
- "Eyesore" Design
- Traffic Accommodating Architecture
- Unhealthy Food

COMBO 2: Locavore Movement
- Relatively Wealthy
- Environmental Activist
- Physical Infrastructures
- Social Infrastructures
- Informational Infrastructures
- Healthy Food
- Farmers' Market
- Farmland
- Special Grocery

PROLIFERATION OF COMBOS
For the design of a new combo, healthy food is incorporated with other existing elements from the fast food combo.
The new combo reconnects the elements with available infrastructures, but in a different spatial relationship.
THREE COMBOS OF AWAY-FROM-HOME FOOD CONSUMPTION in different proximity to the highway are studied to show the various elements of people, food, and physical environment/object that could be reconfigured for alternative food consumption. The three combos are: McDonald’s highway restaurant chain, Canino in Houston (including the produce company, resale market, and taco trucks, aka, taquerias), and Les Halles in Paris (both before and after dislocation). Their operation and experience are inseparable from traffic flow in different means: McDonald’s outlets directly operate on the roadside real estate; Canino in Houston is 0.25 mile from Interstate 610 and is surrounded by logistic companies; Les Halles, before demolition in the 1970s, was a system of street vendors meshed seamlessly with the road in central Paris, which was then dislocated to the suburban transportation nexus of highway, railroad, and airport.

The range of elements within these combos creates different social relations and dissimilar cityscapes. Firstly, different structures of human involvement make different images of social mixture. Secondly, different modes of spatial management produce different degree of compatibility of heterogeneous consumptive behaviors. Thirdly, different food choices, together with the other elements, correspond to the change of culture in the society through time.
Tyson is the biggest meat provider for McDonald’s. Tyson buys from and controls smaller farms. Corporate headquarters manage regional commissaries. Central commissaries manage local outlets.

THE HUMAN ELEMENT involved in food consumption include farmers, distributors, food companies (retail and catering), consumers, and residents of the immediate neighborhood, as well as policy makers, and food engineers. Their presences and roles differ in the three case studies.

In the case of McDonald’s chain restaurants, “big players” are operating behind the scene, including executive and marketing teams in the headquarter and food companies such as Tyson and Smithfield (McDonald’s is the largest purchaser of ground beef and chicken, and is the second biggest buyer of pork in the country). Food companies have their own factories, and they as well buy from and control smaller farms, setting up a uniform standard for farmers to raise their livestock (Schlosser, 2001). Similarly, the headquarter sets up standards which franchisees must follow, forming a one-directional relationship of control (franchisees have no room for innovation). There is not a certain “type” of people who eat in McDonald’s drive-thru restaurants, because speed and cheapness can be interpreted with different conceptions of “budget”: for people with low income, McDonald’s cater to them because the price is low, for white collars who run in a tight schedule, McDonald’s cater to them because waiting and eating time is short.
ANATOMY OF COMBO COMPONENTS

PRODUCERS  DISTRIBUTORS  SELLERS  CUSTOMERS

In the case of Canino, the human components are very different. The company is in fact owned by family business of three generations, which operates two kinds of businesses: 1, whole-sale of fruit and vegetables and processed food product; 2, managing non-residential real estate property, furnishing display space for farmers and resale tenants. Canino Produce Company leases spaces for non-company vendors, who are identified mostly as “farmers” by reviewers on Yelp. They are in fact mostly resale tenants who bought vegetables and fruits from Mexico cheap and make profit by resale at Canino Farmers Market. They each have their own logistic network (they also have familial connections in Mexico), speak both English and Spanish, and are identified by customers as individuals. Customers include both the residents from the immediate neighborhood (some of them share their childhood memories in Canino on Yelp) and people who drive here from other parts of Houston after seeing recommendations on Yelp.
In the case of Les Halles before demolition, the market is a dynamic space for social mixture of people from different classes and occupations. First of all, Les Halles is a place where the Leftist working class and Rightist bourgeois converge; although it is predominantly the poor population who lived there, bourgeois ladies and gentlemen shopped there, and for Parisians who enjoy nightlife in the city, Les Halles was the place for them to have a bowl of onion soup after midnight. In other parts of Paris, working class and bourgeois occupy dichotomous spaces: while bourgeois occupy public spaces of the boulevard, the working class occupy the urban poche of interiors. In Les Halles, however, these two groups converge. Second of all, within the lower class population, the diversity of people is significant. Walking down the street of Les Halles, one would witness butchers, grocers, florists, Les forts (strongmen), prostitutes (approximately 3300 people lived in hotels, aka the red light district), flaneurs, homeless people trying to find work, city sanitary workers, bartenders, and Titi Parisien (“children of Paris”, an archetype of whom is the character of Gavroche in the novel Les Misérables by Victor Hugo). These people, though poor, make a very stable population that withstood the Bourgeois homogenization of Paris, until 1970 when the market is demolished by government (Kasten, 2013). After the demolition, it is the white collar and international tourists who took over the space, and the working class were dislocated to the Banlieues suburbs of Paris (the working class in Les Halles decreased by 70% twelve years after the demolition, while the white collar increased by 100%). However, now, the children of the working class took the metro back to the site of Les Halles, and became the teenage gang of central Paris, skateboarding, playing Hip-Pop, and dealing drugs (Hussey, 2008).
Les Halles is a place where the Leftist working class and Rightist bourgeois converge.
After 1970, the working class population was dislocated to the suburbs of Paris.

Their children, however, take the metro back to the site of Les Halles and become the gang.
Culinary Taylorism requires simplicity of menu.

Food items are conceived to be driving-friendly, and to be consumed alone.

FOR THE EVENT OF EATING, food provides the substance, which tells the story of making and influence the way of eating. In McDonald’s, due to the franchising code and market need, uniformity and speed are crucial qualities for food served in drive-thru restaurants. Variety is strategically slow. In fact, limited choices are the key to success as they ensure both quick preparation by the vendor and quick ordering by the customer. Current criticism of their unhealthiness is also due to the practice of frying them as to mask the un-freshness. Food items from McDonalds needs to fit into the practice of secondary eating – particularly, eating while driving, as burgers and fries come with wrappers and can be easily held by one hand or firmly placed in car niches or built-in holders.
ANATOMY OF COMBO COMPONENTS

SAMPLING:
Fresh produce comes from Mexico in large quantity and cheap price everyday. Tasting creates focal points that attract customers.

PECAN CRACKING:
The seller establishes further bond by helping the customer with some processing of food.

NOVELTY FOOD:
Hand-sized and ready-to-eat food that is original to the seller’s culture become attractions in the market.

For Canino, the food choices include both fresh groceries, food that is ready to eat and portable, and processed seasoning and ingredients. Sampling and customer aid are selling points (the banners “We will crack your pecans” are hung everywhere in the market). While the major idea of grocery shopping that contradicts fast food industry is “incompleteness” – fast food restaurants offer processed “end product” (a Burger King Whopper or a McDonald’s coffee) that can be eaten right away without any further preparation – grocery shoppers buy ingredients that need to be cooked for meals (a man in his reviews wish that he can get butter so he can have the corn he just bought for lunch right away) and even when the food is already ready to eat, Canino Farmers Market introduces street food that is original, small, and quick-n-easy to eat (mango with chili pepper, salt, and lime). This kind of immediacy of buying and eating makes shopping and eating precious at this farmers market. Furthermore, unlike most of other farmers market in America that open for one or two days every week, Canino Farmers Market supplies fresh fruit and vegetables every day from 6am to 8pm, thanks to the steady supply from Mexico (which will be further discussed in the following chapter on infrastructures). Nevertheless, the food is subject to wilting during the day, partially because of the heat and humidity in Houston, so regular customers come early around 10am to pick the freshest food items. Fruit are also free for tasting, which is crucial for the vendors to compete among huge the number of vendors that are selling almost the same kinds of products.
Les Halles’ food scene directly shapes the urban image, in both geographical and temporal terms. Before 13th century, the farmers of Paris grew their crops on the immediate site of Les Halles, and the site of production was the site of transaction. As the city expanded, and as King Louis IX opened up the market to provincial merchants (mainly from Picardie, Champagne, and Flandres), farms and the market were separated. Items sold in the market include fish, cheese, baguette, flowers, fruit, vegetable, meat, triperie, poultry, and wheat, all of which were shipped by diesel trucks (there were approximately over 7000 sellers) that entered the market at 11PM. The peak of transaction was thus at night, when the peddlers, baskets, carts, livestock, and tents made up a congestion zone of 1/3 mile radius. Those 800 sale units in the market were supposed to clear out the road by 9AM according to law, when in the morning and afternoon, the bourgeois patrons could walk or drive here without getting trapped in chaos. The night market, however, certainly caters to the lifestyle of nightlife-seeking Parisians, as the surrounding cafes and restaurants were such convenient places to stop by for soups and live accordions, while the hefty workers were enjoy their wine at the bar, and prostitutes were standing in front of the hotels next door. At midnight, class differences were overshadowed by tasty meals made with recipes lost in bourgeois Paris.

Class differences were overshadowed at midnight by tasty meals made with recipes lost in bourgeois Paris. Restaurants around the market are convenient places for fashionable Parisians to visit after night life.
Les Halles’s food scene peaked at midnight, making an urban phenomenon of congestion and social mixing via food sharing.
Diesel trucks and peddlers begin entering the market at 11PM, and the peak of transaction was thus at midnight.

At midnight, class differences were overshadowed by tasty meals made with recipes lost in bourgeois Paris. As the night market caters to the lifestyle of nightlife-seeking Parisians, the surrounding cafes and restaurants were such convenient places to stop by for soups and live accordions, while the hefty workers were enjoy their wine at the bar, and prostitutes were standing in front of the hotels next door.
OBJECTS AND ENCLOSURES produce the immediate spatial experience for the site of eating. McDonald’s restaurants depend on the proliferation of signage and protocols. After entering a drive-thru, the driver passes through a series of check points: clearance, menu boards, canopy over the speaker, and confirmation screen. The movement of car is monitored by cameras and sensors on the ground, which is processed by Fast-Track, a time management system that determines the speed of service to optimize waiting time if there are multiple cars. There are professional manufacturers of drive-thru windows such as Quickserv, who borrows aircraft industry’s technology to ensure endurance. The building itself may also be pre-fabricated, and the earliest roadside stands were in fact temporary structures inspired by the St. Louis World Fair’s food stands – the idea was to have easy assemblage and speedy disassembly (Carney, 1995). The physical element of the drive-thru’s architecture is thus very rigidly planned to ensure the linear movement of the eater.
In Canino, there are two physical shelters: a steel structured shelter for the Canino Produce Company, and a concrete frame for the resale tenants. The Canino Produce Company sells its own food in an indoor market, which, however, is not air-conditioned. Given the temperature in Houston, reviewers on Yelp have been complaining about the heat trapped in the space. The resale market, on the other hand, is outdoor and thus can be ventilated naturally. The indoor and outdoor markets’ threshold of transition is marked by a checkpoint for shopping car return. The cart is property of Canino Produce Company, which can only been used within the space where the company’s products are sold. Shopping in the resale market, on the other hands, relies on plastic bags or, as reviewers on Yelp suggest, the customer’s own bags. The one-directional flow of shopping in this twofold compound is thus subdivided by the medium of carriage. There are mobile units of food vending too; taco trucks, aka taquerias, are found in the parking lot behind the market. Parking, however, is the single mostly complained feature of shopping at Canino. There are only limited marked parking spots in lot, and their directionalitys are different. Shoppers’ cars and vendor’s cars park in the same place, and consumers usually walk between vendors and their car, thus witnessing the “watermelon-transmitting” process from car to stall, humorously captured by a Youtube uploader as the “best no-look pass” that beats professional NBA players. Therefore, the physical elements of shelter, carts, parking, and mobile units give the customer great freedom in exploring the place.
ANATOMY OF COMBO COMPONENTS

Open structure is more favorable than closed structure for the natural ventilation, given the hot and humid climate in Houston. Open structure also facilitates farmer’s spontaneous installation of stands.

PHYSICAL ENVIRONMENT/OBJECT COMPONENTS

The two structures are further differentiated by the mode of carriage in shopping.
In Les Halles, the architecture of the twelve iron pavilions designed by Victor Baltard displayed a high degree of ambiguity between road and building. One legacy of Haussmannization was the transformation of Paris from a city of nodes into a city of roads – more specifically, a metropolis of boulevards. Therefore, “passing through” and “happenings along roadways” became the primary experience and expectations of urban people. The twelve pavilions, on one hand, correspond to the scale and grandeur of adjacent monuments (the dome for grain exchange – later the Bureau of Commerce, St. Eustace Cathedral, and the Fountain des Innocent). On the other hand, because the covered streets between the twelve city blocks allow thorough pedestrian and vehicle traffic, Les Halles Market’s architecture ultimately produce a hybrid condition of roads and nodes for Parisians. Because of the function of the design of physical elements, the market dissolved the familiar differences between the street and building, outside and inside; it combined pavilions and streets into a single, transparent and rational system (Kasten, 2013). Moreover, the surrounding buildings of Les Halles are made of arcades on the ground floor, expanding the market activities onto larger peripheries, producing a dynamic scene of social interactions where the restaurants and cafes catered to both the rich and the poor. After all, streets were open for various social classes; architecture that becomes part of the street, instead of standing by the street, is the site of social mixing.
Les Halle’s 12 pavilions correspond to the scale of other monuments on the site and welcomes pedestrian and vehicular traffic through the market spaces.
The boundary between market activities and other urban activities is blurred by the architecture that produce the ambiguity between building and street.
This chapter looks at the larger-scale infrastructural forces that put individual pieces together. They are culturally and geographically established guidelines of American food production, distribution, and consumption. The uneven density and different performances of those infrastructure give food different social meanings, how can the alternative mode of eating make use of those contexts?
The Production of Social Phenomenon
A reconceived diagram based on the Marxist analysis of society.

**INFRASTRUCTURES ARE CONSTITUTIVE POWERS.** The same food item can give consumers radically different impressions if their service units are located in demographically different neighborhoods, in different proximity to highway, shaped by different regulations, or advertised by different social media. As has been mentioned at the beginning of this research, the whole demonstrates qualities not found in its parts due to specific ways of connections. Therefore, after identifying the components within the combos, one needs to further detect the “chemical bonds” that render those combos different characters. In this analysis of contemporary American eating pattern and food system, those chemical bonds are identified as infrastructures. Expanding from the Marxian analysis of social production, this research studies both the economic base and some social creations that Marx identified as superstructures (such as law and social norms) as infrastructures of eating, because they are the underlying structural skeletons “to which correspond definite forms of social consciousness” (Marx, 1859); in other words, for the discussion of formations of eating culture, both the material and the socio-political contexts are infrastructures that shapes people’s attitude toward food and toward each other (laws and social institutions are not end-result of production, but beginning point of eating culture). Specifically, those infrastructures, according to their performances, are categorized into physical, socio-political, and informational.
Agricultural specialization in the United States makes certain food “local” for some states but not for the others.

UNEVENLY DISTRIBUTED NETWORKS of physical infrastructures are directly shaping the economy. They operate the resource flows that are described as the first step in the Marxian evolution of society: production force and material relations. These physical skeletons carry material, financial, and human capitals, which, in the United States, demonstrate strong geographical unevenness. How to make use of physical infrastructures’ spatial difference is crucial for the operation of new eating experience.

For American food consumption, physical infrastructures first include the highway system, which carry both the consumer traffic and domestic and US-Mexican trade corridors, and farmland, which is highly specialized and geographically uneven. Chicken farms are mainly located in the Southern states (Mississippi, Alabama, and Arkansas), pork is predominantly produced in the Midwest (Iowa, Missouri, and Illinois), and beef farms are in mostly in Kansas and Nebraska. Interstate highway system is the densest in the Eastern Coast, while for the agricultural trade with America’s neighbor Mexico, the densest network of trade corridors happen in the South, with I-35 and I-69 in Texas being the most loaded highways serving binational trades. In the state of Texas, many roads were formerly built by the government as the “Farm to Market Road”, which connects farms and ranches to urban centers. It is those dense networks of transportation that sustain the highly geographically uneven agricultural specialization of the United States. The density of infrastructure also contributes to the availability of food diversity, and shapes people’s perception of what “local” is. In Texas, due to the large volume of trade with Mexico, produce from Mexico can enter local farmers market seven days a week, especially welcomed by the Hispanic community in the neighborhood. In other words, it is the infrastructure that gives food character and social meanings.
The highway system in the U.S. moves both people and resources. Its geographic distribution, however, is uneven.

Density of U.S.-Mexico trade corridors in Texas even accentuate the literal geographical proximity; food produced in Mexico might be consumed and perceived as local.
Although Marx asserts the one-directional causality from economic base to superstructures, stating that it is the production methods that determines law, culture, and social values and that this flow is not reversible, according to Foucault’s understanding of society, the superstructures that Marx identified as end-products are also the site on which new social relations are further created. For the American food-human relationship, laws, regulations, and social norms are crucial in the making of the contemporary combos of eating.

Laws and policies directly influence the operation of food services. For example, in Texas, the state government and city bureaus set up rules for the definition and practice of different modes of food transactions, including farmers markets and more informal ones such as mobile food unit. The codes are concerned with spatial arrangement, source of food supply, license renewal, and sanitation, but not location. Some regulations are very specific, requiring that for produce peddlers, the food shall be kept on a counter which is not less than 18 inches above the floor (except watermelons). The federal government also funds the Supplemental Nutrition Assistance Program (SNAP). Formerly known as the Food Stamp, this program allows eligible people (based on household size, income, and assets) to use SNAP benefit at authorized local grocery and retail stores for food. The average number of monthly SNAP participation in the state of Texas is 3,977,272, and the average monthly benefit spent is $126 per participant.

Besides regulation, cultural discourses also shape perceptions toward food. As has been stated in the analysis of locavore movement in the beginning of Chapter 2, for those conscious eaters who buy in certain places to make a statement, food choice is endowed with social meanings. Localism relies on the yet-to-be-established infrastructure of communal bond. Localism is supposed to cure loneliness (Lavin, 2009). As the environmentalist Bill McKibben argues, consumers pay premium for local food precisely because conventional food offers a “surplus of individualism and a deficit of companionship” (McKibben, 2007). Such emphasis on communal bond is a reaction to the larger political condition of American upset: space is disrupted as the internet virtualizes the place of occupation, and the boundary between public and private is marred by Total Information Awareness and other more popular yet equally voyeuristic social network media (Lavin, 2009). In these ways, discourse and social values are the grounds upon which meanings of food are constructed.
THE OUTREACH AND FEEDBACK of information determines the relationship between the consumer and the seller. As Gilles Deleuze noted in his analysis of the capitalist economy, the “production” of resources is giving way to the “management” of resources (Deleuze, 1977). Transactions within the market is not only determined by physical environment and supporting policies, but also, and more importantly, by communication and information-based structures. Aside from traditional means of advertising such as roadside billboard and television commercials, alternative eating system can benefit from the employment of emerging social media such as Facebook and Yelp. Situated within the consumerist economy, the design of alternative eating experience use these information channels to locate and expand territories.

The outreach to consumers via Facebook contributes to the building of communities by distributing information and building personal connections. Meet-ups from Facebook to park are the perfect example of virtual communities on the internet laying the foundation for collective events in the physical world. Particularly, for the alternative eating model on the roadside, as most commuters in America drive alone (Federal Highway Administration, 2013), social media sketches the structure of potential union among drivers, upon which a space of collectivity is found on their way.

Feedback from consumers to the seller is equally if not more crucial for the continuous growth of alternative eating culture. Online platform allows the interaction between the consumer and the seller to be not unilateral, but bi-directional. Various forms of exchange, such as uploading one’s own recipe, virtually extend the effect of food from immediate sites of eating to home and offices. Again, by setting up the browsing parameters such as language of the webpage, these online feedback mechanisms are appealing to and are constructing different groups of societies in the real world.

Besides recipe sharing, reviewing is also a crucial part for the feedback loop of away-from-home eating experiences. Online review websites such as Yelp not only summarize previous transactions, but triggers new actions as well. Many users start their food excursions by consulting websites like Yelp first, and this informational infrastructure consolidates interests and at the same time disperses impacts.
This chapter studies the ways to make proposals of alternative eating, and then makes proposals with available components, existing infrastructures, and spatial rules learned from people-initiated cases of using food to transform space and to form new social relations. Based on real-life cases and architectural precedents, the spatial typology of threshold conditions acting upon continuous flows is used to design an alternative eating experience for the American roadside, tested in Houston’s Interstate 4.
THE TRACKING of the components and infrastructures from various traffic-related combos of food consumption offers the base elements to design an alternative eating experience – one that is contextualized within the lifestyle of constant driving and multitasking, rather than purely relying on the pastoral nostalgia and sustainable discourse. Currently, it is the corporate powers that manipulate the spatial design of combos on the roadside. Those restaurant chains connect food, people, and physical environment in fixed rules of spatial movement (customers’ linear flow in the drive-thru exemplify such experiential rigidity), which result in individualistic zones of eating and dissolved attention to food’s nutritional and social values. Nevertheless, people actually have their own way of composing events with available food and physical elements too, such as during tailgating parties, and food truck fests; they create new eating experiences that form new social relationships.

SEVERAL PROCESSES of people using food to make social events are studied, where space is transformed by food behavior, and new social relationships are subsequently formed by that spatial production. They are different versions of picnics, where people change the location of food, and transform the use of space for eating as social events. The spatial commonality of those events can thus be appropriated to devise new ways of roadside eating experience.
THE GAME OF RECONNECTIONS

BETWEEN INDOOR AND OUTDOOR
Kitchain Project

To eat
The continuous table allows people to share the space of eating.

Stove and grill allow the eater to become active food maker.

The kitchen is accessible from both sides, allowing collective effort.

To walk through To enter / exit + To wrap around To enclose a space

+ + +

Eating becomes a spatial connector between indoor and outdoor, building and street, served and spontaneous. People make space together by eating and cooking together.

GAME PLAYER, RULE MAKER
Social boundaries that are signified by occupations and costumes are removed by the activity of sauna/pasta-cooking together.

To eliminate social boundary, the spatial agency creates a physical environment for shared tasks.

In the space for cooking, the boiling water produces sauna effect with the steam and temperature.

People exit the space to enjoy a bowl of fresh pasta.

Other ingredients are added in DIY style.
OUTDOOR
Kitchen Monument Project

The portal is a threshold condition between the public space and the reclaimed public space. People leave their jackets after entering, and the reclaimed space is thus more selective and "domestic", not just a typical outdoor space.

The space is a thermal bubble that holds the temperature and flavor of food, and those phenomenal parameters make the space a more intimate place for various forms of socializing.

eating
ceremony
dance
conference
FOOD IS THE SPACE
World's Biggest Paella

In European culture of eating away from home, people do not normally share the same dish of food. However, if the food itself is huge enough, the same dish becomes the focal point of an event that can serve a big number of people. Shared food, especially in public spaces, marks ceremonial conditions.

As the food becomes huge, it becomes a space to occupy and to interact with.

Traditionally, round table is a mechanism for large amounts of people to share food. However, when chefs cook around the side, eaters can come to the above of food, at the same time overseeing the process of making.

21m diameter paella serving 110,000 people
unfinished portion went to charity
FOR TAILGATE PARTIES, food makes previously individualistic lots for cars into socially active place for interactions. BBQ grills are installed either directly onto the tailgate or in close proximity to the vehicle. When the lid is opened for food preparation and consumption, and hundreds of those cars line up on both sides of the parking lot aisle, such alignment of those individual units with half of their car space opened for public is forming an automobile version of arcaded streets that are prevalent in old European cities. The “tailgating arcade” is an active site for the formation of new social groups by sharing the same BBQ (even though those groups might be temporary) just as the arcaded shops and cafes in the periphery of Les Halles welcome customers of different classes to converge by enjoying the same soup. Granted that friends can park together as established tailgating groups, people who did not know each other before can also come and make his/her own car as part of the larger assembly; collectively, former strangers and friends are using their car and food to turn the parking lot into a social space of new conversations.
FOOD TRUCKS, in a different way, create new social relations by meshing with the urban traffic and ritualistic context. Food trucks can spatially present themselves in the city in three ways: parking individually on the street, arranging themselves in lines by the curbside, and enclosing an open space as spatial boundaries — the last one is particularly dominant in food truck festivals seen in Los Angeles, Austin, and Boston (Sheppard, 2013). The movement of the food truck and the movement of customers are choreographed to fit the schedule of the consumer: vendors arrive earlier and stay static, while the eaters are moving around to purchase and leave. This is because vendors need to synchronize their businesses to the pace of customers’ life/work schedule. Even in demographically homogenous zone, schedule determines whether the eater will remain at the truck to enjoy the food or directly rush to work (Sheppard, 2013). Therefore, food trucks are stops along a continuous movement of customers. However, when enhancing elements are included (seating, shade, trash, proximity to public restrooms), customers might stay for longer time and that opens the window for social interactions (Sheppard, 2013). This is particularly evident in food truck fests, where food trucks, instead of simply accommodate the come-and-go movement of eating, make the spatial boundaries of circles or squares, within which consumers wait in lines to buy food, and sit together to consume their food.
In these situations, eating is the agent of spatial change, and space becomes the agent of social change. Individual units (of people and of cars) converge to build new societies. They happen in car spaces (parking lot and roadside), where drivers can take part in a process of eating somewhere other than in his/her car after leaving the drive-thru or sitting alone outside the drive-in. However, what is the common thread of spatiality among these different eating behaviors? Since external events such as football games and food festivals do not happen daily, and American drivers have their own rituals (and they will probably not carry BBQ grills all the time), how can these food events’ spatial constants (rather than thematic variables) be applied to the routine of American roadside food consumption?
EVEN THE MOST BOTTOM-UP CONSTRUCTION OF SPACE is not devoid of rules. For the studied cases of food events, one common spatial condition that facilitates social construction is that those events happen in place transformed from existing space right next to movement (street, curb, parking lot aisle) rather than in secluded places. The same BBQ grill will invite different amount of people and foster different conversations if it is just located in one’s backyard. Although cars are not moving when tailgating or food trucking, they always anticipate more of the continuous flow to join the roadside space. In fact, people, food, and physical objects are choreographed according to a series of existing threshold conditions on the traffic flow – they are basic spatial parameters upon which people, food, and physical objects enter, converge, change, and interact. On one hand, several marked guidelines (the blue line in the tailgate parking lot and the curb line for food trucks) separate static elements from mobile units (specifically in the case of tailgating in Reliant Park in Houston, cars and food do not exceed the blue line down the aisle, to make sure that more cars can pass through and join the event, and that people have space to walk about too. Food events do not overtake anticipated flow). On the other hand, by transforming the road of traffic into the site of consumption and social engagement, these thresholds guide the previously individualistic automobile units to digress into other activities (in the case of tailgate and food trucks, eaters collectively enjoy music, talking, games, and shopping). Threshold conditions, acting upon the road, accommodate individualistic need of passing through, and encourage collective flow of getting together. Drive-thru restaurants do not have these thresholds of digression (instead, when one arrives at a drive-thru, the driver encounters many thresholds of reinforcement that keep the people moving forward), so cars come and go, in rigid linearity. Could more of those manifold thresholds be weaved into the American roadside, offering a network of dynamic spatial and social experience for eating?
QUESTION: How to program the road?

THRESHOLDS are rules; on the highway, protocols make thresholds. When space is experienced in cars, spatial progression is constructed as a series of thresholds. Because of their speed, drivers respond to protocols, which instigate changes of pace, lane, and direction. Thresholds are hence the control points for shaping the experience of continuous flow. Different configurations of threshold conditions produce different spatial experiences, inducing encounters of previously untouched groups of people, food, and activities, which bring about different social relationships. The design of alternative eating experience on the roadside thus consists of thresholds of digression and convergence.

In order to anticipate and appropriate the spatial creation of tailgating and food truck festivals for the highway travel, several architectural precedents are studied as spatial devises to know what more kinds of threshold conditions should be applied to the roadside and how to apply them. Aside from traffic and parking protocols (mainly signage from above and lines marked on the ground), threshold conditions also include phenomenal parameters such as smell, light, and temperature, and architectural parameters such as materiality, slope, width, and program. These precedents give insights on how to program the street with spatial intervention; they are: Kunsthal by OMA, domestic interior organization analyzed by Robin Evans in his essay Figures, Doors, and Passages, and the urban organization of a Neolithic proto-city settlement called Catal Huyuk in Turkey. These precedents offer spatial constants (rather than thematic variables) that can apply the people-initiated food-space transformation to the roadside.
THE GAME OF RECONNECTIONS

Programs are spatially incorporated to the road by finding common features (slope for ramp and for auditorium) or by choreographing parallel movements in relation to the road.

Fig 4.7 Kunsthall

THE STREETS IN KUNSTAL

are programmed with activities by finding the spatial quality shared by dynamic travel and static program. For example, auditorium and ramp both need gradual elevation of height, so in Kunstal, part of the ramp ‘becomes’ auditorium. Passage becomes destination. What is created is a dynamic flow, along which digression activities anticipate participation, and eventually a whole city could be formed this way, because no activities are socially and geographically isolated anymore. This theme of dynamic flow reprised in several other OMA projects as well (Jussieu Library, and Parc de La Villette), where the dynamic flow is further layered.

ARCHITECTURE AS THRESHOLDS, THRESHOLDS AS PROTOCOLS
Fig 4.8 Villa Madama

Linked rooms correspond to and produce gregarious society. The connections could stay even after the literal passage go away.

Fig 4.9 Red House

The corridor and terminal rooms along it facilitate isolation. The organization is succumb to collapse if the passage is gone.

IN ROBIN EVANS’ ANALYSIS of threshold conditions in domestic architecture, ways of transition from one room to the other tightly correspond to the kind of society and personality that are formed in the space. In villas before corridor, rooms have at least two doors, and they are thoroughly adjoined as a matrix of chambers. Streets are implied, rather than made explicit. As one navigate in the house, he/she necessarily encounter people and activities in other rooms because there is no secluded paths – this spatial arrangement responds to and creates a very gregarious society where everybody in the room has to meet (Evans, 1978). After the insertion of corridors in the house, rooms have one door, and they become terminals, corresponding to and making societies of privacy. These two mechanisms have different degrees of stability. In the essay, Robin Evans stated that:

“A compartmentalized building had to be organized by the movement through it, because movement was the one remaining thing that could give it any coherence. If it were not for the paths making the hyphen between departure and arrival, things would have fallen apart in complete irrelevance.”

For connected rooms and jointed programs, even if the movement disappear, the gregarious societies in the rooms will still make a stable house (Evans, 1978). In terms of alternative eating, if the programs are spatially intertwined rather than discretely placed along the path, even if the highway go away someday, the active urbanity will keep the sites alive.
A symbiotic relationship between division (walls) and traffic (roads) that creates a shifted ground of navigation.

IN CATAL HUYUK, traffic and diverse programs are adhered spatially by the change of ground/horizon. Tens and hundreds of house units are joined together in a conceptually similar way as the pre-corridor villas described by Robin Evans, yet another thoroughfare system is created on the rooftop of the residential compound. People on the street enter their home from the ceiling, by climbing down the ladder. Penthouses are located on the rooftop, creating a field condition that helps the street navigators to orient themselves. In America, when highway can often be elevated to obscure the sidewalk context, eating and other adjoined programs should become fields of access points to reorient the driver in the city.
Ray Oldenburg

THE ROAD is a monotonous routine unless thickened by thresholds. Highways are the “third place” according to Ray Oldenburg. In his theory, modern life in America is predominantly divided in isolated “first” (home) and “second” (work) places, while the “third place” is the anchor between home and work that can “host the regular, voluntary, informal, and happily anticipated gathering of individuals” (Oldenburg, 1989). Thresholds thicken the space and program of the road, making highway travel non-linear, reshaping “non-place” as inhabitable (Auge, 1995), and turning passages into a series of little destinations. Through thresholds, the population of American highways (people who use highway regularly, including truck drivers and commuters of various social status) enters a parallel world to traffic, and in the thickened spaces and programs, they can celebrate a moment of eating as a social event, on the site intertwined with their daily automobile travel.
McDonald’s dominates by dispersion. Small businesses can thrive by agglomeration. According to urban economics, together, small business can reduce average rent, share utilities, and form a competitive urban image for the place.

**THE GAME OF RECONNECTIONS**

MOREOVER, ALTERNATIVE EATING SHOULD BE COMPLEMENTED BY SERVING. Threshold conditions are not only encountered by the consumer; they also facilitate the actions from the side of supplier (particularly, food trucks exemplify the mechanism of suppliers actively enter the previously unclaimed zone of serving). Currently, drive-thru restaurants’ supply chain is centrally controlled by the finances and logistics of their headquarters, food shipped as frozen from central commissaries that are usually within 200 miles distance (Carney, 1995). Such supply chain is obscured from the consumer, so that there is minimal control of food quality (a vital part of the eating experience) from the side of the eater. Therefore, the alternative model allows other suppliers (including farmers, resale vendors, food trucks, taquerias, and local restaurants) to enter the zone of highway roadside, and the spatial threshold promotes mutual control between eaters and sellers.

Realistically, as the new model of eating competes with roadside restaurant chains like McDonald’s, the alternative site of serving food must gain its advantage spatially with thresholds of constant growth. According to urban economics theory, while franchising succeeded by dispersing capitals into broad and distant locations, smaller business can thrive in neo-liberalist market by spatially clustering, where the economies of scale (lower average land rents, shared supplier and utilities) and symbiosis (the larger mutual sustaining with material and markets) will yield increasing (or constant) returns, and the collaborative competition among the cluster members will render a lively scene of urban image that turn “non-place” into attractive destinations (Auge, 1997). Therefore, the spatial design of alternative eating should facilitate the formation of such potential economies of agglomeration, by spatially allowing new businesses’ easy access to the site and promoting multiple parties’ smooth sharing of resources. Again, threshold conditions, by facilitating the increasing number of businesses to come into (and leave) the site and material and resources to flow from one unit to the other, are the spatial prerequisite for agglomeration.

In these ways, thresholds conditions for the continuous growth are subdivided into three interactions: 1, for the consumer to come from the highway to eat, 2, for the supplier to come from the field to the roadside, 3, for the consumer and supplier to converge.

**THRESHOLDS FOR THE CONTINUOUS GROWTH**
HOUSTON AREA

is an obese American place. Especially in surrounding counties such as Walter, Walker, and Grimes, the adult obesity rate is over 30% (USDA, 2013). Houston is also a commute city. The daytime population change due to commuters driving into the city is the largest in the country (Federal Highway Administration, 2013). Therefore, given this city’s crisis of eating and proliferation of driving, this project operates in Houston to test alternative eating experience on the roadside.

To test the design a new experience of eating, Houston and Interstate 610 have ample inputs of components and a mature network of infrastructures. Various local food products are ready to enter the roadside consumer market; specifically, the following food categories are among the highest of the country: berry acres concentration, orchard acres concentration, the number of small slaughterhouse, and vegetable harvest per 1000 population (USDA, 2013). Hispanic people (40.85% of the population) also bring novelty to the local food scene (besides the prevailing taquerias, people in Houston can also sample and buy from street and market vendors some new food such as mango with chili pepper and salt). The dense US-Mexico trade corridors make the large amount of cheap produce from Mexico perceived as local in Houston. Hot climate and mild winter favor temporary physical structures and outdoor public space to operate in most time of the year. Moreover, Houston does not have zoning regulations. The laissez-faire economic buffet in Houston allows entrepreneurial inputs from non-restricted range of development (Harvard Project on the City, 2001). In fact, a driver’s daily life welcomes such buoyant emergence of new programs. Take the working parents for example, who usually have to “link trips to or from work”, taking their children to daycare center, going shopping for dinners, or visiting banks really quick (Wachs, 1992). They chauffeuring children to an assortment of activities, thus inevitably creating travel patterns that vary daily, weekly, and yearly. Moreover, various emergencies such as sick children call for perpetual “preparedness” on the road (Wachs, 1992). Therefore, as the farmers and vendors can gather by the infrastructure, so can babysitters, bankers, and other entrepreneurs join this camp of investment.
THE GAME OF RECONNECTIONS

MEXICAN FARMER
Supplier
HOUSTON FARMER
Supplier, Seller
FOOD FACTORY WORKER
Supplier
TRUCK DRIVER
Distributor, Eater
MANAGEMENT COMPANY
Seller, Distributor
MEXICAN RESALE VENDOR
Seller
MARKET FOOD VENDOR
Supplier, Cook
TAQUERIA RUNNER
Cook
COMMUTE DRIVER
Eater
FAMILY CARER
Eater
TOURIST
Eater
NETIZEN
Eater
HOUSTON TEXANS FAN
Eater, Cook

These are mainly customers of food. However, can they be cooks too? And in what way, are they holding the potential to actively shaping the American food consumption scene?

FOOD

STRICTLY LOCAL

MEXICAN PRODUCE
SOURCE: Mexico

ALMOST LOCAL

NOVELTY FOOD

PARTICIPATORY FOOD

HUGE FOOD
SOURCE: Multi-Supply + Local Charity

BERRIES
SOURCE: Houston Area

ORNAMENTAL ORCHARD
SOURCE: Houston Area

SMALL SLAUGHTER
SOURCE: Houston Area

MANGO WITH CHILI PEPPER
SOURCE: Mexican

KIMCHI TACO
SOURCE: Houston / Mexican / Korean

HUGE FOOD
SOURCE: Multi-Supply + Individual Eaters

TEST: DRIVE AND EAT IN HOUSTON

OPEN SHELTER
Houston's hot and humid climate favors open structures over enclosed ones for thorough natural ventilation.

TEMPORARY STRUCTURE
Inspired by Fair stands, temporary eating events that vary by time, day, and season require the architecture to be easily assembled and disassembled.

MOBILE UNIT
Mobile units for food vending can synchronize the business according to the lifecycles of mobiles and in relation to time. These require good ventilation.

SMALL UNIT
For sale and purchase, small outdoor structures can be the unit of architecture too, through the use of simple materials.

PUBLIC BBQ PIT
Located in public space, these pits create focal points in very large spaces. They become spatial organizers and event instigators that anticipate spontaneous production of activities. The use of these pits challenges the traditional food-serving, cellular, large to small.

AUTOMOBILE
Cars can be used in places of eating as well as cooking. Different uses and instances within these individual activity units encourage to form social events.

A SURVEY OF AVAILABLE COMPONENTS FOR ALTERNATIVE EATING EXPERIENCE IN HOUSTON

PHYSICAL ENVIRONMENT/OBJECT

TEST: DRIVE AND EAT IN HOUSTON

A SURVEY OF AVAILABLE COMPONENTS FOR ALTERNATIVE EATING EXPERIENCE IN HOUSTON

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PHYSICAL ENVIRONMENT/OBJECT
Houston has 4 interstate highways, which are interwoven among themselves and intersected by other state and local road systems. They move both people and food, producing the effects mentioned before: large number of commute, and multiple food sources available for consumption.

The manifestation of US Agricultural Specialization in Houston, Texas is the dense concentration of berry and orchard farms in surrounding counties as well as small slaughterhouse in the city. In the state of Texas, many roads were formerly built by the government as the “Farm to Market Road”, which connects farms and dairies to urban centers. It is those dense networks of transportation that sustain the highly geographically uneven agricultural specialization of the United States.

The binational trade corridors between the United States and Mexico are the densest in the state of Texas. The effect of such concentration of trade infrastructures is the perception of Mexican food, culture, and population as “local” in Texas.

Besides regulation, cultural discourses also shape perceptions toward food. For those conscious eaters who buy in certain places to make a statement, food choice is endowed with social meanings. For locavore activist, localism becomes a social infrastructure of communal bond. As the environmentalist Bill McKibben argues, consumers pay premium for local food precisely because conventional food offers a “surplus of individualism and a deficit of companionship” (McKibben, 2007).

The federal government funds the Supplemental Nutrition Assistance Program (SNAP). Formerly known as the Food Stamp, this program allows eligible people (based on household size, income, and assets) to use SNAP benefit at authorized local grocery and retail stores for food. The use of SNAP benefit, however, varies by region and states.

Private NGOs like the Houston Food Bank collect food from donors, and redistribute the food to those in need through charity-sponsored events. Some of those food items are ready-to-eat canned food, while others are cooked to serve the people in the event.

Feedback from consumers to the seller is equally if not more crucial for the continuous growth of alternative eating culture. Feedback is crucial for consumer and the seller to be not isolated but in-harmony, versus form of exchange, such as appearannce’s one-directional effect. Online platforms are an excellent way of setting up the digital foundation such as language of the worldbuilding. These online feedback mechanisms are appealing to and constructing different groups of societies in the real world.

A survey of existing infrastructures for alternative eating experience in Houston.
Driving 38 miles on Interstate 610, Houston, Texas

This project operate on Interstate 610, which intersects all the other highways that connect downtown Houston with suburban area (I-10, I-45, I-69, TX-225, TX-288, TX-548, US-90, and US-290). Along the route, it intersects varying demographics (household income and ethnic groups are distributed along the road, rather than being segregated by the highway into two sides as apartheid communities); it cuts across different districts of Houston too (along Interstate 610 are the factories district, Rice University, Texas Medical Center, the Galleria Shopping Town, and the district of corporate headquarters). It loops around Houston, and urbanistically, Interstate 610 is a threshold between city and suburb – the “third place” between home and work in the language of Ray Oldenburg. According to the US Census, Houston has the largest daytime population change due to commute; they drive in to and out from the city, and Interstate 610 becomes the gateway to the city in the morning and the front door for their house in the evening. Studies by the Federal Highway Administration has also shown that highway commuters make various stops during the trip, for purposes of shopping, eating, drinking, family/personal caring, and gas refueling; specifically, on the direction from home to work there is a larger frequency for meal and coffee, while the way from work to home witnesses more shopping (Federal Highway Administration, 2013). Therefore, how people drive and eat on Interstate 610 makes the taste of Houston.
Driving on I-610 is currently a linear process of travel.

Unwrapping Interstate 610
Driving on I-610 is currently a linear process of travel.
The distribution of the richest and the poorest households along I-610

Dark blocks: household income is $100,000 and up
Light blocks: household income is $25,000 and lower

Urban and suburban textures

“Nodes” along I-610 (places of industry, health care, education, and shopping)

Locations of farms and farmers markets

PROPOSAL: PLAY THE COLLECTIVE GAME
Different urban images along I-610 offer opportunities of new intervention to borrow or reinvent the experience of eating and traveling in the city.
A survey of currently available spaces right next to Interstate 610. These lands vary in size, shape, current and former land use, and points of access.
On different places along Interstate 610, different spaces are made for different groups of people in the neighborhood and their need of eating. Several spatial and programmatic conditions are studied to begin the proposal on various sites along Interstate 610. Besides accommodating commuters in the morning and evening, when Interstate 610 pass through the downtown area, white-collars shall abandon their cold sandwich in the office and enjoy their lunch break in a food truck fest; when Interstate 610 pass through a residential neighborhood, kids reheating their frozen meals can go out and enjoy a BBQ party beyond their backyard; when Interstate 610 pass by the Reliant Stadium, people who do not have seasonal tickets or tailgate guest pass (as required by Houston Texans) can still rave on the previous site of Astroworld (a 104 acres theme park demolished in 2005); when Interstate pass through the factories by the Houston Ship Channel, workers can come out to rest and enjoy food together. In these ways, the new roadside experiences of eating are super local, as the components are coming from the immediate site; they are also super flexible, because the same highway connects multiple sites, and the same set of threshold conditions are applied to different places.
A survey of neighborhood situations along Interstate 610, indicated by the distribution of household income, current places of eating, and events along the site that could be incorporated into the construction of eating.
THE GAME OF RECONNECTIONS

Upper: Schedules of various parties driving on the Interstate 610

PROPOSAL: PLAY THE COLLECTIVE GAME

Lower: Current eating modes available in Houston
How can the new eating experience accommodate these parties and form new social relations based on the current temporal dynamics of Interstate 610?
THE GAME OF RECONNECTIONS

Possible encounters based on schedules that lead to new types of social relationships.
THE GAME OF RECONNECTIONS

PROPOSAL: PLAY THE COLLECTIVE GAME

COMMUTER X COOK

THRESHOLD 1
PROPOSAL: PLAY THE COLLECTIVE GAME

COMMUTER
COMMUTER
(different jobs)

COMMUTER
CHILDREN

THRESHOLD 2
This chapter describes the design response. The project tests the space and impact of the 3-step design process in five different scales. The design system has a few fixed elements to ensure regularity, but they are not rigid or unchangeable. In fact, they encourage customizations and collective input by local users as designers, so that eating becomes a collective event, and the highway space is integrated back to the plurality of a city's social life.
THE THESIS looks at the issue of eating for the commuter population on the Highway, and focus on not only WHAT they are eating, but also HOW they are eating.

Basically, the thesis looks at eating through a social lens. For commuters, the social value of food has degraded, when they are eating alone, in the car, while driving, they are confined in their own world where they do not need to pay attention to what and how they are eating.

So this thesis states that in order to change eating practice, you have to change people’s social relations, and in order to achieve that, you can modify some spatial parameters.

So the project aims to detect unrealized social relations for commuters, through the design of a series of spatial conditions, so as to reimagine the operation and impact of roadside food business, and to let commuters to eat with other people, in different places, while doing a variety of social activities.
THE SITE IS IN HOUSTON. The project proposes interventions along the entire I-610 highway loop. First, the design will be focused on one intervention at a particular site, and later can grow to the whole system.

Houston is chosen because it is obese, and the commuter population is also one of the highest in the country.
THE PROJECT CAN MOBILIZE both the local food supplies and Mexican vendors here, using flexible ways of eating and selling such as food trucks, tailgating, and temporary outdoor sheds.

However, none of these are currently available to the people driving on the highway.
**Food’s Social Value**
Food becomes no more than a calorie source, and eating is no longer a form of exchange and communication.

**Design Participation**
The economics of specialization and standard franchising further alienate various user-groups from potential design participation.

**Connection to Context**
The physical presence and activities of the highway are isolated from its surrounding environments.

**Plurality of Urban Life**
The commuter route is monotonous, and people from various physical places and social sectors do not find a threshold of meeting, exchanging, sharing.

Instead, they have the drive-thru. The design critique for the drive-thru is about its rigidity and isolation. As commuters pass through a series of fixed protocols, they eat alone in the car in an anti-social way, because the business is franchising, the space is not changeable according to different people’s needs and imaginations, the building negates its surroundings, just as how the highway is careless about its context, and in the end, eating and driving for the commuter becomes monotonous, devoid of the various social activities of urban life.
DESIGN RESPONSE: OPEN SYSTEM
TO ABSORB CREATIVE INPUTS FROM
PEOPLE, CONTEXTS, ACTIVITIES

SO WHAT THE PROJECT PROPOSES INSTEAD IS AN OPEN SYSTEM to absorb the creative input of different people, contexts, and activities.

Like a camera, you can put different lenses to make different cameras. The product this thesis is designing is called the Architectural Conditioner, and you can put different functions, spaces, or visuals to it, by different designers or users, for different purposes, at different locations.
DESIGN

THE ARCHITECTURAL CONDITIONER IS A MASS-PRODUCED PRODUCT. The upper part is pin connection, so the member can rotate between vertical and horizontal. The horizontal span can be used to hang equipment and canopies, while the verticality can serve as a visual focal point. The middle part is a skeleton, used to install equipment, rooms, and claddings. The podium connects to utility infrastructures, and can act as a seating spot for people to congregate.

So you open the box and have this product, different people can add different elements to it, adapting to different uses.
THE ARCHITECTURAL CONDITIONER

ADAPTATION 01: KITCHEN

The conditioner becomes a food vending unit. The kitchen is open to all four sides, allowing customers to see the food making process.

SPACING: contingent on business needs
ADAPTATION 2: TORTILLERIA

A station to make tortillas, which is the base of the Mexican culinary variety, can serve both passing customers and other food vendors, introducing a collaborative mechanism in the competition.

SPACING: every 250 feet (shared by roughly 10 food vending units)
ADAPTATION 03: JUICE & FREEZER

The conditioner becomes a juice bar to serve the truckers and freezer to store meat.

SPACING: 2 stations each street
ADAPTATION 04: OPEN BAR

The conditioner becomes an open bar. Offices for management purposes can be on top of the bar.

SPACING: contingent on business needs.
ADAPTATION 05: MANAGEMENT

The conditioner makes office space on the ground level to manage Food Stamp Program and general management for the farmers market.

SPACING: 1 per street at the middle
ADAPTATION 06: GUARD TOWER

The conditioner becomes a tall place for the guards to oversee the site.

SPACING: every 500 feet
ADAPTATION 07: RESTROOM

The conditioner becomes public restrooms.

SPACING: every 500 feet along the street
Booster pumps and water stations are public amenities. By making the water supply public to share rather than privately used by each unit, it encourages vendors to build communities around it. SPACING: every 420 feet along the road.
ADAPTATION 09: IRRIGATION

The conditioner houses irrigation equipment (filtration system for drip irrigation), on top of which people can picnic and pick apples.

SPACING: every 50 feet in the field
ADAPTATION 10: BUS STOP

Public transportation can come to the site, and the conditioner becomes a station.

SPACING: 1 in the middle of the road that is closest to the neighborhood.
ADAPTATION 11: 
UTILITY POLE

The conditioner becomes a utility pole which connects to the municipal infrastructure, and the structure houses electric transformers. 

SPACING: every 130 feet along the road
ADAPTATION 12: TAILGATE SPOT

The conditioner offers BBQ pits and boomboxes to enhance the experience of tailgating.

SPACING: every 120 feet in the parking lot
<table>
<thead>
<tr>
<th>01:</th>
<th>02:</th>
<th>03:</th>
<th>04:</th>
<th>05:</th>
</tr>
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<tbody>
<tr>
<td>OFF THE ROAD</td>
<td>IN THE BUILDING</td>
<td>BETWEEN ROADS AND BUILDINGS</td>
<td>BETWEEN HIGHWAY AND LOCAL</td>
<td>THE ENTIRE HIGHWAY IN THE CITY</td>
</tr>
</tbody>
</table>

| 12 ft | 200 ft | 400 ft | 1800 ft | 38 mile |

**AS BASIC PRODUCT,** the simple device can be designed and used in different locations at different scales, from the sidewalk, to buildings, and to the larger city.
To diversify the roadside eating conditions, the conditioners create pockets of social spaces where commuters and vendors can share some intimacy for conversation and fun.

So the design borrows the typical roadside inflatable landscapes, and applies that to the conditioner to make rooms, canopies, furnishings, and billboards.
DESIGN

SCALE/PLACE 01: OFF THE ROAD

N₂ 78%
O₂ 21%
Others 1%

H₂ 100%
The room can host special dinner events every Friday. And for this application, the conditioner box becomes a threshold to control air pressure, and people can hang their clothes there as they are about to enter a space of different temperature, smell, and music. In this environment of different temperature of color, you can see totally relaxed faces there.
In case of emergency or loss of pressure, the cable ensures room for evacuation.

Pictures from: Kitchen Monument by Raumlabor, Luminaria by Architects of Air
For cheaper solutions, you can get rid of the blower and hang the membranes to make canopies that cover the road. The shading provides a nice space for the trucker and cook to hang out. They watch the traffic and the traffic watch them. That social scene of the vendors hanging out may attract passing drivers to stop by.
SCALE/PLACE 01: OFF THE ROAD
APPLICATION 03: FURNITURE
These inflatables can also bring the roadside landscape into the farms, and hosting farm dinners in summer evenings.
Two different programs might also share one conditioner, some pushing the outside while the other inhabiting the inside.
The Idea of this kind of roadside intervention is that, because the Conditioner is relatively small compared to a building, the individual food vendors can actually grab it and play with it using membranes, light, music, and air.

People can actually base on these conditioners to show off their creativity, instead of just cooking behind the closed doors and serving anonymously.
REALITY: DRIVER - LOCAL ISOLATION

Commuter 1
Commuter 2
Commuter 3
Local 1
Local 2
Local 3

RESPONSE: OVERLAPPED SCHEDULE FRAGMENT, SHARED INTEREST

Commuter 1
Commuter 2
Commuter 3
Local 1
Local 2
Local 3

TO FURTHER ENCOURAGE THE COMMUTERS TO EAT SOCIALLY, they need to join larger social groups. Although commuters tend to drive and eat quickly as they are mostly alone, if you can find a shared fragment of their schedule or a common interest, they might be able to eat with other fellow drivers or people from the neighborhood.
So based on the local conditions, a series of institutions are extended to intersect the road. They can serve both the commuters and the locals, including a car center, daycare, produce distribution, recreation, religion, and services like dry cleaning and post office.
TO MAKE THESE MORE PERMANENT STRUCTURES, the conditioner becomes columns and space for equipment, the roof is hanging, so no need to constantly blow the air using electricity. And they can still be easily relocated if changes occur.
The building and the road can intersect in different ways, creating different connections for drivers and locals to meet.
INTERSECTION 1: DAYCARE X ROAD

For example, when the daycare center and the food truck road intersect, the junction is made as an auditorium, where the vendors can teach the kids how to cook. The road splits at the daycare intersection, to allow a pedestrian crossing island for the safety of school children.
INTERSECTION 2: CAR CENTER X ROAD
And as the car center and the road intersect, you have a small plaza with shops and cafes, drivers might also go to the car club, and have breakfast with patients from local hospitals.
When the recreation facilities intersect the traffic road, an outdoor space for sport and fun gathering is created in the zone between the sunken ground and the raised road. The conditioner provides music, lights, large outdoor furniture, and ice-cream stands within this zone.
INTERSECTION 3: SKATING PARK X ROAD

When the recreation facilities intersect the traffic road, an outdoor space for sport and fun gathering is created in the zone between the sunken ground and the raised road. The conditioner provides music, lights, large outdoor furniture, and ice-cream stands within this zone.
INTERSECTION 3: SKATING PARK X ROAD
When the recreation facilities intersect the traffic road, an outdoor space for sport and fun gathering is created in the zone between the sunken ground and the raised road. The conditioner provides music, lights, large outdoor furniture, and ice-cream stands within this zone.
FINDING YOUR SOCIETY, AND EAT WITH THEM!

THESE PLACES ESSENTIALLY SERVE BOTH the people who are moving fast and the people who are staying for longer, allowing commuters to enjoy other activities while eating.

When you are on the road alone, you are a driver. When you are at these intersections, you regain your other identities like a mother, a car lover, a sport fan, a church goer. These intersections encourage the lonely commuters to eat socially with their new found fellows.
As the buildings and roads intersect, you get open spaces in between. They are farms, to supply the food consumption on the site.
The key idea of these farming landscapes is that, as they are in between two different institutions, there are always shared conditions of pathways, activities, spaces, and water systems.
THE KEY IDEA OF THESE FARMING LANDSCAPES is that, as they are in between two different institutions, there are always shared conditions of pathways, activities, spaces, and water systems.
EXAMPLE 01: DAYCARE X PRODUCE DISTRIBUTION

For example, next to the daycare center, kids can play miniature golf inside the farmland along these pathways, and the conditioner becomes both the irrigation equipment and the reference point for the navigation of golf course.
And as the golf course creates sloping landscapes, the farmland also has different solar and humidity conditions due to the slope, so giving very specific prescriptions for different vegetables to grow.
SCALE/PLACE 03: BETWEEN ROADS AND BUILDINGS

Sprinkler
and / or
Mini Golf Course
In the land by the church, the pumping station next to the reservoir can also house a baptistery, and the same water can be used for evaporative cooling for the tailgating site which is next to the school’s sports event. So the overlap of spaces and activities make the unfamiliar farming landscapes relatable, so food production is not only physically in the city, but also programatically part of people’s life.
and / or
Church Bapistry

Reservoir Pump

SCALE/PLACE 03: BETWEEN ROADS AND BUILDINGS
EXAMPLE 03: CHURCH X SPORTS
The ramps function as embankment to separate the traffic road surface from the farmland, protecting the soil of the orchard from the oil run-off. Ramps invite people to come into the orchard, so that although the materiality is separated, activities are actually bridged and intertwined.
DRIP IRRIGATION

Filtration Equipment
EXAMPLE 04: SPORTS X PRODUCE DISTRIBUTION
When you don’t need farming for a particular lot, it can house cultural events like Rodeos or concerts, inviting either heavy metals or local high school bands. So it attracts a larger population to the site, giving a larger market for the food vendors and other service business.
DESIGN

SCALE/PLACE 03: BETWEEN ROADS AND BUILDINGS

Greenhouse
and / or
Temporary Dome
THE MANAGEMENT OF THESE FARMS can be a collaboration of the two neighboring institutions. They can also hire unemployed people from the neighborhood to take care of the farms.

In this way, the farms become the common land for the community, integrating all kinds of interesting people here. And because the combination of institutions are different, the design and maintenance for each of the farms can also be different.
BECAUSE THESE OPEN SPACES HAS VERY STRONG EDGE CONDITIONS, they can be conceived as plazas. You can begin to develop outdoor eating spots along the edge, to form activity pockets.
04

BETWEEN HIGHWAY AND LOCAL
THE LARGER SCALE BETWEEN THE HIGHWAY AND THE NEIGHBORHOOD STREET is the distance between fast and slow, between global and local.

The design of an open lot between the highway and local streets uses systems of vehicle roads, pedestrian paths, farming landscapes, and building blocks to produce different spatial conditions, where the architectural conditioner could operate differently and generate different impacts, in response to the difference of the two sides. The system connects with the fast-moving highway population and the more stable local community, and produces critical junctions where the two paces meet, converge, and share.
The traffic road near the highway is an off-ramp of high speed traffic. The roads are wider, and when you need to access food business, you have a separate parking lot. While when it’s near the neighborhood, the road is narrower for people to drive slowly. You can park directly by the side of the street, where food trucks are also along the sidewalks. It’s more like a local street in urban areas.

**ROADSIDE EATING TYPOLOGIES**

**How Do Food and Drivers Meet?**

**HIGHWAY CAFE**
- Relatively big establishment;
- Combination of brands;
- Separate parking lot.

**STRIP MALL**
- Combination of businesses;
- Shared parking strip.

**DRIVE-THRU**
- No parking.

**STREET VENDOR**
- Mobile food units;
- Streetside parking.

**SYSTEM 01: VEHICLE TRAFFIC**

Separate Parking for Food
Strip-Mall Parking for Food
Drive-Thru for Food
Street-side Parking for Food
Changing Lane Width and Speed
SYSTEM 02: PEDESTRIAN PATHS
On the local street, drivers have to stop for pedestrian crossings. In fact, in the neighborhood side, walking people and cars are not totally separated. When people and cars intersect, the path is opened to form small plazas.

As drivers prefer a straight view ahead, for the pedestrian path, you’ll have changing landscapes when you go on your daily walk in the evening or during lunch break.
The farming landscapes are also differentiated. Near the highway, the rows of apple trees can act as a noise buffer and visual attraction for drivers. While when it’s toward the neighborhood side, it can be more like a community garden where people need to take care of it and spend some time in it.
For the buildings of institutions, different people may demand the same program in different ways. They have different perceptions, use patterns, and investment goals. For example, for the car center, near the highway, the fast people washing their cars may want to eat something that’s quick as well. While for people from the neighborhood, they may spend a whole day in the car club, talking about cars and cooking together in a community kitchen for hours.

Interplay Between Fixed Ground Properties and Flexible Conditioner Effects

The property of the site is a series of fixed characteristics generated by proximity to highway, surroundings, and investment goals. Spatial conditions can be separately provisioned to anticipate possible changing scenarios of use, and plugged back to the ground. Infrastructures are mapped along the site to support the functioning of buildings and open spaces across the whole project.
SO I USE THE DESIGN OF THE GROUND to pre-cast the gradient between fast and slow, corresponding to the difference of perception, use pattern, and investment goals.

Near the highway, the ground is made of asphalt or concrete panels, and the space is less specific. In case you have a high turn-over, the owner has the maximum market value of flexible change.

Near the neighborhood, I use soft materials like carpet and wooden floor. I use built-in sofas to make small rooms, and there’s variety of ceiling height. People can also bring their personal items to decorate the rooms. So that communities around it can inhabit the space for a long-term for its use value.

**HIGHWAY**

- **Faster Speed**
  The customers move around quickly.

- **Slower Speed**
  The customers move around slowly.

- **Higher Turn-over**
  The businesses experience more volatile market swings.

- **Stabler Use**
  The community around the property demands long-term functioning.

**Soft Material**
- Carpet and wood, on which people can take shoes off.

**Open Plan Organization**
- Tenants can arrange partitions and furnitures freely.

**Assortment of Rooms**
- Rooms can be formed by built-in sofas with intimacy.

**Economical Furnishing**
- People are generally spending less time here.

**Uniform Space**
- So as to anticipate frequent change of programs.

**Hard Material**
- Also suitable for outdoor environments.

**Soft Material**
- Also suitable for indoor environments.

**Variety of Ceiling Heights**
- Achieved by the interplay between roof and ground.
"No Waiting"
By displaying the time remaining, the customer will feel the process to be shorter. By washing the car without the customer ever leaving the car, the process is felt even faster.
"Show Progress"
By showing the steps of the process, the customer may think he's making progress and thus be willing to stay and go find something to eat.
"Personalized Business"
Second-hand car dealerships near the site use the first name of the dealer in the brand name. So, in order to make the business more personalized, the dealer might become a bar tender, a cook, or a fellow sport fan, to further enhance the business' operation.
ALONG THE ENTIRE HIGHWAY
THE INTERVENTION CAN GROW along the entire I-610 Highway Loop, on available lots so as to avoid the erasure of any existing buildings.
BASED ON THE WATER MAP OF HOUSTON, you can identify the best sites for interventions to have farming.
AS THE INTERVENTION DUPLICATES along the entire highway, some of it remains constant, while other parts are variables.

First, the highway itself is a constant mega-structure in the city, while the neighborhoods it cuts through are all different. The neighborhood is different not only in terms of geography such as river, topography, and urban fabric, but also in terms of population such as ethnicity, income, and existing institutions, and it is these kinds of different neighborhood conditions that make the overall system of highway interventions capable of producing distinct and local outcomes.
<table>
<thead>
<tr>
<th>CONSTANT</th>
<th>VARIABLES</th>
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<tbody>
<tr>
<td><strong>DRIVING &amp; EATING</strong></td>
<td><strong>OTHER ACTIVITIES</strong></td>
</tr>
<tr>
<td>Fixed Identity as a “Commute Eater”</td>
<td>Other Social Roles</td>
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**SO OVERALL,** for the system of intervention along the entire highway, driving and eating is constant, yet the different activities that go with eating are variables.
CONSTANT

DESIGN: BUILDING STRATEGIES

- Fixed Ground
- Flexible Need
- Infrastructure

VARIABLES

SCENARIOS OF USE

- “Mind Your Own Business”
- “Winner Takes it All”
- “Mix-It-Up Collaborative”
- “The Foreign Intruder Comes”

IN RESPONSE, THE GRADIENT GROUND DESIGN for institution buildings remains the same, as buildings are always in between a fast end and a slow end, yet different buildings might experience different scenarios of use pattern in different locations, different times, different economies.
THE DIAGRAM OF BUILDING-ROAD INTERSECTION remains constant, which produce open land in between, yet they can be developed into very different characters.
THE CONDITIONER WAS THE SAME when you first open the box, yet you can make different function, space, and visuals out of it. The pin connection is the same, yet you can rotate the members to make different height and spans according to your need.

So, the design system has a few fixed elements to ensure regularity, but they are not rigid or unchangeable. In fact, they encourage customizations and collective input by local users as designers.
The planning board identifies the vacant lot for development based on water proximity, traffic volume, and surrounding population density.

The Highway Department builds at least one road as an off-ramp into the site.

At least two local institutions are identified to collaboratively manage the open land as farms, first to sustain their own needs.

As local institutions invest the conditioners for farming, which also connect to utility infrastructure, food vendors are attracted here.

As population congregate here, a large new market from the highway is now open to the local institutions, so the institutions may finally add buildings to the site as extensions of their business. And the buildings further anchor the life and development on the site.

The Highway Department builds at least one road as an off-ramp into the site. At least two local institutions are identified to collaboratively manage the open land as farms, first to sustain their own needs. As local institutions invest the conditioners for farming, which also connect to utility infrastructure, food vendors are attracted here. As population congregate here, a large new market from the highway is now open to the local institutions, so the institutions may finally add buildings to the site as extensions of their business. And the buildings further anchor the life and development on the site.

The system of intervention along the entire I-610 will become a joint development by the highway department and local constituents.

1. For each location of intervention, the highway department will invest the building of at least one road across the site as an off-ramp.
2. And you’ll identify at least two local institutions, for them to collaborate in the management of the open land as farms, first to sustain their own needs.
3. As they invest the conditioners as farming equipment, which also connect to utility infrastructure, food vendors will be attracted to make use of those structure. These food vendors can serve both the local people and the commuters.
4. As population begin to congregate here, a large new market from the highway is now open to the local institutions, so the institutions may finally add buildings to the site as extensions of their business. And the buildings further anchor the life and development on the site.
The I-610 Design Manual contains design guidelines to ensure the general uniformity of the highway. It contains knowledge about driving behaviors, spatial requirement, and design rules.

**Uniformity**

**Tangibility**

The conditioner is played by different people for different purposes, and becomes different things when in different part of the project. It is easy to make, change, and support other things.

**Contingency**

Local constituents collaboratively shape the project’s program, space, and aesthetics. Neighbourhood and highway are connected, so the intervention becomes part of the city’s social life.

**ALL OF THESE DESIGN PROCESS** is written in this I-610 Design Manual, which also contains information of driving behaviors and spatial requirement of road. It will be given to the planning board, architect, and food vendors to make design decisions. This manual ensures the uniformity of the general experience for all interventions along the road.

While the conditioner will be made as a product to adapt to different spatial and programmatic conditions. So you have abstract things like diagrams and rules, but you also have tangible things like the Conditioner which vendors and local people can actually do something to it within their power.

And then you go to a site, and test the design with local contingencies. So for all spots of intervention, you repeat these 3 steps, to establish design diagrams and physical elements that welcome creative input from local people and their activities.
Food’s Social Value
Food is no longer just a calorie source. The new eating practices are healthy both socially and physically.

Design Participation
Vendors, users, and neighborhood people decide what the functional, spatial, and visual development should become.

Highway In City
The physical presence and activities of the highway are connected back to its surrounding environments.

Plurality of Urban Life
People from various physical places and social sectors find a threshold of meeting, exchanging, sharing.

Common Thread for Fragments
The system of intervention uses highway and food as a spatial and programmatic organizer that connects the fragmented experiences of cities like Houston, to reimagine the life on the highway in the American city.

Scale/Place 05: Along the Entire Highway

So to Conclude, what the project does are two things.

First, it uses the diverse social life of a city to save the problematic eating practice of commuters, so as to make eating social, to bring people back to the design process, to bring highway back to the urban context, and embracing the diversity of a city’s social life.

And on the other hand, as the city is becoming fragmented, you can use driving and eating as a common thread to connects the pieces of the city, and to reimagine the life of the American city based on its highway system and people’s common need for eating.
TRAFFIC VOLUME: 202,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 5,358 ppl/sq. mile
φ Traffic / Local = 37.7
NEIGHBORHOOD: Residential
INSTITUTIONS: Church, Community Center
DEMOGRAPHICS: Blacks (62%), $19,653
UNEMPLOYMENT: 9.1%
POSSIBLE CUISINE: Cajun Food

TRAFFIC VOLUME: 275,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 2,605 ppl/sq. mile
φ Traffic / Local = 105.6
NEIGHBORHOOD: Corporate Office
INSTITUTIONS: Train Station, Fitness Center, Book Store
DEMOGRAPHICS: Hispanics (64%), $52,934
UNEMPLOYMENT: 4.4%
POSSIBLE CUISINE: Mexican Food

TRAFFIC VOLUME: 168,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 2,330 ppl/sq. mile
φ Traffic / Local = 72.1
NEIGHBORHOOD: Residential, K-12 Education
INSTITUTIONS: Community Center, Library
DEMOGRAPHICS: Blacks (83%), $25,713
UNEMPLOYMENT: 16.5%
POSSIBLE CUISINE: Caribbean Food

TRAFFIC VOLUME: 117,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 6,129 ppl/sq. mile
φ Traffic / Local = 19.1
NEIGHBORHOOD: Industrial, Residential
INSTITUTIONS: Fitness Center, Workers Union
DEMOGRAPHICS: Hispanics (93%), $24,460
UNEMPLOYMENT: 9.2%
POSSIBLE CUISINE: Mexican Food

THAT'S THE STARTING POINT of a future of city along the highway, the food for each spot can be different too.

Let's get moving and eat.
TRAFFIC VOLUME: 202,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 5,358 ppl/sq. mile
Traffic / Local = 37.7

NEIGHBORHOOD: Residential
INSTITUTIONS: Church, Community Center
DEMOGRAPHICS: Blacks (62%), $19,653
UNEMPLOYMENT: 9.1%
POSSIBLE CUISINE: Cajun Food

TRAFFIC VOLUME: 275,000 (Average Annual Daily Traffic)
LOCAL DENSITY: 2,605 ppl/sq. mile
Traffic / Local = 105.6

NEIGHBORHOOD: Corporate Office
INSTITUTIONS: Train Station, Fitness Center, Book Store
DEMOGRAPHICS: Hispanics (64%), $52,934
UNEMPLOYMENT: 4.4%
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NEIGHBORHOOD: Residential, K-12 Education
INSTITUTIONS: Community Center, Library
DEMOGRAPHICS: Blacks (83%), $25,713
UNEMPLOYMENT: 16.5%
POSSIBLE CUISINE: Caribbean Food

TRAFFIC VOLUME: 117,000 (AADT)
LOCAL DENSITY: 6,129 ppl/sq. mile
Traffic / Local = 19.1

NEIGHBORHOOD: Industrial, Residential
INSTITUTIONS: Fitness Center, Workers Union
DEMOGRAPHICS: Hispanics (93%), $24,460
UNEMPLOYMENT: 9.2%
POSSIBLE CUISINE: Mexican Food
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Threshold conditions that reinforce the flow in a drive-thru restaurant

Threshold conditions that make movement non-linear in Canino Market, Houston.
A game designed for people to make their own desired eating experiences based on the thresholds and protocols found in Canino, McDonalds, and Interstate 610.

Partial connections found in the routes created by game players, which indicate new modes of eating experiences desired by the people.
Proposal of development phases of roadside eating experience based on the connections generated by the game.
Corporate management of infrastructure

The resources and human flows are drawn to the site of consumption without mutual interaction on the course of transportation.
Proposed reuse of infrastructure
The site of consumption and transaction happens directly on the infrastructure.
Categorizing the types of space generated within the highway interchange

A lexicon of ways to use those four types of spaces for eating related activities
Translation of three picnic scenes into interactive installation designs
FOOD AND EATING
Bell, David, and Gill Valentine. Consuming geographies: we are where we eat. London: Routledge, 1997. This book offers me insight of how consumption relates to and shapes social values. Particularly, the chapter that focuses on mundane situations and spaces of consumption such as convenient stores inspires me to contextualize my project within daily rituals of the eater.

Browne, Ray B.. Rituals and ceremonies in popular culture. Bowling Green, Ohio: Bowling Green University Popular Press, 1980. This chapter gave me insights of how the act of eating is more than just the food itself, but a larger package that includes spatial and human elements.

Fischler, C. “Food, self and identity.” Social Science Information 27 (1988): 275-92. This article offers insights on food from an anthropologist and sociologist point of view, analyzing how food construct individual identities and societal values.


AUTOMOBILE CULTURE

Wachs, Martin, and Margaret Crawford. The Car and the city: The automobile, the built environment, and daily urban life. Ann Arbor: University of Michigan P, 1992. This book offers me insight of how driving is not just a linear activity: the behavior and ritualistic pattern of the driver actually offers many opportunities to intervene in the act of driving.

DRIVE-THRU


Schlosser, Eric. Fast food nation: the dark side of the all-American meal. Boston: Houghton Mifflin. 2001. This is a prototypical form of criticism of U.S. fast food system, mainly from economic and sociological perspectives. These critiques become the base of my analysis of how architecture should discover opportunities within a much stigmatized subject.
LOCAVORE MOVEMENT
Lavin, Chad. "The Year of Eating Politically." Theory & Event 12 (2009). This article gives me insight of the political and economic background of local food movement, leading me to question the negative implications of localism in terms of how it promote further segregation of communities.


Morgan, Kevin. "Local And Green, Global And Fair: The Ethical Foodscape And The Politics Of Care." Environment and Planning A 42, no. 8 (2010): 1852-1867. This article analyzes the economic intricacy of local food, indicating that local and green do not necessarily contribute to a healthier social system in terms of economic development.


FOOD, SPACE, CITY


Evans, Robin. "Figures, Doors and Passages." Translations from drawing to building and other essays. London: Architectural Association, 1978. This essay gives me insight of how to read and make threshold conditions, and how different configurations of passages can relate to different types of societies.

Kasten, Scott A., "Destroying the Mystique of Paris: How the Destruction of Les Halles Served as a Symbol for Gaullist Power and Modernization in 1960s and 1970s Paris" (2013). History Theses. Paper 70. This analysis of Les Halles gives me information and perspectives of how an architectural phenomenon of food consumption can relate to and shape the experience, history, culture, and development of one part of a city.


Oldenburg, Ray. The Great Good Place: Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day. New York: Paragon House, 1989. The theories of “third place/space” here offers me inspirations of how to treat the road – the linkage of home and work, as a valuable public space for people to converge and socialize.

ARCHITECTURAL POSITION
Deleuze, Gilles, and Félix Guattari. Anti-Oedipus: Capitalism and schizophrenia. Minneapolis: University of Minnesota P, 1983. The theories in this book offer me insight that it is more important to focus on the configurations of available elements rather than the actual manufacturing of elements themselves.

Marx, Karl. Preface. A contribution to the critique of political economy. Moscow: Progress Publishers, 1859. This analysis of production of social relationships offers me ground to build my own theories of infrastructures and their role in shaping social phenomena such as eating in the contemporary society.

Somol, Robert and Sarah Whiting. “Notes around the Doppler Effect and Other Moods of Modernism.” Perspecta, vol. 33 (2002): 72-77. This essay gives me insight on existing ways of architecture responding to interdisciplinary issues, and offers site where I construct my own methodology of performing architectural analysis and design.

Cover Image: Participant Media. Fig 0.1: gameday.com. Fig 0.2: Dorothea Lange. Chapter 1 Image: Richard Misrach. Fig 1.1: Swanson Co. Fig 1.2: Sarah Wigglesworth and Jeremy Till. Fig 1.3: Margarete Schütte-Lihotzky. Fig 1.4: bettycrocker.com. Fig 1.5: United States Department of Agriculture. Fig 1.6: Federal Highway Administration. Fig 1.7: United States Department of Agriculture. Fig 1.8: United States Department of Agriculture. Fig 1.9: United States Department of Agriculture. Chapter 2 Image: Participant Media. Chapter 3 Image: Richard Misrach. Fig 3.1: civileats.com Fig 3.2: www.vidiani.com Fig 3.3: mappery.com Chapter 4 Image: Richard Misrach. Fig 4.1: kitchain.net Fig 4.2: marijevogelzang.nl Fig 4.3: raumlabor.net Fig 4.4: tripadvisor.com Fig 4.5: houstontexans.com Fig 4.6: nlc.org Fig 4.7: Rem Koolhaas Fig 4.8: Raphael Fig 4.9: William Morris Fig 4.10: en.wikipedia.org/wiki/Çatalhöyük

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AMERICAN PICNICKERS