RICE UNIVERSITY

Healing the Circulatory Wound

by

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ABSTRACT

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Healing the circulatory wound is not a project embedded in architectures contemporary preoccupation with romantic relationships between highway and building through circulatory fluxes, speeds, and flows. Rather, this thesis is about developing a more socially responsible urban relationship between the highway and its immediate context by understanding the latent potentials to be found in the lost spaces under, along, and above the circulatory network of our cities. This new urban relationship is one of healing rather than treatment. It is a process of organizing the future metropolis and its physical, social, economic, and political environment in order to create civic amenities at points of existing trauma.
healing the circulatory wound  
ryan d. jones
I would like to take this opportunity to thank some of my family, professors, and colleagues for providing me with inspiration and encouragement during, not only the development of this thesis, but through my development as an architect as well.

To my wife, I will be forever grateful for the endless patience and understanding she has exhibited over the past two years. If only everyone could be as fortunate as I am to have someone as supportive of their ambitions in life as she is of mine. Jennifer you are the one thing I could never live without. You are my source of strength, joy, and passion, and this thesis is fully dedicated to you.

I would like to thank Doug Oliver for the enthusiasm and vision he has demonstrated through a constant bombardment of challenges toward me and my education for the past two and a half years. Nothing less should ever be expected of a professor, and I am grateful to have worked so closely with such an individual.

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For the past 22 years my parents have supported me in everything in which I have been interested. They continue to do so today, and I will continue be thankful for the doors that they have opened for me. Nothing that I have been able to achieve would have been possible without the love and support of the two most selfless individuals I know, my parents.

There are few designers in the world that I respect more than my friends and colleagues Michael Rey and Judson Moore. Michael has helped me find my path in architecture as a friend and mentor for the past seven years. In that seven years we have debated, discussed, argued, and confided in one another like brothers, and I look forward to continuing that relationship in the future. Jud is the guy that does everything the opposite way, and that is what I love about him. He is always pulling me away from the box when I want to jump back in. To these two guys I am thankful, because you can only listen to somebody ramble on about their thesis for so long, and they were always there for discussion.
thesis statement 000
lost space 001
thesis abstract 013
circulatory wounds 031
site 047
case studies 085
project abstract 107
site 'a' 111
site 'b' 133
site 'c' 155
Healing the circulatory wound is not a project embedded in architectures contemporary preoccupation with romantic relationships between highway and building through circulatory fluxes, speeds, and flows. Rather, this thesis is about developing a more socially responsible urban relationship between the highway and its immediate context by understanding the latent potentials to be found in the lost spaces under, along, and above the circulatory network of our cities. This new urban relationship is one of healing rather than treatment. It is a process of organizing the future metropolis and its physical, social, economic, and political environment in order to create civic amenities at points of existing trauma.
Lost space is the residue left by our continuing inability to deal with the modern metropolis and the forces by which our cities are shaped. These remnants testify to the disconnection of architecture from the urban condition, they plague our cities with emptiness and oppression, and yet continue to go under acknowledged as opportunities for urban renewal. We find lost spaces at the base of high-rise towers, where "public" plazas remain empty and fail to establish any connection between the pedestrian and the city. Lost spaces are the former industrial sites that have left holes in our urban cores after abandoning the city for the suburbs. They are the fields of surface parking lots and parking garages that limit our ability to form any kind of density. Many of the lost spaces in our cities are at the fringe of the grid, where the geometric meets the organic. These spaces occur at water fronts, grid shifts, and circulatory transitions. Some of the most predominant forms of lost space occur along our freeway systems, where the geometry of flow associated with high speed travel causes abrasive wounds to the immediate context, thereby leaving no-man's land that is considered uninhabitable and thereby lost. Many forms of lost space are caused by the deterioration of parcels. As physical boundaries become irregular and in some cases smaller these sites become less and less inhabitable by any form of development. Lost spaces can be found in abandoned train yards, military sites, and quarries. They are found as deteriorating parks, marginal public housing units, and other now empty programs. Lost space is the leftover unstructured landscape within our cities which we choose to ignore and continue to turn our back to. They are the undesirable areas of our cities that make no positive contribution to their immediate context, they are simply undefined, often immeasurable, and are causes of disconnection; and therefore, they are the urban areas that are in the greatest need for redesign and redevelopment. Luckily, they offer the greatest opportunity for re-conceiving the way we interact with the modern metropolis.
There are five major factors that have been noted as contributors to the creation of lost space: the automobile, the modern movement in architectural design, urban renewal and zoning policies, the dominance of private interests over public, and the changes in land use of our inner cities. Any form of residual space that would be considered “anti-space” can be linked to at least one of these agitators.

Modern society’s dependence on the automobile has altered our cities by embedding itself into the American way of life. For this reason, the automobile is perhaps the greatest and most difficult force to be dealt with in the modern city. The visions of our government in 1940 were dreams of a connected network of cities, interconnected by highways. These dreams have been realize, and that realization has left us with an environment where highways and the thoroughfares and parking lots that support them, have become the predominant forms of open space within the city. As a result, mobility, motion, and the automobile have become tools for isolation both for the individual, and the adjacent spaces of our highway network.

One of the great problems with architecture today is our disinterest in the space between buildings, which are rarely designed, and yet vital to the success of any project and any city. No doubt this is a product of the modern movement of the early twentieth century, which reached a climax in the period from 1930-1960, when the ideals of freestanding buildings began to be realized, and the space between began to be oppressed. As the modern movement progressed the buildings became more like objects in the landscape, and separated from their immediate context, and because of this isolation most outdoor space created by the modern movement became exclusive space in comparison to the inclusive spaces of the architecture movements before. With the adoption of modern architecture came the loss of a collective sense of meaning to public space. In the traditional city buildings were subordinate to the more powerful collective realm and a stronger order of things. However important, the early modern movement has proven inadequate as a principle for dealing with the modern city, and this inadequacy is proven by vast lost space that separate buildings in our modern “green” cities.

To the extent of Le Corbusier’s Plan Voisin of 1925, modernism was as much about clearing and sanitizing the city for the “welfare” of humanity as for the segregation of land uses into separate zoned districts, and the substitution of high-rise towers for ground level density. These new methods of zoning legislation separated city functions that had for centuries been integrated and embedd into a community pattern that in turn provided social structure. Dwelling was now separated from working as independent districts. These districts would take the form of “superblocks” that would drastically affect not only the scale of the city, but the patterns by which it would develop. The result has been cities composed of separated parts, connected by freeways, highways, and other traffic arteries. The product of both zoning and urban renewal the modern city substituted functional for spatial order and failed to
lost space

remnants of a lost industry now utilized as a sand lot

isolated towers

disconnection between car and retail, the parking lot

recognize the importance of spatial order to social function. The city as a composition of isolated objects provides pockets of space, in contrast to the overlapping space of the traditional city. Along the edges of these pockets are spaces that are neither familiar or foreign to their assigned place in the city, and it is such space that can be termed lost space.

Isolated objects within the city have become more than simply objects, but private icons, symbolizing an individual company, man or woman's status within society, and therefore feeding the network of egos that have transformed our cities of collective spaces into cities of private space; lost space. To make things worse these icons have become embedded into a bureaucratic process where responsibility is shifted to separate public and private organizations, at the expense of a unified total environment. As government has become more departmentalized and private interests more segregated from public, the feeling that there is a framework of common concern has been lost. The orderly interrelationships that we acknowledge as prominent attributes to our great cities, New York, Paris, Rome, are no longer a part of the modern metropolis.

The flight of density within urban areas to "nature" and the suburb has been strongly acknowledged for the past sixty years. As the suburbs drew industry and people to the periphery in the fifties and sixties, voids were left in what often was a strong and viable downtown. This relocation of industry, obsolete transportation facilities, abandoned military properties, and vacated commercial and residential buildings have created vast areas of wasted or underused space within the downtown core of many cities. The contribution that well conceived spatial changes might make to these spaces and the urban fabric of the entire city offers social advantages that go far beyond those of economic gain. This is especially true along highways, railroad lines, and waterfronts, where major gaps disrupt the overall continuity of the city form.
The most influential movement in creating lost space was functionalism, a program based on the ideals of pure form and the unbounded flowing space that connected these forms. Throughout the twentieth century functionalism was almost universally accepted by architecture and landscape architecture as a means for meeting the needs of modern urban space. In many ways Corb's "Green City has been realized in today's city. The ideals of free-flowing space and pure architecture have evolved into our present situation of individual objects isolated in useless plazas, unattractive parking lots, and flowing highways, rather than parks and spaces of leisure. The challenge is to reverse these relationships and redefine the kind of space that gives structure to urban environments, environments in which connective tissue, instead of individual buildings, knits together the city fabric.

Three major European movements jointly created the Functionalist program of design: the Bauhaus in Germany, De Stijl in Holland, and the French urban design movement led by the famous architect Le Corbusier.

Corbusier important principles in urban space
1. The linear and nodal buildings as large scale urban element
2. The vertical separation of movement systems - an outcome of Le Corbusier's fascination with highways and the city of the future
3. The opening up of urban space to allow for free flowing landscape, sun and light
Understanding the forces that create anti-space, or lost space, and the effects that these wounds have on the city is essential to contemporary urban-design practice. We must understand that lost space is a spatial typology that offers the opportunity to glue the disjointed objects of the metropolis back together into a single overlapping and collective space. We need to reclaim these spaces by transforming them into opportunities for development, and infilling and recycling the underused and deteriorating to provide opportunities to reshape an urban center, and attract density back to our urban cores to counteract sprawl and suburbanization. By identifying lost spaces in the city as opportunities for creative infill, local governments can allocate funding to stimulate private investment through “enterprise zones” and other community-development programs. Existing gaps in spatial continuity can then be filled with a framework of buildings and interconnected open-space, and the healing process of our cities will begin as we reveal the latent potentials and resources of our cities.

Contemporary architecture is searching for a strategy to correct the problems of spatial structure that have become embedded in the urban development of all major cities. We are searching for a new spirit of the modern age, and I believe it is by healing the failures of our past icons of modern architecture that contemporary architecture can best meet the needs of today’s society, while redeveloping cities that are memorable places to inhabit, and not simply networks of objects. Lost spaces are the unwanted, the orphaned, the bastard child’s of the metropolis, and yet these spaces are vital to the expression of the city as a collective form.
"Modern space is, in effect, anti-space; the traditional architecture of streets, squares and rooms created by differentiated figures of volumetric void is by definition obliterated by the presence of anti-space...[which] leads to the erosion and eventual loss of "space," and the results of this can be seen all around us."

*Harvard Architectural Press, Steve Peterson*

The car is perhaps the single greatest force to have ever shaped the social, political, economic, and physical environment of our cities. Car culture makes no distinction between freedom and mobility: to be mobile is to be free. For this reason it is no surprise that a country that prides itself on being the defender of freedom is also the most committed to the mobility of its population. One does not need to look farther than the seemingly infinite resources and infrastructure of our transportation system to reveal the dependence of our society on the mobility the car provides. There is incredible power to be found within this infrastructure; power to alter the ecology of our great metropolises. Unfortunately these potentials are overshadowed by the very oppressive forces that our highway network supports. The speed, scale, and materiality associated with highway form is overbearing in any context. Like a concrete bull in a china shop the highway violently forces its way into a community and imposes its will on its new context. Our continuing inability to deal with this imposition has caused the urban tissue around the highway to become scarred, wounded to the point where these moments of the urban field have become lost spaces; spaces within the city that are undesirable and make no positive contribution to their surrounding community. They are undefined, immeasurable, and causes of disconnection; and therefore they are the urban areas that are in the greatest need for redesign and redevelopment.

Understanding the forces that create these and other forms of lost space, as well as the effects that these wounds have on the city is essential to contemporary urban-design practice. The metropolis has never been about the object, it has always been about the void. By ignoring the space between the modern movement failed to sustain a relationship to the greater whole, and
by recovering these spaces and transforming them into opportunities for development we can exploit the complexity in which we live, the complexity of peripheral sites, of increased mobility and access, of the polymorphous conditions that constitute the modern metropolis. The term recovery is vital to this discussion, because it implies a sense of opportunity and hope for the reconciliation of contemporary urban issues. Recovery hints to a re-emergence of latent potentials that have yet to be revealed in archeological terms as well as revolutionary. This thesis is one of many possible studies in the selection and recovery of lost space throughout the city, yet the project restricts itself to those sites that exist as a result of the city’s greatest force, the car. The highway is the modern cathedral, the modern monument into which we pour our money, time, and energy, and for this reason alone it must be respected as the symbol of the age. This project is not about creating a new architecture, nor is it about the creation of utopian architecture, it is about developing a process of healing, a process of recovering the most difficult, derelict, and ignored sites that scar the ecologies of the modern metropolis. This thesis is about developing a contemporary relationship to the highway, and creating new nodes of concentration and focus in order to resist decentralization and undifferentiated sprawl.
Motor Fuels:
- Gasoline: 8.4 cents/gallon
- Gasohol: 13.0 cents/gallon
- Diesel fuel: 24.4 cents/gallon
- Liquified Petroleum: 13.6 cents/gallon

Tires:
- 0 - 40 pounds = No Tax
- 40 - 70 pounds = $0.15 per pound in excess of 40
- 70 - 90 pounds = $0.50 per pound in excess of 70
- 90+ pounds = $1.00 per pound in excess of 90

Truck and Trailer Sales:
- 12% of retailers sales price for trucks over 33,000 pounds gross vehicle weight and trailers over 26,000 pounds

Heavy Vehicle Use:
- Annual Tax: Trucks 55,000 - 75,000 pounds GVW, $100 plus $2.00 for each 1,000 pounds in excess of 55,000 pounds
- Trucks over 75,000 pounds GVW, $500

$89,800,000,000

- debt services: 7.8%
- grants in aid: 12.2%
- law enforcement & safety: 6.3%
- administration planning & research: 6.2%
- traffic service: 4.3%
- new road & bridge construction: 10.5%
- capital improvements on existing highways: 42.6%
- physical maintenance: 10.1%
- median: $1,600/mile
Highway Income
where the money to fund highway projects comes from

The bulk of the over thirty-five million dollars that is collected and allocated for the funding of roadway infrastructure comes from fuel taxes collected at the pump. American truly speak with their wallets, when they make the fiscal decision to increase their dependence on the automobile. From 1995 to 1997 the fuel taxes collected increased by over 10 billion dollars, between 1990 and 2000 that same statistic increased from a 15 billion dollar collection total to a 35 billion dollar collection total in 1998. These radical shifts represent more than simply a increase in population, and transportation usage, but rather a huge transition of social behavior. The modern metropolis is a constellation of points glued together by our highway network, and we must deal with this new animal now as opposed to later.

$34,972,000,000

Highway Spending
where teh money to fund highway projects goes

Though the federal government only collected thirty-five billion dollars from fuel tax revenues in 2000, that same year the government allocated close to ninety billion dollars for the construction and maintenance of the national road network. Of that 90 billion dollars Harris County was provided with six-hundred and thirty-two million, close to 20 percent of the Texas State budget. These figures are not simply mind boggling; they testify that modern society monuments are built mile by mile. Monuments of past societies would include the pyramids, the coliseum, the Vatican; our society today has focused its worship, not on a god, but on the mobility upon which we have become inseparable and dependent. For this reason, the modern highway must be treated as more than simply a path between 'A' and 'B'.

$632,079,100
14.38% of the state of texas combined budget

city of houston

$548,950,300
16.05% of the state of texas construction budget

$34,448,300
7.32% of the state of texas maintenance budget

$48,680,500
9.47% of the texas contracted dlp maintenance

the average cost to build a lane mile in the state of texas is
$1 million
### People per car ratio

<table>
<thead>
<tr>
<th>Country</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1.3:1</td>
</tr>
<tr>
<td>Australia</td>
<td>1.7:1</td>
</tr>
<tr>
<td>Canada</td>
<td>1.8:1</td>
</tr>
<tr>
<td>Japan</td>
<td>1.8:1</td>
</tr>
<tr>
<td>Germany</td>
<td>1.9:1</td>
</tr>
<tr>
<td>France</td>
<td>1.9:1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2.4:1</td>
</tr>
<tr>
<td>Russia</td>
<td>6.5:1</td>
</tr>
<tr>
<td>Argentina</td>
<td>6.5:1</td>
</tr>
<tr>
<td>Mexico</td>
<td>7:1</td>
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<tr>
<td>Brazil</td>
<td>12.7:1</td>
</tr>
<tr>
<td>China</td>
<td>125:1</td>
</tr>
</tbody>
</table>

*Represented below is the total tonnage of CO2 produced by SUVs and other vehicles over a 724,000 mile lifetime (www.sierraclub.org)*

### Top 10 Global Warming Polluters

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>CO2 Emissions (mMTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>1,494.60</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>740.38</td>
</tr>
<tr>
<td>3</td>
<td>Russia</td>
<td>405.04</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>288.48</td>
</tr>
<tr>
<td></td>
<td><strong>U.S. Autos</strong></td>
<td><strong>260.00</strong></td>
</tr>
<tr>
<td>5</td>
<td>India</td>
<td>252.55</td>
</tr>
<tr>
<td>6</td>
<td>Germany</td>
<td>227.51</td>
</tr>
<tr>
<td>7</td>
<td>United Kingdom</td>
<td>147.37</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>138.46</td>
</tr>
<tr>
<td>9</td>
<td>Italy</td>
<td>119.98</td>
</tr>
<tr>
<td>10</td>
<td>South Korea</td>
<td>107.51</td>
</tr>
</tbody>
</table>

Million metric tons of carbon dioxide emissions from the consumption & flaring of fossil fuels

The burning of 1 gallon of gasoline emits 28 pounds of CO2 into the atmosphere.
Circulatory wounds

CO₂ Emissions

America generates twenty-three percent of the world’s global warming pollution and therefore is the top global warming polluter with only four percent of the world’s population. We have all heard these numbers before, but what I find to be even more unfortunate is that our dependence on the automobile for mobility has produced a habit that is capable of being the fifth highest polluter, if ranked amongst international countries. Car usage is a part of the American way of life, more importantly it has become imbedded in the American Dream, and this dream will continue to have repercussions that we must deal with today and not tomorrow. This final point is made to introduce an argument that can be made out of fiscal and physical realms. The highway is a social space that must be addressed with social concerns and leadership.

The U.S. is the world’s

#1 global warming polluter

23% of the world’s global warming pollution with only

4% of the world’s population

Every day America consumes 18 million barrels of oil. We import nearly half of this oil (the same amount guzzled by cars and light trucks) from politically volatile regions. Our oil imports add $50 billion to the U.S. trade deficit annually. Due to the increasing number of gas-guzzling vehicles, America is more dependent on foreign oil now than we were at the height of the 1973 energy crisis.
The freeway slices through the modern metropolis following the path of least resistance, leaving in its wake bloodied remnants of a weakened tissue formerly referred to as the city. These remnants stand testament to the highways continuing inability to achieve a non-oppressive balance with its immediate context. More often than not that local context is found to be bi-polar in form, function, speed, and any number of terms we typically use to discuss the mediation of two opposing issues. Our inability to deal with this threshold has left us with space of inadequacy, lost space that for one reason or another has been left behind. The term circulatory wound is used to describe this space where the highway has severed or oppressed its local context.

The linear nature of the freeway is no doubt its double edged sword. The exhausting speed with which we move on our highways demands nothing less than straight lines, and long smooth curves as we make our way from point 'A' to point 'B' completely oblivious to the infinite points between. The highway demands an understanding of the severity of its speed, and subtlety of its flow. Both of which are uncharacteristic of its counterpart the pedestrian. The two simply do not mix, nor do they attempt to. The freeway is forced to float above or sink below the pedestrian plane to prevent either from encroaching upon the others efficient movement. This layering results in a wailing of the city fabric, where you are either from the north side of the "tracks" or the south. Such lines are drawn in the form of school districts, zoning, and city limits, but of these no doubt the highway is the most physical, and perhaps most dominant wall of the metropolis. Cutting relentlessly through communities the highway severs everything in its path leaving two sides to every street.

Highway structures bring to mind the masculinity of mid-century brutalism. Their harsh, almost inhumane, utilitarian aesthetic engulfs the surrounding context with a shadow of oppression that conjures up images of communistic Russia. The unremitting flow of concrete above the ground, supported by massive concrete columns, spanned by massive concrete beams, makes these forms intangible, relating only to the violence of the speed on top. As cars whisk by they remain oblivious to the travesty that takes place in the static conditions immediately adjacent. These adjacencies are not only forced to bear the burden of the highways materialistic and monumental qualities, but perhaps more oppressing is the noise pollution caused by thousands of cars driving at speeds of over eighty miles per hour. These sounds are as much a part of the freeway form, as the concrete that makes them possible. The combination of these qualities (scale, material, speed, and sound) makes the highway an unwelcome visitor in areas of the human scale.
edgeless city

Houston, Texas is one of the few cities in the world to exploit the "feeder" road as a means of building its highway network (over 80% of Houston highways have feeder roads). The feeder road runs parallel along the highway providing congestion relief during moments of traffic gridlock, as well as easy on/off access from several points throughout the city. However, the feeder has created a new city form that must be addressed as the next contemporary form of the metropolis, the "edgeless" city. In the traditional city we had the central business district, which gave way to the new form of the twentieth century, the "edge" city, where miniature downtowns popped up along the fringes in more suburban contexts. The feeder road has allowed for the new "edgeless" city to form, because it allows the city to expand in a linear manner along the major arteries throughout the city. The accessibility of these spaces, the speed by which we can travel from 'a' to 'b', and the low property values of these edge conditions has created a continuous city form that will continue to suck the density out of our cities, and further complicate city life. How we develop these edge conditions will ultimately be how we develop the city.
Next time you travel through the city take note of the development at what I have defined as a knot, at the intersection of one main highway and another. There are certain large scale programs that attach themselves to these pockets of space, the mall being a primary example. I use the term pocket deliberately to describe the phenomena of lost space that occurs where a parcel of land becomes less desirable because of the difficulty to be accessed quickly from the freeway. There is no argument that the intersection of one highway from another is a vital location capable of developing a large consumer base, but because of the difficulty to access spaces almost underneath a knot smaller scale programs find it difficult to survive in the shadow. Larger scale programs, such as malls, sport venues, convention centers, and hotels thrive in the shadows of the highway, and have the revenues, scale, and pull to make accessing their programs convenient. These programs however typically involve high volumes of parking and do little to create a communal environment for the local context, even when immediately adjacent to a high density business district.
Many times the default response to highway adjacency is green space, the intention being that a vegetative buffer is enough to separate the highway from its context. The image here shows the interchange of I-10 and I-45 where a flood drainage basin runs parallel along interstate-10 until emptying into Buffalo Bayou in downtown. There are three distinct communities in this aerial photo, the heights to the north of I-10, fifth ward to the east of I-45, and 3rd ward to the south of I-10. The tissue that separates the three is a combination of highway, flood plain, and park space. This is intriguing because of the layering that occurs at this juncture in the city, yet the latent potential of the site as a mediator between communities has yet to be realized. Park space must be more than simply grass and a bike path, it must be an experience. Another observation in this aerial should be made. The bridge crossings that connect one side of the highway to another push and pull on the flood basin as if the two are directly linked to one another. Though these links may have more to do with fiscal responsiveness there is the beginning of some form of interaction between the highway and its immediate context.
big ticket urbanism

One of our initial temptations when developing freeway adjacencies is to try and compete physically with the form, materiality, and speed of the highway, and in Houston this temptation is intensified by our belief in the bigger is better way of life. Here it is often easier to finance and complete two-hundred million dollar projects than the several two to three million dollar projects that are proposed every year. On the eastern fringe of downtown we have seen this belief at work, as “Big Ticket Urbanism” has tried to pull development dollars back toward the Highway 59 perimeter. It is no surprise that Minute Maid Park, The Toyota Center, George R. Brown Convention Center, and new Hilton Hotel are built along the parcels of property immediately adjacent to the highway. These spaces are empty and undesirable. Yet, these programs fail to create any form of interaction between the highway and the inner city, between the driver and the pedestrian. Rather they turn their back to the highway as if to shield it from view, they “fence” it in like we fence in our suburban track homes. At one moment the convention center seems to attempt to integrate itself with the form of the highway as the service space is accessed by a raised strand of circulation, but that strand never connects itself to the highway. There is a latent potential within the interaction of these programs and the highway, but what exists now is an abrasive edge defined by one turning its back to the other.
Transport networks are a vital part of any city's ecology, but in Houston export/import freighting is imbedded in the history, form, and psyche perhaps more than any other city in the North America. Houston is the main port of the oil economy, as well as the primary port for the import/export of goods essential to the international economy. Because of this fact most of eastern Houston is a complex network of air, rail, and land transport systems. The connection between these systems is vital to their success, and in many cases they fail to collide efficiently, thereby preventing direct interaction from one mode to another. This failure is evident in aerials such as these where a rail line is pulled away from the freeway without any system of providing a switch between rail and land transport. The overlapping of one oppressive network over another (rail and land) creates pockets of space at their adjacencies that should be used to create an efficient means of transaction, while removing such programs from areas adjacent to neighborhoods similar to the one found to the east of the train yard.
circulatory wounds

Parasites, as I have defined before, are wounds in and of themselves because of their failure to mediate between the highway and the local context. Much like the transition between modes of transport, these spaces are switches between one type of commuting and another. In many cases these transit stations are placed inside a community connected to the freeway by an umbilical cord flying over the desired edgeless city that runs parallel to the highway. Of all the wounds that I have mentioned, the parasite has perhaps the most potential to mediate programmatically between the highway and its context, yet continues to limit itself to chain-link fence and asphalt parking. These spaces make no attempt to create an amenity to the city, they only provide a service to a limited population of the city.
knots

Knots occur at the intersection of multiple major arteries of circulation where the flow of traffic can and should not be interrupted, and must remain flowing at high level speeds. These restraints result in large scale spaghetti bowls with intriguing sectional characteristics that allow for the overlapping of traffic patterns. At the ground plane of these knots a vast wasteland exists that is inhabited simply by grass, and the less fortunate who find comfort in the highways oppressive nature that resists any form of interaction with those of us who would never dare remove ourselves from the safety of our car or parking lot to experience the lost space entrapped under such an extreme bi-product of noise, materiality, and speed with which we associate the highway.

Houston is one of only two cities to have a completed second loop (San Antonio, Texas being the other). This second loop when combined with the wrapping of downtown by Interstate 10, 59, and Highway 45 gives Houston 22 major knots that make Houston one of the most traffic efficient cities in the United States. These forms are the source of the only form of topography in the city, and offer an amazing experience as one travels across their slowly curving lines with inspiring views of the sprawling Metropolis of Houston.
trenches

Trenches typically occur where a major highway cuts through an existing residential neighborhood near the central business district where property values tend to be high and those who reside in these areas have a great deal of political clout. The goal of this form is to suppress the noise pollution created by traffic congestion, and prevent major interruptions between communal life that are associated with the highway form that I refer to as the "wall" later on in this description.

Particularly in Houston, trenches have become common place throughout the city as a way of dealing with the more urban spaces with which the highway interacts. Yet in Houston these spaces serve a double purpose. In addition to buffering between the freeway and the local context the trench form of highway construction acts as a backup drainage network. When the existing drainage network is overrun by heavy rains these trenches become basins of water preventing damage to local structures. Though these spaces seem less intrusive in their environment, they still provide a separation of one side of the other that is restrictive and monumental.
The cheapest way of overcoming the disruption of major traffic arteries, such as the intersection of a freeway and a downtown grid, is simply to raise the high speed traffic of the highway up above the intersecting lanes below. Unfortunately, this creates spaces that are undesirable for inhabitation, and are typically lost spaces turned into parking lots and no man’s land that create fractured pedestrian separation between one side and the other. Near downtown these spaces create a barrier which encircles the central business district, thereby separating inside from out. Of the forms that we will discuss the wall is the most disruptive in the urban landscape, because it is often found immediately adjacent to its local context with making any attempt to interact with that context, and retains the scale and materiality of the freeway.

In the past 10 years, Houston has begun replacing the existing wall conditions around the city with trenches. The remaining walls provide acres of lost space that should be treated researched for the latent potential which is to be discovered. These spaces offer structure, canopy, and vital property values that should be taken advantage of in order to stitch the urban fabric back together.
humps

When the intersection of major avenues and freeways are less extreme the highway will raise briefly in order to prevent disruption of traffic. These moments provide intersections around which programs such as convenience stores and gas stations typically attach themselves. The freeway jumps over the intersecting avenue producing a hump in the form of the highway, and should be recognized as a form through which the highway interacts with its immediate context. This is the most common form throughout the freeways linear progression, and is the most efficient form of interaction. This efficiency makes the hump a difficult subject for redesign, but its quantity throughout the city and the rural landscape increases its importance.

Humps are common throughout the world, and are not distinct to Houston. However, in the flatness of the Houston landscape, humps provide an undulation to the experience of driving that makes it an experience separate from the flatness of the rest of the city. The driver gradually rises above the canopy of structures and trees to experience the city above briefly before descending back down.
Parasites are those moments where programs attach themselves to the highway in order to meet the needs of their own agenda. These programs are most commonly transit stations, and commuter lots where mass transit provides access to the downtown areas of the city. Here the highway expands itself to provide an anchor within the existing community. These anchors create a disruption within the community, and yet still provide a vital service to the highway by treating the congestion that is created by those who refuse to use mass transit. Parasites are interesting because they are the one moment where the highway form is not determined by the geometry of speed, and therefore are capable of creating their own form of attachment, flow, and access. These sites have the potential to become communities within themselves, while providing a mediation between the highway and the immediate context.

The location of these parasites throughout Houston is predictable. They are typically located near knots, in order to provide the greatest efficiency of access through the city. One of the programs of marketing for this mode of transportation is the “kiss and ride”. A marketing ploy to have married couples share responsibility in the daily commute by dropping off the other at the local mass transit depot, and then picking them up after work. As the congestion of Houston highways becomes more of a problem these sites will become of more and more importance.
A power line easement intersects the highway. This overlap of utility and circulation results in a pocket of government-owned property that offers potential for development. This particular intersection is infilled by a commuter lot and bus transit stop.
Near the central business district of downtown Houston this park is found immediately adjacent of a speeding highway. Tranquility adjacent to caos.
Overlapping networks often result in a public intervention that not only connects those networks, but creates a vital component of communal life.
The separation or convergence of the highway resulting in an opportunity for physical intervention
The underside of the highway is a treacherous zone, inhabited by cars and the less fortunate; this space is so oppressive it separates one side of the freeway from the other with extreme efficiency.
Structural rhythm and overlapping programs converge at the utilitarian underbelly of the highway.
The moment of entry and exit, the wall that separates east from west, good from bad, rich from poor, and in many cases black from white.
050
Where some walls are at least open to cross traffic, others remain impervious
site

051
Tendons of structure
representing the flow of traffic
converge on cross traffic flows
site

052
Confining walls of the city.
Limiting growth by creating perimeter.
site

053
Highway 288 in Houston, the expansive median separating one flow of traffic from the other provides an opportunity for civil infill where an expansive trench currently exists.
Highway adjacency results in deteriorated properties, oppressed by the noise and scale of the freeway.
055
The convergence of three utility
functions at a moment of
highway abrasion
056
The process of entering and leaving the freeway results in a moment where the abrasive qualities of the freeway are at their greatest.
site

057
The removal of a wall for a trench
A bus services the parasitic commuter lot to the freeway and the city.
V-14 Viaduct and Operations Center
Nanterre, France
Decq & Benoit Corneille: 1993-1996

Decq and Corneille’s poetic conception of a section of the motorway into Paris along the Grand Ave comprises the main route out of the heart of Paris along the Champs Elysees and through La Defense, marked by the Arc de Triomphe and Grand Arche building located in a park underneath the viaduct. The viaduct forms a connection between an underground tunnel passing over La Defense and a heavy concrete motorway bridge over the Seine and out of Paris through the suburb of Nanterre. The architects extended the scheme to embrace the redesign of the viaduct itself as a light metal structure supported on arc-shaped legs above the park.

By detaching the building from the ground Decq and Corneille aimed to avoid creating a barrier across the park at the site of the viaduct, and to preserve its physical and visual continuity: an open green space free from traffic, in which the motorway operations center becomes a positive element integrated with the design and landscape vocabulary of the park.

The primary goal of the project, in addition to the practical goal of improving traffic conditions, was to develop a previously unused area with a park and an access ramp which would be as non-invasive as possible. Despite this, Decq and Corneille managed to give the viaduct a strong identity of its own, emphasising and reinforcing the contradiction between the

The work is highly visible, meaning that appearance had to be taken into account on all sides, for the viaduct could be viewed from a multitude of different points of view: from below, in the park, from above, as seen from the railway at a higher level, or from the side, from the access road. The motorway was divided into two separate carriageways for the two directions of travel, supported by W-shaped pillars composed of a central arch and two lateral connecting rods permitting a minimal profile with large spans.

The distance between the two carriageways and their slope made it necessary to come up with different angles between the lateral connecting rods and the different arches, which are made of trusses welded on-site in the form of a trapezoidal box, 1 m high at its fullest part and thinning down to 60 cm at the ends.

The lateral connecting rods, on the other hand, are round tubes 61 cm in diameter filled with concrete at the base for increased shock resistance. These technical solutions allowed the architects to construct an extremely light, transparent supporting structure so that the cement line of the motorway as seen from the park looks like a sinuous, thin line fitting discretely into the natural landscape.

Underneath the viaduct is the Motorway Management Centre, raised above ground with aerodynamic lines. Decq and Corneille broke down its various different functions into two parts: technical services, a depot and a parking lot are located underground, while the offices, entrance hall and control room are annexed to the bridge, suspended between two structural bays. A small police station is located at ground level separate from the other structures.

The offices, housed in the suspended volume of the building, are well-lit thanks to the design of the cement profile of the carriageways, which are thinned at the edges to increase the angle from which light can flow underneath the structure. Thus the control centre appears as if suspended, and the light weight of the steel and glass structure, the horizontal orientation of the sunshades and the emptying out of its lower part emphasise its sense of dynamism and its symbolic charge of speed.

"We always said that there was the idea of speed and movement, of a balance that is dynamic and above all never based on geometry. So we talk about shifting, about movement, motion, comparing all this with the society we live in, the way we develop, with the fact that we are moving faster and faster, that we move without stopping, that we never sit still, that we have to adopt continually or be very flexible."
Insertions in the M-30 and M-40
Madrid, Spain
Artificial Sea: 1997-1998

"The scheme is inserted by being parasitical on the transport networks and by infiltrating into space of maximum accessibility and temporal proximity to nodal infrastructure interchanges. Access time from any point of the city is thus reduced, minimizing the burden of the notion of place and physical distance as fundamental to architecture by adopting a strategic positioning and seeking patches of low-cost land. Conceived as a continuation of these networks, the units are concentrated at points of the former's greatest quality and intensity, one unit being shored up against another so as to form centers of increasing activity. Conceived as physical locations, infrastructures, they enable programs and activities to be accommodated with the greatest possible freedom to develop open-air public spaces and programs, without guidance or management, associated with new forms of inhabiting the city.

The scheme is posited as a specialized segment of the road system: it forms part of the infrastructure system of the city, and as a result appropriates the formal laws and layouts present in its constituent elements. Deriving from this simple idea as its configuration, its raised position vis-à-vis the ground, its way of being inserted into the existing road network and its geometry; a geometry of deceleration. Each unit, a swirl of surfaces twisting like a motorway cloverleaf, generates a vortex of uses and programs."

"Planning the Periphery"
Sara Nadal & Charles Puig
HS[aRT] Network
UCLA school of architecture; los angeles, california
joe baldwin : UCLA school of architecture.1998

"Taking the Metropolitan Transit Authority's mandate for integrating public art and radically expanding it, HS[aRT] Network inserts cultural institutions such as museums and galleries into transit stations. Comprising three scales of transportation - high-speed monorail, Metrolink, and Metro Rail - this system democratizes access to art and culture and stimulates the use of public transportation in the greater Los Angeles agglomeration. At the heart of this project is a new convention center for downtown Los Angeles. Compensating for the limitations in the site and scope of Union Station and the city's current conventions center, a new convention center would create a cultural, financial, and transportation hub.

The thesis of this proposal stems from two observations about Los Angeles. The first is that cultural facilities such as museums and galleries are largely inaccessible to certain economic classes in the city, particularly those who rely on public transportation. The second observation is that Los Angeles has increasingly become a decentralized city, which also makes cultural engagement an unlikely and inconvenient prospect to those who live within the city's sprawling edges.

Straddling the Los Angeles River, the convention center also connects the downtown core with the residential and industrial neighborhoods of East L.A. The transportation stations and parks transform the new convention center into a hub for a confluence of people, transportation, and cultural forces in downtown Los Angeles.

Both as an attraction itself and as a key access point to local infrastructure, HS[aRT] Network orchestrates downtown as a central node of culture, commerce, and transportation in Los Angeles. The art network is especially effective in this respect - by exhibiting art with transit stations, the public enjoys greater exposure to the arts and is inspired to expand upon its engagement with both mass transit and the city's cultural institutions."

"L.A. Now: Volume II"
In the past 10 years our field has seen a resurgence of topics relating to landscape as a means of resolving contemporary issues throughout the city. This resurgence has developed from the many failures of modern architecture, and the inadequacy of traditional modes of urbanism as methods of creating quality urban conditions in the metropolis. Landscape Urbanism offers a process of integration, where traditional values and not traditional forms can be restored to the urban core. These values have more to do with ecologies, infrastructures, and overlapping networks, than the familiar urban typologies of square, park, and district. All good urban design depends on the integration of architecture and landscape, and landscape urbanism offers the ability to engage the issues of the contemporary built environment with this integration.

The changing nature of our cities demands a revision of the way that we perceive and practice urbanism. City's are no longer cores surrounded by suburbs, but are intense networks of sprawl with multiple centers served by overlapping grids of transportation, production, and consumption. The metropolis is a denser and more complicated project than the urban/sub-urban discussion of the past fifty years, and this complexity can not be resolved through methods of grafting romantic fantasies of Rome and Paris onto the city. It requires an exploitation of the complexity in which we live, of the peripheral sites, of increased mobility and access, of the polymorphous conditions that constitute the modern metropolis. In many ways landscape urbanism attempts to create an appreciation of how the experience of the modern city is radically different than those of its historical counterpart. Contemporary urbanism must overcome the romance of Manhattan and Cerda's Barcelona with the nostalgia of integration and connectivity.

The term recovery is vital to the discussion of landscape urbanism, because it implies a sense of opportunity and hope for the reconciliation of contemporary urban issues. Recovery hints to a re-emergence of latent potentials that have yet to be revealed in archeological terms as well as revolutionary. Traditional landscape architecture and design has simply filled the voids left by urban design with soft space, green space, that was more about beautification than anything else. However mundane, this infill was attempting to recover sites and places in order to stitch back together lost or impoverished ecologies. Lost spaces, such as those around buildings and other types of construction, are necessary components of any city, and should be regarded as far more than the functional status of generic green spaces will allow. Rather, landscape urbanism offers a method of establishing cultural enrichment through the recovery of contextual memory, new programs of social activity and utility, as well as the establishment of diverse overlapping ecologies, and thereby actively renewing the significance of landscape as an experiential field and not experiential place. The specific qualities of sites and their situations provide both the rationale and the raw material for making new projects. These projects are critical to creating new nodes of concentration and focus in order to resist decentralization and undifferentiated sprawl.

Landscape architecture is traditionally positioned at thresholds, where design is used to mediate between site and program, and at a larger scale, town and country. Thus landscape approaches differ from those of architecture in
"Architecture cannot concern itself only with that one set of structures that happen to stand upright and be called "buildings" in the conventional sense. It must concern itself with all man-made elements that form our environments: with roads and highways, with signs and posters, with outdoor spaces as created by structures, and with cityscape, and landscape."

Victor Gruen, 1955

"Landscape no longer refers to prospects of pastoral innocence but rather invokes the functioning matrix of connective tissues that organized not only objects and space but also the dynamic processes and events that move through them."
urban method

069 yokohama international ferry terminal
foreign office architects

070 the garden at Versailles
paris, france

071 proposal for flushing meadows-
corona park in new york
weiss/mandredi architects

that they seek to reclaim rather than conquer. They seek to transform sites and regions into amenities within the city and not scars and barriers. The entire profession of landscape design revolves around the exterior spaces adjacent to buildings, as well as peripheral zones such as roadsides, uncultivated areas, and other no-man’s zones, and therefore it is often argued that landscape architects are better trained to deal with the contemporary issues of the city. Their understanding of the processes of insertion, transition, and transplantation allow landscape designers to focus more on the relationships among objects than on the objects themselves. These views are less about program, than exploring the possibilities and hidden phenomena that neglected borders and edges or site and building provide. Landscape architecture is about healing and its integration with urbanism, and architecture is a step of hope. Hope that together in the form of landscape urbanism they will create a mode by which they can become interdependent of one another and produce landscapes that critically engage the complexity of the metropolis.

In the urban design of landscape, landscape form is no longer discussed in terms of the picturesque, as in Versailles, but in terms of operative fields. These fields are urban surfaces that are not limited to the space between buildings or parking lots, but are recognized by a greater understanding of the ground plane of the city, where buildings, roads, open spaces, neighborhoods, parks, infrastructure, and natural phenomena coexist in the development of an intense fabric of activities. Landscape urbanism attempts to understand and reveal the potential of this field by organizing objects and spaces as well as the networks and events that move through them. This manipulation of the urban surface ideally provides a complex connective tissue on which the needs of a formless, dynamic, and complex metropolis can be met by creating an active surface that can not only meet the needs of different functions, but different geometries, arrangements, and appearances as well. Landscape urbanism has renewed our interest in the enabling function of architecture, and represents a shift away from an emphasis of representation and stylization of enclosed objects toward the manipulation of the larger urban surface.

Society today demands connectivity, complexity, and uniformity, and yet we still design and build through a dialogue of subject and icon. Landscape urbanism offers an alternative where methods of seaming, grafting, and reclaiming reveal the latent potentials of integrated daily life and physical form through the phenomena of place and site. Urban planning and design can not continue to deploy itself through monuments and master plans; urbanism must become more about the understanding of the urban surface and its relationship to the contemporary lifestyles on which it is dependent. Landscape urbanism attempts to reconcile the urban field, and is a promising mode by which we can deal with the most difficult, derelict, and ignored sites that scar the ecologies of the modern metropolis.
Budding
the insertion of foreign tissue to stimulate growth at controlled locations

Grafting and budding are horticultural techniques used to join parts from two or more plants so that they appear to grow as a single plant. In grafting, the upper part (scion) of one plant grows on the root system (rootstock) of another plant. In the budding process, a bud is taken from one plant and grown on another. Although budding is considered a modern art and science, grafting is not new. The practice of grafting can be traced back 4,000 years to ancient China and Mesopotamia. As early as 2,000 years ago, people recognized the incompatibility problems that may occur when grafting olives and other fruiting trees. Since grafting and budding are asexual or vegetative methods of propagation, the new plant that grows from the scion or bud will be exactly like the plant it came from. These methods of plant reproduction are usually chosen because cuttings from the desired plant root poorly (or not at all).
Also, these methods give the plant a certain characteristic of the rootstock - for example, hardiness, drought tolerance, or disease resistance. Since both methods require extensive knowledge of nursery crop species and their compatibility, grafting and budding are two techniques that are usually practiced only by more experienced nursery operators. Most woody nursery plants can be grafted or budded, but both processes are labor intensive and require a great deal of skill. For these reasons they can be expensive and come with no guarantee of success. The nurseryman must therefore see in them a marked advantage over more convenient propagation techniques to justify the time and cost. Clones or varieties within a species can usually be grafted or budded interchangeably. For example, Pink Sachet dogwood can be budded or grafted onto White Flowering dogwood rootstock and vice versa. Bradford pear can be grafted or budded onto Callery pear rootstock and vice versa. However, Pink Sachet dogwood cannot be grafted or budded onto Callery pear. Grafting and budding can be performed only at very specific times when weather conditions and the physiological stage of plant growth are both optimum. The timing depends on the species and the technique used. For example, conditions are usually satisfactory in June for budding peaches, but August and early September are the best months to bud dogwoods. Conversely, flowering pears can be grafted while they are dormant (in December and January) or budded during July and August.
urban method

072 budding diagram

073 networked urbanism: Houston

Budding: Budding is a form of grafting in which a single bud is used as the scion rather than a section of stem.
phase one: recognition

The first step to healing a wound is to recognize that one has occurred, and that its existence is a burden on the community in which it exists. Wounds are visible by the voids they leave, and the immediate context. These voids are not only vacant lots, but vacant structures, poorly maintained structures, and programs that are oppressive in and of themselves, such as parking garages. The recognition of these sites and the oppressive forces that create them is vital to the diagnosis and treatment of the wound.

phase two: insertion

There is a difference between a wound, and the trauma caused by the wound. Trauma is the result of a wound, and therefore must be treated with the same seriousness as the wound itself. The ambition for these lost spaces is to insert a program and architecture that will heal the circulatory wound, and thereby eliminate any trauma caused by that wound. The selection of program is a vital component to the success of the design treatment, and should consider forces of the legibility, community, and metabolism network.
Reasons for Grafting and Budding

Change varieties or cultivars. An older established orchard of fruiting trees may become obsolete as newer varieties or cultivars are developed.

Optimize cross-pollination and pollination. Certain fruit trees are not self-pollinating; they require pollination by a second fruit tree, usually of another variety. This process is known as cross-pollination.

Benefit from interstocks. An interstock can be particularly valuable when the scion and rootstock are incompatible.

Perpetuate clones. Clones of numerous species of conifers cannot be economically reproduced from vegetative cuttings because the percentage of cuttings that root successfully is low. Many can be grafted, however, onto seedling rootstocks.

Produce certain plant forms. Numerous horticultural plants owe their beauty to the fact that they are grafted or budded onto a standard, especially those that have a weeping or cascading form.

Repair damaged plants. Large trees or specimen plants can be damaged easily at or slightly above the soil line. The damage can often be repaired by planting several seedlings of the same species around the injured tree and grafting them above the injury.

Increase the growth rate of seedlings. The seedling progeny of many fruit and nut breeding programs, if left to develop naturally, may require 8 to 12 years to become fruitful. However, if these progeny are grafted onto established plants, the time required for them to flower and fruit is reduced dramatically.

Index viruses. Many plants carry viruses, although the symptoms may not always be obvious or even visible. The presence or absence of the virus in the suspect plant can be confirmed by grafting scions from the plant onto another plant that is highly susceptible and will display prominent symptoms.

Phase three: community acceptance

Once the correct program is chosen and implemented the community will enable the new development as a center of social activity. The fringe of the new urban release will become implanted with private development seeking to meet the wishes and needs of a revitalized community. Much like scar tissue remains along the lines of a healed wound these edges will continue to connect the new and the old. This tissue that surrounds the project is vital to the overall health of the healed wound.

Phase four: community dependence

The final step to the building process is the complete revitalization of an oppressed community. Once the community has accepted the new urban scheme and programs, that community's identity becomes inseparable from it, almost dependent on it. The new bond creates a healthy community around a once hot space, hopefully drawing people back to the urban environment from the outer fringe.
rediscovering
+
political leveraging
+
communal deliverance
+
scale/materiality/form
=
operative countermeasure

This thesis is about developing a process of healing for sites, such as the ones here, that have been oppressed by, even created by, the forces of the highway. Similar to the way the highway has assigned a set of typologies to mediate between itself and its context, I am attempting to create a series of typologies that accomplish the inverse; typologies that accomplish a mediation between themselves and the highway. Though each response is unique to its immediate context there are a set of values and issues that must be maintained and discussed throughout the process of creating these typologies. Through the creation of such variables we can derive at a formula for developing the concepts upon which an urban scheme for these sites may be developed. This formula is not about creating architecture, it is about developing a new attitude about these sites as they exist throughout the city. It is about rediscovering these sites as areas of potential for not only dealing with the contemporary issues of the metropolis, but for the re-insertion of architecture as a social force above the creation of objects.
rediscovering lost fabric

It is important to recognize the difference between what I am describing as a wound, and the trauma which that wound creates in the immediate context of the site. The wound is the physical implement upon which trauma develops. It is the trauma that we are trying to heal in order to recover the lost fabric that exists at the threshold between highway and context. This process of healing must begin with the treatment of the oppressive forces creating the failed relationship between highway and context by strengthening the urban fabric immediately surrounding the wound.

political leveraging

Political responsibility ends at the edge of the freeway, with very little consideration for the effects that the highway will have on the community immediately adjacent. When this relationship is considered, the bureaucratic response is always the same...build a feeder road and expand the edgeless city of strip centers and parking lots into the urban core. Our government has a civic responsibility to ask more out of these spaces and the relationship found at the threshold of highway and context. There is political power in the form of land ownership, funding, and social good that can be leveraged to create unique spaces that become civic amenities to the existing community and the city at large.

communal deliverance

It is the ability of the formula to respond to the unique conditions of every site throughout the city that makes it successful as a way of dealing with the issues of the contemporary city. The city is no longer a continuous field of building and void; it is a constellation of points connected by circulation paths. Considering these sites as a typology of points we can exploit their unique characteristics as a means of ‘budding’ the city. There must be a symbiotic relationship between community and the assigned treatment for the two to merge and become one. This relationship depends as much on dealing with the oppressive issues of the community as it does on dealing with the forces of the highway.

scale/materiality/form

Ultimately the resolution of contextual issues must become physical form, and this form must be give as much, if not more, consideration as a variable within the process of healing. The physical product of this formula should take a stance on whether it wants to be camouflaged within the community, or become iconic within the community. Each of which can be resolved on a level of mediation between the highway as a massive concrete snake of high speed geometries, and the individual characteristics of each community.
trench edge abrasion:
Sites along the edge of trenches are often difficult to assess, and are shut off from the built environment and the freeway. These sites also suffer from a contradictory stance on their adjacency to the freeway. This adjacency is beneficial to commercial programs, and disruptive to residential programs.

grid fracture:
When highways are laid over a grid that was established decades and in many cases centuries before the advent of the automobile, the highways sweeping curves and linear speeds creates sites of a shape and scale difficult to develop. These remnants are triangular in shape where the highway fails to integrate itself with the established grid, thereby disrupting the flow of its immediate context.

building disorientation:
After the highway was established and the local grid disrupted, new construction found itself deciding between whether to interact with the power of the freeway or to remain controlled and determined by the grid. The result being disoriented buildings that seem to follow their own guidelines and thereby disrupt the pattern of local development.

metro purchased property:
With the insertion of the metro line, Metro was forced to purchase parcels of land where the light rail presented a revaluation of property, and where the light rail may present a hazard to the immediate context. One such place is at the transit stop near 1-39, where the rail line switches itself from main to Fannin and San Jacinto. This crossing of the grid creates a dangerous zone that is now chain-linked and undeveloped.
One need only drive along the edge of our urban freeways to experience the oppressive forces imposed on a highway adjacency. These forces are overwhelming as dangerous impositions on spaces that are left unable to tend for themselves. These sites when not exploited for commercial value are left uninhabited, poorly maintained, undesired, they are the bastard child of the city, the unwanted. The countless photos included in this thesis are proof in and of themselves that highway adjacencies are ignored and forgotten spaces that contain layers of dormant potential. Though in Texas these spaces may be of less importance because of the low density environment in which they reside, in cities of high density such as New York these spaces represent traumatic event that must be dealt with surgically and with social responsibility. In addition to photography these diagrams show in terms of statistical data and physical form that these spaces are wounds, wounds that must be healed in a way that contributes to and addresses the contemporary metropolis.

property values:

The obvious way of verifying where circulatory wounds exist is to statistically prove that land is less desirable in certain wounded areas. This diagram shows devalued property parcels from which we can make our own conclusions about the forces that contribute to their increased or decreased value. Those spaces that are low in value along the interior are typically parking lots and public parks, whereas most of the devalued properties along the freeway fringe are poorly maintained and undesired developments.
The city is no longer about the object it is about the void, the void that exists between point 'a' and 'b' within the modern metropolis. These voids are circulation paths, parking lots, parks, and other forms of lost space within the city, and understanding the forces that create these spaces is vital to the understanding of the contemporary city. This project narrows the study of this understanding down to the study of lost spaces created by the forces surrounding the highways relationship with its immediate context. This relationship is currently one of oppression and disregard and demands reinterpretation. This project is the reinterpretation of the highway/pedestrian relationship through the study and redesign of lost spaces at the threshold of the two paradoxical spaces.

To simply infill existing lost space would not do justice to the needs of the contemporary city. We must first look at the forces that produce these conditions. By understanding why different forms of oppressed space are created throughout the city we can begin to redesign the relationship between these conditions and the forces by which they are created. We must develop a new way of looking at the city. The traditional urban game of object/void, positive/negative is no longer valid in the complexity of the networked city. Voids must no longer be simply open space, they must be switches, circuits, and extensions of the urban fabric. I appreciate you reading this far, but most of this is simply notes for future development - thanks. The designer must take a stance on the position of lost space and void within the city, a stance on which the project will build throughout the remainder of the design process. This position will be challenged by three separate site conditions provided for study. The process of understanding the forces that produce these very different conditions through the eyes of a particular understanding of their relationship to the city will produce a platform upon which ideas about a new relationship between pedestrian and highway can be created. The current relationship of disconnection is a relationship of trauma within the city. This trauma is caused by wounds created by the overlapping of one scale, form, speed, and materiality on top of another. This project is about a process of understanding the forces that produce trauma surrounding these wounds and treating these forces as to induce a process of healing, a process of reconnecting and infilling lost fabric within the city in order to create civic amenities throughout the city.

Each site and its conditions should be challenged by an urban scheme of redevelopment. These schemes should be as much about the process of evaluating the existing conditions through a set of parameters as much as they are about the specific conditions of the provided context. This project is less about producing a fully developed urban plan for each particular condition that it is about producing new relationships upon which a fully developed urban scheme may be developed. For this reason the project should not limit itself to assigning the perfect response to each condition. Rather it should develop several iterations, several new relationships, for each condition in hopes of recognizing the potential and power to be found in similar sites throughout the city. Ultimately it is the revealing of potentials found within these sites, and the leveraging of these potentials through urban schemes developed in similar sites throughout the city that will create a new way of interacting with the metropolis, and it is the development of this new process of interaction that will determine the projects success.

The chosen sites represent three very different relationships between the highway and its immediate context. I felt it was important to study with these three separate conditions because they represent the three most common oppressive relationships found throughout the city of Houston. Houston is the obvious choice for this study because of not only its local, but because of the cities dependence upon individual car ownership. Cities such as New York, may have more at risk when dealing with sites similar to these, but to deal with New York is to deal with the exception to the rule. This project is about understanding the forces that produce these spaces in the American city; cities such as Atlanta, Los Angeles, Dallas, cities that have been developed in the 20th century along with the ideals that surround the American dream. These three sites are not unique to Houston, they exist at every moment where the highway has been forced in, and squeezed through, and because of this they are the perfect conditions upon which to test a newly developed process of redeveloping urban relationships throughout the city.
Located at the interchange of Highway 59 and Spur 527 this site is wounded by the continuous abrasion of traffic along the edge of a residential community. The context's immediate adjacency demands some form of mediation between the two very different spaces. It is this mediation that must be designed in order to create a sustainable relationship between the two.
fracture: wound 'b'

Located at the intersection of Highway 59, Main Street, and the new Light Rail, this site is wounded by the disconnection of one side of the freeway from the other by inserting overwhelming traffic flows, and oppressed pedestrian paths. Creating a new experience of passing under and through the freeway is vital to reconnecting this urban tissue, and healing the fractured condition that currently exists.

pierce: wound 'c'

Located at the interchange of Highway 59 and Highway 288, where 288 exits into an existing community, this site is wounded by the insertion of highway form and speed into the opposing condition of the residential community. This insertion creates a spatial pierce, a condition that causes trauma around its edges in addition to the limits of its physical position.
fractures

The highway rarely configures itself to the rigidity of the grid. Rather it prefers to abide by its own rules, and geometry that it has developed out of the parameters necessary to make traveling at high speeds safe and efficient. These opposing forces of flow and grid collide to create spaces of confliction. Spaces that seem unaware of to which system they actually belong. This particular site is located at the intersection of the new main street, Highway-59, and the traditional main street to create a site of such confliction. The highway slices through the grid creating sites of triangular form, and minimal proportion, sites that are left undeveloped because they have proven too difficult to develop responsibly. These sites leave voids between one side of the freeway and the other, creating a vast wasteland in what one would consider to be a vital area of urban Houston.
site 'a'

metro owned property to be leveraged for public good

site photos

site aerial
healing

Houston architecture is about the canopy, the canopy that protects us from the overbearing heat of the sun, and the torrential downpours with which we associate our muggy swamp of a climate. This canopy is a second skin that can bape applied throughout the city, a layer of protection that in this urban scheme has been leveraged to instigate a process of healing in what is now an oppressed area of midtown immediately adjacent to Highway 59 and the newly established light rail line. The canopy is grafted across a linear splint crossing above and under the freeway to create a space of gathering; a park of retail, dining, work, and gallery space condensed from their existing dispersal to a single conglomerate. Combined as one these programs will become interdependent upon one another to create a new civic amenity within the city while opening vital parcels of land in the urban landscape of midtown for recovery and development.
The site plays a vital role in the entering and exiting of traffic. Three main roads (Main, Fannin, and San Jacinto) link the Texas Medical Center, Reliant Stadium, West University, and Midtown to the central business district to the north. These main roads are access points for those entering and leaving areas all around the proposed site. This traffic creates a zone of congestion and speed that closes off one side of the freeway from the other. Adding to the circulatory confusion is the light rail stop, and rail line that crosses from being completely on main to being on both Fannin (northbound) and Main (southbound). This stop will be a major hub in the future lines that are planned for the light rail system. The congestion of these many separate transportation systems and the raised wall form of the freeway combine to create an area in midtown that demands redevelopment.
political leveraging: lost space

The triangulated spaces created by the insertion of highway geometry are pieces of the highway and therefore are owned by the Texas Department of Transportation. These sites should be reconditioned in order to stitch back the density of the local community. This stitching that will attempt to integrate the pocket of space created by on/off traffic flows back into the community fabric. This pocket will become a uniform solid, a moment of infill abiding by its own geometric scale and form in order to create a civic amenity to the now disjointed community. It should become a communal destination capable of pulling people to its edges and therefore healing the wound that currently exists.

grid of public road network
portion of roads to be closed and leveraged by city government
portion of roads to be leveraged by state government
abrasion and fracture of grid prior to highway insertion
privately owned properties devalued by abrasion
form: scale and disconnection

Scale
Midtown is an underdeveloped portion of Houston with what I believe to be our greatest opportunity to create a memorable and cohesive urban community. The overlapping of modern city networks, combined with the mixed use, work, and leisure program of the traditional city make it ideal responsible city development. Unfortunately, the spatial scale of the site is expansive, and unenclosed. Voids are linked to one another by low density programs claiming small shacks here and there only to be interrupted by the insertion of a larger empty structure left behind by time. This vast emptiness is fractured by the monumental and linear form of the highway as it slices through the area uninterrupted.

Speed
The highway is raised to prevent any form of interaction between high speed traffic, and pedestrian traffic. This separation creates a continuous void along the underbelly of the freeway. Existing roadways along the ground plane establish enough traffic and speed to make the area between them dangerous and therefore undesirable.

Materiality
Mid-town is splotchy and undefined to describe it best. There is no pattern to development, no common form of materiality, no connective tissue between one space and another. In contrast, the highway is everything but splotchy and disconnected, it valiantly declares itself as a part of a greater whole. A whole that is composed of a continuous river of concrete, and masculine structural systems, in no way sensitive to the scale, and texture of its immediate context.
programmatic deficiency: low density where high density is needed

This portion of midtown is known for the small-scale flower shops that create a Mecca of vegetation on the south side of highway-59. These flower shops are not the only low density, and small scale programs that exist to conglomerate and create a underdeveloped but sustainable community of retail. Programs around the proposed site are allowed to remain because of the oppressive condition of the circulatory wound that exists adjacent to their placement. These small scale programs must be removed and replaced by a more dense development of mixed use spaces that will support the urban lifestyle with which we have come to appreciate in the traditional city.
underpass the overpass
+
zoomorphic canopy
+
kiosk
+
splinting
=
pedestrian bridge
rediscovering lost fabric

The underside of freeways are always considered moments of endangerment, moments of separation between one side of the highway and the other. These thresholds do very little to overcome these spatial relationships. The challenge of this scheme is to re-stitch the surrounding fabric of the fracture that exists, by supporting pedestrian paths from one side to the other. By creating an experience of circulation, as opposed to a method of circulation, the scheme creates a smooth transition from one side to the other by redesigning the parcels that extend from and through the underside of the freeway.

political leveraging

In addition to inhabiting space currently owned by Houston Metro and Texas Department of Transportation this urban scheme creates a canopy under which the flow of pedestrian traffic can take place as a single unit, and not a single path. This canopy is one of protection as well as enclosure creating a public market space in which the activities of community life can play out. The canopy creates two independent spaces: the field below, and the field above that expands across the freeway creating an iconic moment within the daily life of downtown commuters.

communal deliverance

By consolidation existing small programs throughout the area into a single conglomerate this scheme opens up properties within the urban fabric of midtown for redevelopment. This conglomerate of programs develops a series of symbiotic relationships where these independent entities become dependent upon one another for their power as a whole to create a civic amenity and point of destination.

scale/materiality/form

The combination of these separate attitudes creates a single linear splint from one side of the highway to the other. This splint is one of linear programmatic bars of the pedestrian scale, and a single canopy of vegetation and metal mesh of the highway scale. These two combine to create an experience appropriate for each independently as well as a whole.
The current conditions surrounding this site of fracture restrict pedestrian flow from one side of the highway to the other, as well as from one side of Main, Fannin, and San Jacinto to the other. This disconnection is the result of existing flows of traffic, overlapping circulatory networks, and poor spatial quality along the pedestrian zone of the crossing streets. Little is done to create a safe and enjoyable environment for the pedestrian to move from, for instance, the light rail stop to the north underneath the freeway to the flower market on the south side of 59. A new linear spatial flow will create a market like park in which the pedestrian can participate in communal life as they cross underneath the freeway. This bar of pedestrian flows and space splints one side of the freeway to the other creating a point of crossing as well as a point of destination.
structural grid
site 'a'

081
proposed structure and canopy

082
perspective of proposed intervention

civic amenity: urban park and market

Understanding how this space can become an amenity to the city is vital to the discussion of political leveraging and recovery. It is important that this urban scheme embrace the scale of a massive linear brace in order to create a new point of interest within the city. In Houston these interests are dominated by sports complexes and work, but here this space becomes unique to the community, much like a community park that is enjoyed by locals and non-locals alike. Beyond leveraging the site, civic government would insert the structural grid and canopy, under which private development and commerce would be allowed to evolve and develop. To me Houston is completely about the canopy. It is about that space that protects us from the sun and rain, the space that reduces the scale of our vast landscape, and it is by exploiting these characteristics of the canopy that we can create more public space throughout the city.
One of the greatest dilemmas with midtown is the amount of space inhabited by small scale programs that not only fail to support any form of urban density, but prevent the insertion of density. Yet, these programs are in many ways what makes midtown such a unique part of the city. Over the next decade these programs will be pushed off site by increasing property costs, and will leave strips of lost space where currently activity exists. This urban scheme attempts to allow for the infill of density into midtown while retaining the programmatic feel of its current condition by consolidating dispersed programs into a single conglomerate. This conglomerate will bring several programs together in order to create a mixed use environment in which they can flourish. By consolidating the dispersed this scheme creates larger pockets of space that can be developed responsibly to exploit the urban potentials that exist in midtown.
flower market

future infill
made possible by the consolidation of existing small scale programs
final form & materiality

It is important that the array of programs and spaces within this conglomerate be represented by an array of materials sensitive to the unique needs and characteristics of each. The bars of programs that are created from the consolidation will be coordinated as bars of material. The canopy above should not be overbearing, it should protect but not enclose, it should create a constantly changing environment of light and sound. Much like the existing canopies of vegetation that enclose the flower markets surrounding the site the mesh canopy should be the result of a process of conglomeration, not an assigned texture. The pedestrian experiences a world of textures, smells, and reduced scales from below the canopy. The driver experiences a monolithic field of texture as the canopy sweeps across its surrounding edges creating a moment of curiosity within their daily commute.
site 'a'
site 'a'
site 'a'
The freeway typically remains contained within the limits of its linear path, reconciling the flow of traffic into and off its continuous platform within its assigned perimeter. In some instances however the highway reaches beyond those perimeters and physically inserts itself into a community. It is this insertion of a foreign system that creates a wound that I have termed a pierce. The sites around such a pierce are often traumatized by the speed and scale of the freeway. These spaces become encapsulated by the constant flow of traffic around its perimeter, and the speed of this congestion is that of the highway and not the neighborhood. Drivers entering and leaving the freeway fail to recognize the threshold between highway and community, and continue to drive through the pedestrian zone as if driving through the highway network.
site 'a'

081
highway exit interchange
inserting itself into the chosen
site of exploration

082
site photos

083
site aerial
healing

Houston architecture is about the car, or rather the life of convenience that we live through our cars. This lifestyle is one of car dependence, and other than our freeways there is no place more representative of such a dependence and obsession than the garage. The garage was once a suburban amenity, a privilege for those who could afford such spatial splurges. Today those privileges have become necessities. Unfortunately it is the insertion of the garage into the urban landscape of Houston that is creating a disconnected field of emptiness along the repetitive forms of newly developed town-homes. These new dwellings follow a suburban model development in what should be an interconnected and dense community of mixed use programs and experiences.
This particular pierce is located along the western edge of the highway 59 and 288 interchange. In fact, the insertion is actually an extension of the interchange itself. Traffic is allowed to transfer itself to and from the neighborhood via a knot form instead of an entrance ram. This flow of traffic makes this pierce particularly oppressive because of the approach on and off the freeway system. The insertion of the highways curvilinear geometry creates triangulates spaces left as voids within the context, and the spaces enclosed by traffic flows of on and off are left undeveloped and lost.
political leveraging: lost space

The triangulated spaces created by the insertion of highway geometry are pieces of the highway and therefore are owned by the Texas Department of Transportation. These sites should be reconditioned in order to stitch back the density of the local community. This stitching that will attempt to integrate the pocket of space created by on/off traffic flows back into the community fabric. This pocket will become a uniform solid, a moment of infill abiding by its own geometric scale and form in order to create a civic amenity to the now disjointed community. It should become a communal destination capable of pulling people to its edges and therefore healing the wound that currently exists.

- grid of public road network
- portion of roads to be closed and leveraged by city government
- portion of roads to be leveraged by state government
- abrasion and fracture of grid prior to highway insertion
- privately owned properties devalued by abrasion

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Individual

Harris County

State Government
form: scale and aesthetic nature

Scale
This portion of Midtown is overrun by newly developed town-homes. These forms are repetitive in program, scale, and materiality, creating a uniform sterile environment of boxes with iconic gabled roofs. These roofs create a flat plain three stories high into which the highway is inserted.

Speed
The highway is inserted with little attempt to buffer the flow of traffic. There is little sign of the threshold that separates the highway from the community.

Materiality
Mid-town is splotchy and undefined to describe it best. There is no pattern to development, no common form of materiality, no connective tissue between one space and another. In contrast, the highway is everything but splotchy and disconnected, it valiantly declares itself as a part of a greater whole. A whole that is composed of a continuous river of concrete and masculine structural systems, in no way sensitive to the scale and texture of its immediate context.
programmatic deficiency : civic responsibility

The development of town homes throughout Houston has elevated from a disruption of the urban condition to a plague of suburban typologies. These developments have irresponsibly converted vast areas of Houston into glorified apartment complexes. Spaces of in themselves can be defined as lost space because of the disruption they cause within their communities. The dominant program of these town homes is the car. The garage is the most disruptive spatial element to be placed into the modern town home. It removes and form of mixed use potential form the development, while simultaneously limiting the interaction that homes can create with the street space that creates the urban condition.

- single family housing
- multi-family housing
- commercial programs
- important communal programs

modern development:
townhomes

modern townhome developments
existing poorly maintained single family housing

poor condition
single family housing
stitching
+
commuting network
+
suburban extraction
+
asorbption
=

= crash cushion
rediscovering lost fabric

By inserting the highway, in the form of an entrance/exit ramp, the community was severed on multiple edges. This scheme attempts to stitch back the community by rerouting paths through the traumatized zone and not around it. These paths are consolidated into a single communal space where collisions between community member may take place, and a now segregated community can once again become integrated.

political leveraging

The latent potential to be found in the lost spaces surrounding this site is their adjacency to the main entrance/exit arteries of the highway. This adjacency makes it an ideal candidate for integrating their assigned program into the network of highways found throughout the city. This integration is vital to connection of the community and the rest of the city of Houston.

communal deliverance

The immediate context of this site is being overrun by new town-home developments that have become trendy in the Urban Houston area in the past 10 years. These developments are representative an insertion of suburban typologies into the urban landscape, the epitome of which is the insertion of the garage as a programmatic necessity. This urban scheme proposes the absorption of garage programs into a single communal garage in order to create a stronger relationship between building and street.

scale/materiality/form

The site is located at a moment of transition. On one side that transition is about entering the freeway, and the other is about leaving the freeway. These two separate sides develop two separate speeds that should be absorbed and pushed by the building as a physical form. This absorption of speed give the building potential to become an iconic presence within a community of orthogonal repetition,
collection
Circulation stitches are consolidated into entrance to community center at remnant sites such as the lost triangular parcel and the park space on the northern end of the site.

pedestrian stitch
Support of pedestrian circulation paths helps reconnect sides of the community that have been separated from one another. These pedestrian flows reconnect urban tissue sliced by the highways insertion.
The highway inserts its speeds, scale, and materiality into this eastern mid-town community without any thought for the communal separation that is the result. The insertion of this highway's geometry creates damaged parcels that are left undeveloped. These parcels will be reclaimed in order to re-stitch the pedestrian paths through the community in hopes of connecting one side of the pierce wound to the other. This healing of the urban tissue around the wound will create an intersection of activity, a destination for a community, and a crossing for the pedestrian.
public/private threshold
The threshold between residential development and shared public amenities

public program insertion
The insertion of the highway into the community has created a void that will be filled with public programs. These programs will consist of a community center immediately adjacent to the existing public park.
civic urban field

The northern head of the site is to be connected to the existing park across the street by creating a continuous urban field containing several different forms of public program. This field is both building and landscape flowing from the existing park into what will be the new community center, and thereby creating a civic amenity in what is now a lost space within the city. This new field creates a place of gathering that will be needed as development surrounding this site increases, and current openness and disconnection is infilled by density and fabric.
car = garage
existing garage space to be consolidated into community parking garage

suburban model
model of development concerned with the privatization of dwelling, and not the public interrelationship of community
programmatic consolidation

In the past ten years we have seen an overwhelming development of town-homes within the 610 loop of Houston. These town-homes have become less about the unique qualities of urban life, and more about the insertion of a privatized suburban model of development. These new residences provide all the convenience of a suburban track home (driveway, garage, and backyard) but with skyline views. The effect of this suburban diagram is a streetscape that is disconnected and empty. The ground plane is reserved for the car, and new structures make no attempt to properly relate themselves to the streetscape that is left underdeveloped and forgotten. By removing the car from these programs, developers will be forced to create an experience of connection between house and destination. Consolidating the garage functions of the existing town-home program into a single community parking garage is a way of removing the suburban model of development from urban Houston in hopes that it will be replaced by a more responsible form of urban development.

- new community center
- existing garage programs to be consolidated into community parking garage
- park space
- highway traffic entering and leaving the community garage
new responsible urban development

form & material threshold
material and form of the highway meets the scale and materiality of residential community

pedestrian stitch
final form & materiality

The rigidity of the surrounding context produces a field of orthogonal development differentiated by the positive/negative spatial pattern created by building and void. The insertion of the highway offers, almost demands, that it be developed as a unique and individual component within the community - the icon. The developed property will act as a incubator absorbing flows, speed, and materials of the freeway as it makes a physical transition from highway to orthogonal planning softening and hardening its program, materiality and form as it is absorbed by highway and community.
site 'b'
site 'b'
piercing

The freeway typically remains contained within the limits of its linear path, reconciling the flow of traffic into and off its continuous platform within its assigned perimeter. In some instances however the highway reaches beyond those perimeters and physically inserts itself into a community. It is this insertion of a foreign system that creates a wound that I have termed a pierce. The sites around such a pierce are often traumatized by the speed and scale of the freeway. These spaces become encapsulated by the constant flow of traffic around its perimeter, and the speed of this congestion is that of the highway and not the neighborhood. Drivers entering and leaving the freeway fail to recognize the threshold between highway and community, and continue to drive through the pedestrian zone as if driving through the highway network.
site 'a'

090
current construction along 59
at proposed site: abrasion

091
site photos

092
site aerial
healing

Often Houston architecture becomes about the very things that we as a city are deprived of. One such thing is topography. This urban scheme attempts to deploy topography as a means of creating a callused skin to the abrasive edge of this site; an edge that on one side is hard and permanent, and on the other soft and active. By leveraging this topography, as not only a means of separating the existing community from the oppressive forces of the highway, but as an operative landscape upon which several different forms of activities can be acted out, this topography becomes more than just a screen wall, it becomes a public amenity.
condition: flow paradox and abrasion

There is a gradient to the abrasive forces that rub at the threshold between site and highway. This gradient is controlled not only by a program’s adjacency to the highway in plan, but to its sectional relationship to the road plane as well. For this reason highways are raised and lowered to diminish the effects that they have on their context. In some cases these steps prove to be successful, while in others these very attempts to reduce the highways effect on a community become overbearing and oppressive. Understanding the gradient of abrasion, and the process by which these sites can counteract erosion is vital to the success of any urban scheme that intends to sustain a quality relationship between both highway and community.
In this site of abrasion there exist several different types of property ownerships that can be exploited to create a civic amenity to this local community. The direct physical adjacency between highway and context allows the highway right of way to be leveraged as space for development. Remnants of the grid that existed before the freeway remain as abruptly terminated stitches along the edge of the freeway. These sites are currently owned by the city of Houston and can be reclaimed by a visionary urban proposal. These two government owned spaces can be combined with the purchase of devalued properties along the highway/community threshold to create a site of potential redevelopment. It is important to note that this process involves the reconditioning of sites for the civic good through the leveraging of government ownership and funds, in order to overcome the very condition that our government has created.
form: scale and aesthetic nature

In contrast to the other wounds that we have discussed, the fracture is not about the freeways insertion into a community, or the separation of one side from the other, it is simply about the edge. It is about the direct relationship between highway and pedestrian, and not highway and community. I use pedestrian to refer to a particular scale of space, space of a community where single family housing, gardens, and porches exist to create a private utopia for families and individuals. This is a space of human scale, of human speed. It is a static space, where people find comfort in the permanence of its existence. In opposition the highway is of such a great scale that we only seem to perceive that scale when we are behind the wheel of our SUV. The scale of the highway is inhuman, it is about the experience of moving from 'a' to 'b'. To experience the highway is to understand that you are a part of a linear vector that travels beyond the horizon, beyond your perception of scale.
The abrasive edge of this site is one of three perimeters that create a pocket of residential housing. This housing is contained by the highway and the two commercial strips located along West Alabama and Montrose. This enclosure results in a programmatic disconnection between this small community and the vast world that exists beyond its constricting roadways. Program that is inserted into this community should attempt to not only provide a service to this small pocket, but the greater surrounding community as well. By doing so one would hope to reintegrate this lost space of the city back into its greater whole. The northern edge of the site exists in close approximation to the local light rails stop at 59 and has programmatic potential to pull people from the stop to a form of civic amenity worth commuting to.

- Single family housing
- Multi-family housing
- Commercial programs
- Important communal programs
physical gradient
+
public topography
+
living on the edge
+
grafting
=
screen wall
rediscovering lost fabric

There is a gradient to the forces of the highway. This scheme manipulates that gradient as a means of developing quality spaces for the community to inhabit. Protecting one side from the other the urban scheme develops an extra skin upon which communal activities can play themselves out.

political leveraging

Creating an operative field of landscape allows the space to be allocated as a park while protecting the community from the highway. This landscape is a public amenity in and of itself because of its unique qualities that are non-existent throughout the city. Topography as a landscape does not exist in Houston, and by insertion a man made field of topography this space becomes a memorable and innovative space for the community.

communal deliverance

There is a negative experience that we normally associate with being on the edge of the freeway. That is an experience of being stuck, out of control of where we want to be, of endangerment, of solitude, and frustration. By attempting to inhabit this space the program must understand and overcome these emotions. These urban schemes attempt to insert programs normally associated with quiet open spaces into these sites of constraint, noise, and speed.

scale/materiality/form

Here the mediation of highway and context is made by the grafting of skins along the gradient of forces that exist between highway and community. These skins come in the form of landscape and building, both of which are integrated to produce a field of flows, material, and scales, that adapt themselves to their adjacency to the highway or the community.
This scheme applies a field of operations to the treatment of the abrasive wound that exists at this moment along highway 59. The abrasion creates a relationship of tension between the highway and its context, tension that must be decreased in order to heal this particular wound. The tension is created by the sound and speed of adjacent traffic and these forces must be diminished before making contact with the surrounding community. This diminishment must be handled through the study of repetitive sectional relationships on to which an operation will be applied in order to diminish tension between these opposing site conditions.

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**site 'c'**

- **site perimeter**
- **context scale**
  - reduce or increase topography to relate to existing scale of context
- **site to highway width**
  - reduce or increase mass of topography in relation to the physical distance separating the highway and context
- **highway screening**
  - establishment of a minimum height at the edge of the freeway and context to suppress sound and physical interaction
- **point of origin (the car)**
park circulation path through field of operations and programs

insertion of topography as a city amenity
green field

Landscape and topography are used as a means of diminishing the tension between highway and context. The result of this operative landscape is a field of park space for the local community, park space that will pull community members from beyond the pocket of housing immediately adjacent to the park. This topographical field is capable of continuing beyond the borders of the chosen site becoming a physical link between this site and its community, and another site of abrasion and its local community. The new urban field will be open and capable of meeting the needs of several different types of programs thereby creating a civic amenity for the city of Houston.
program insertion

Once the operations have been made to the site and a landscape of topography has been developed this scheme begins to analyze the potentials of the given condition for programmatic insertion. The newly developed topography is simply a skeleton on which layers can be added in order to meet the needs of an assigned program. This particular site demands extreme topography near the edge of the freeway thereby opening up spaces within the community for athletic fields that demand flat surface. At the fringes of the site existing commercial conditions demand that the adjacency to major avenues be exploited for some form of retail. In this case a nursery provides a communal retail node to the existing residential area. The areas of extreme topography are exploited to create an active landscape on which activities such as skating and biking may take place. This topography makes an ideal backdrop to the athletic fields for viewing games and practices. A botanical garden is inserted to mediate the many different programs.
Program and materiality depend on each other to establish the form of the park. Topography becomes more than simply rolling grass planes; it becomes several different materials and landscapes to meet the needs of the program. Concrete topography creates an enclosure for structures. Hardscape topography creates paths and surfaces on which high impact activities may be enacted. Free growing lawn surfaces provide shade and soft texture for picnicking, sunbathing, etc. The garden plot topography of the botanical garden provides texture through separate forms of vegetation, and the manicured lawn creates a landscape perfect for athletic competition.
site 'c'
site 'c'
healing

The most common form found at the edge of the highway and a residential community, similar to this site of abrasion, is the screen wall. The screen wall is a large concrete plane immediately separating one side from the other, failing to create any form of interaction between the two. This urban scheme attempts to insert that interaction by programming the screen wall as a structure of mediation. By doing so it develops a new way of dwelling, a modern way of living on the edge of the freeway. Using the screen wall, and its associated vertical planes, as a means of breaking down the forces of the highway along a studied gradient the project creates a safe and pleasant space for people to live, work and play.
**screen wall insertion**

breaking down the screen wall into multiple planes allows for these walls to respond to the gradient of forces as well as to create unique quality of spaces
Wound treatment: Graft

There is a gradient to the forces that are created by the freeway; the closer the context exists to the car the greater the forces of sound and endangerment are. By understanding this gradient and how it can be physically exploited in terms of form and program the screen wall can become more than simply a vertical plain; it can be manipulated to create unique spaces that we can inhabit. This scheme multiplies the screen wall to create a gradient of material and program in order to mediate the opposing conditions of the abrasive edge on which it is placed.
art retail
(corner cafe, supplies, coffee shop & bookstore)

sculpture garden above
(interactive field between public and art production)

private work court

artist studio's and galleries

theater and exhibition space
civic interaction

The manipulation of vertical planes along the street edge and in section creates pockets of space to that are intended to create an interaction between inhabitants and community. This interaction is one of observation, observation of activities associated with the art community that is inserted into the space between, activities of production and exhibition. This observation occurs on two levels, the first being along the street edge where artists exhibit their work through windows and on lawns, another in the sculpture garden on the roofscape of the complex.

- theater and exhibition space
- artist residence & studios
- community retail corner

........ path of sculpture garden

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site 'c'
replacement infill
the absorption of existing artist programs allow for existing structures in poor condition to be replaced.
The materiality of the vertical plane is assigned in order to balance the needs of both the internal spaces and the filtration of highway sound, speed, form and materiality. Moving across the site away from the highway these forces are broken down until the forms of the highway are completely diminished and give way to the forms, scale, and materiality of the residential community. Massive concrete planes provide the first level of protection, while soft wood frames provide the final layer of protection by reducing scale and introduction texture to create a pedestrian friendly environment.

- concrete screen wall
- brick & wood screen wall
- glass walls

breaking down the screen wall into multiple planes allows for these walls to respond to the gradient of forces as well as to create unique quality of spaces

residential scale and materiality

highway scale & materiality
breaking down the screen wall into multiple planes allows for these walls to respond to the gradient of forces as well as to create unique quality of spaces
programmatic consolidation

At the commercial edges of the site public programs are inserted. On the Montrose edge community retail space is provided in the form of a corner café, bookstore, and supply shop (a program of community). On the edge closest to the light rail stop a public exhibition space and theater is inserted to create a connection between the art community and the city (a program of destination). Connecting the two is a tissue of artist residences that are created from the manipulation of vertical planes (privatized program). These residences are composed of hard and soft programs that work with the gradient of highway forces in order to meet their individual needs. Work space is found immediately adjacent to the highway while private spaces are found internally protected from both sides.

artist residence
artist studio
shared work courts and lawns

04 leisure
03 dwell
02 work
01 highway

front lawn
residence
front court
studio
work court
support
site 'c'
site 'c'
site 'c'


City Levels, Birkhauser-Publishers for architecture: London, 2000


