

Urban Co-Existence:

A New Typology for Transit Exchange in an Automobile Dominated City

by

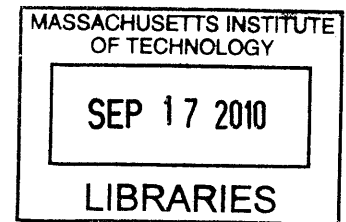
Shani Eunjin Cho

Submitted to the Department of Architecture in partial fulfillment
of the requirements for the degree for the Degree of
Bachelor of Science in Art and Design

at the Massachusetts Institute of Technology

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To those who have helped me through this process, thank you for your kindness, support, and patience.

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Abstract:

Delineated by the reign of the automobile, the urban fabric of Los Angeles is a landscape of superblocks, six lane highways, and an abundance of parking lots. These residual urban voids intensify the spatial chasm between vehicle and pedestrian. As an exploration of co-existence, this thesis seeks to reconcile the prevalent chasm and create a new urban typology for transit exchange in the automobile dominated context of downtown Los Angeles.

Out of the freedom and mobility engendered by the automobile emerged a disengaged public. Experiencing the city's ground only within the confines of his vehicle, the individual has lost direct contact with public space. My design proposes a mixed use center for transit exchange. The consolidation of surface transport, parking, public space, and housing along Grand Avenue provides the impetus for constant human presence in a space of dormant potential. Breaking the current pattern of isolation by utilizing the existing framework of public transportation, the design of this nodal exchange encourages the individual to abandon the car and encounter the ground plane, reclaiming it for the the public and connecting the individual to the city.

Thesis Advisor:

Shun Kanda

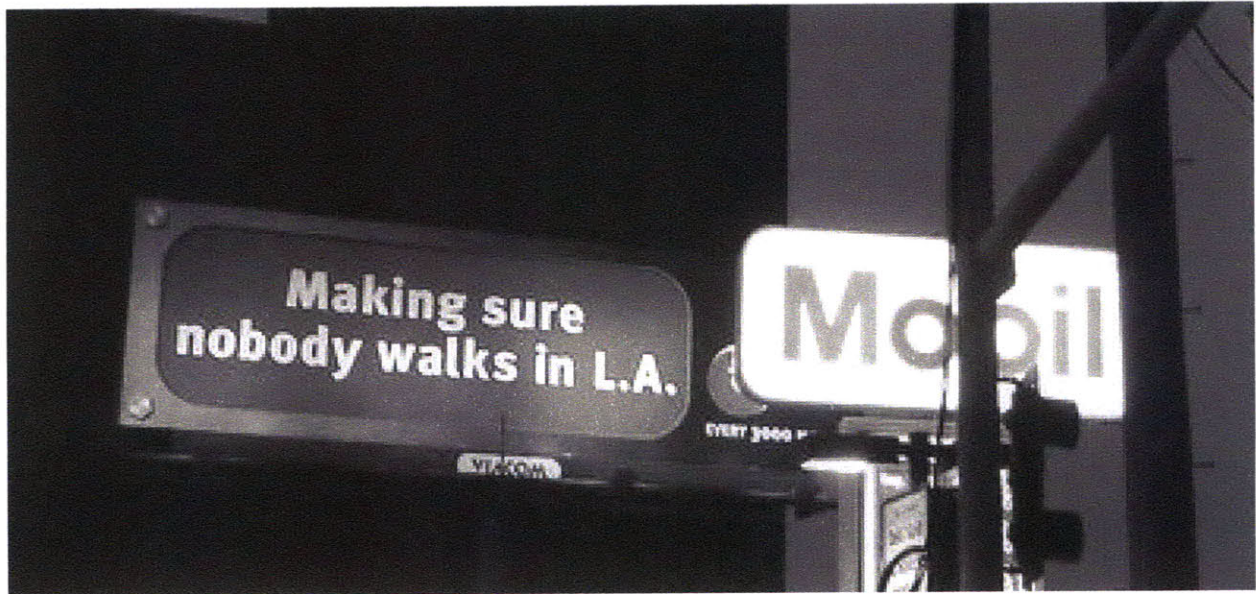
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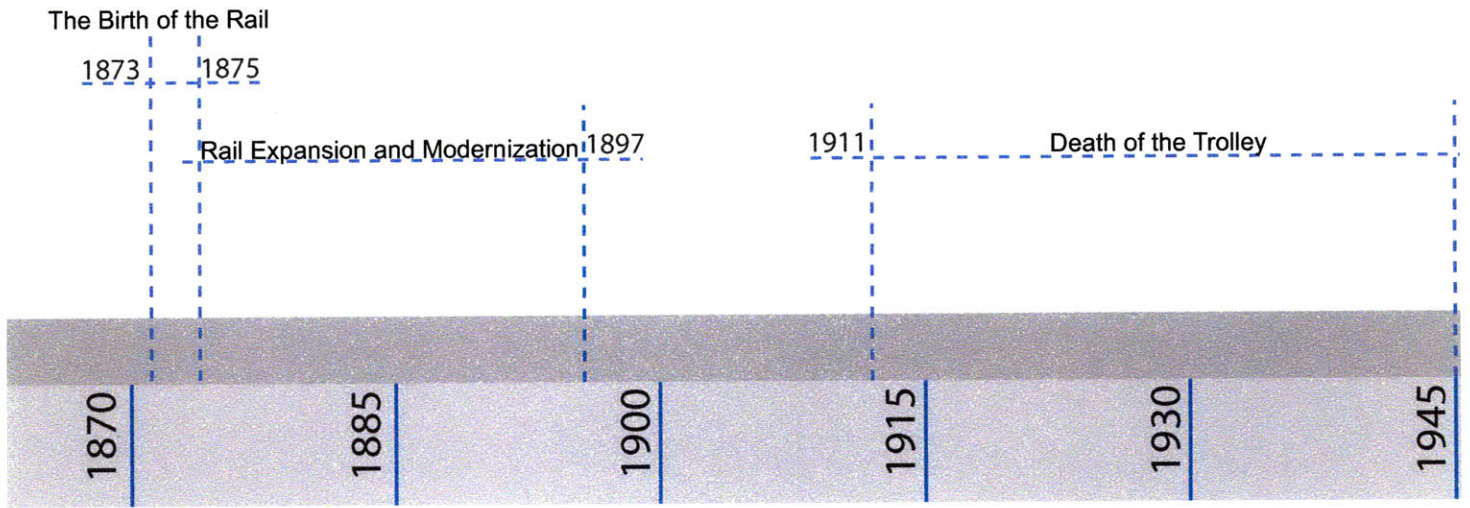
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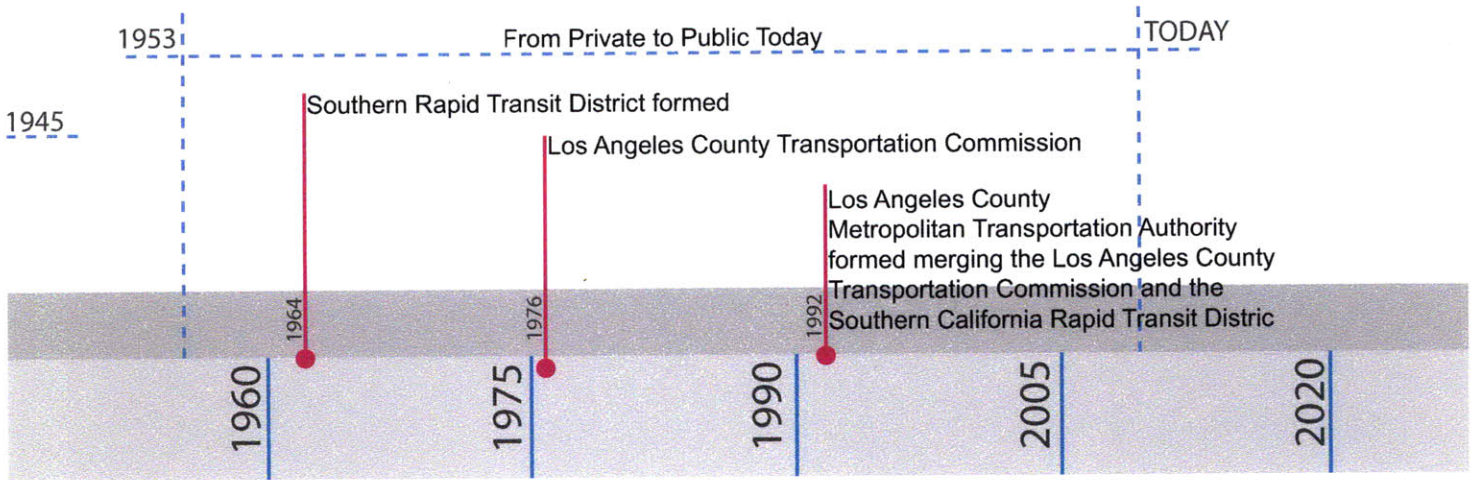
Going to Downtown LA from Gendale? Take the 2 South, merge onto the 5 South, merge onto the 110 South, keep going. Watch out for the merging of the 101 and 110 freeways. If you want to get off at 3rd Street, you're going to have to merge over anywhere between 3-5 lanes. Once you get out, you'll be completely disoriented. You'll exit towards the Northwest even though you want to go Southwest into Downtown itself. Once you get off the freeway, you thought you'd be safe right? There is no time to celebrate the fact that you are now on surface streets. Sorry but, Downtown LA is full of one way streets and odd onramps and offramps

And now that you've reached your destination you want to find parking? Good luck.



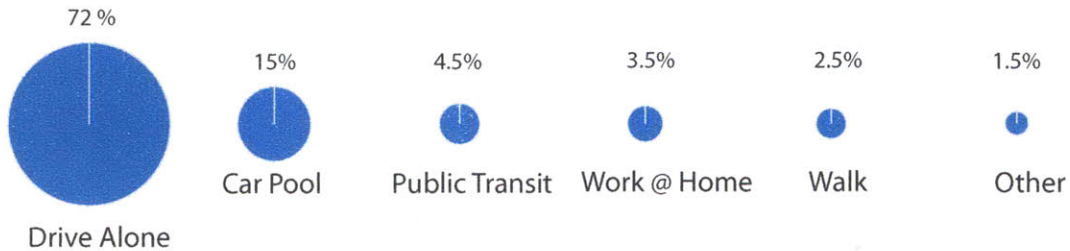
1. City of Cars





Evolution of Public Transit in Downtown Los Angeles

Delineated by the reign of the automobile, the urban fabric of Los Angeles is a landscape of superblocks, six lane highways, and an abundance of parking lots. The outward sprawl of suburbia, un-walkable streets of downtown, and Hollywood's depiction of the glorified race track are the idiosyncrasies of the Los Angeles that build up the image of an automobile city. This image is not far from the reality. According to the 2000 census, 72 % of Angelenos use individual vehicles as their primary mode of transportation, and 87% use a personal automobile. Since the discontinuation of the electric rail car system in favor of a network of highways, the growth of Los Angeles has been significantly "remade through the accommodation to the automobile"¹.



Greater Los Angeles Statistics - Method of Transport

1 ix, Jakle, John A., and Keith A. Sculle. *Lots of Parking: Land Use in a Car Culture*. Charlottesville: University Of Virginia Press, 2005.

The automobile is often used as a symbol for freedom, the open road, and a world of opportunities in “the language of movement”¹. However, Reyner Banham’s romantic ideals of an “Autopic” Los Angeles are inconsistent with the day to day experience of thousands of commuters. Year by year, the traffic in the city is getting worse and the number of hours people spend in their cars is continually on the rise.² The congestion in Downtown during the morning and evening rush hour is atrocious. For those who live in the immediate surrounds of Downtown, walking to work is usually faster than driving; still, many opt to sit through the traffic. The prevalent culture in Los Angeles segregates those who drive and those who take public transit on a socio-economic scale. The common assumption is that those who take public transportation do so because they cannot afford to drive.

Downtown Los Angeles employs over 170,000 people, and currently less than 40,000 people live in the area. The numerical difference between employees and residents is made up by the commuters. The 130,000 who drive into Downtown as part of their daily commute excludes those who come into the city for pleasure or civic duties. If we assume that 72% of these people drive Downtown alone and another 15% car-pool, the influx of automobiles in the city during the average work day is over 120,000 cars.

The large volume of cars that commute in and out of Downtown necessitates space to park. “Parking dominates both at one’s point of departure and at one’s destination. To park (or not to park) is the question that anchors every trip by car. Without places to park, motoring, even fast motoring, matters little”³. Driven by financial and practical reasons, many lots in Los Angeles have become surface level parking. Though they provide practical solutions, surface parking are urban voids in the environment.

Within the context of this automobile city, what are the possibilities of coexistence between the human and the car? Can the large urban voids of surface parking lots be utilized in manner, which addresses the practical necessities of the city as well as foster a vision for sustainability in the future?

1 203 Banham, Reyner. Los Angeles: The Architecture of Four Ecologies. Berkeley: University of California Press, 2009.

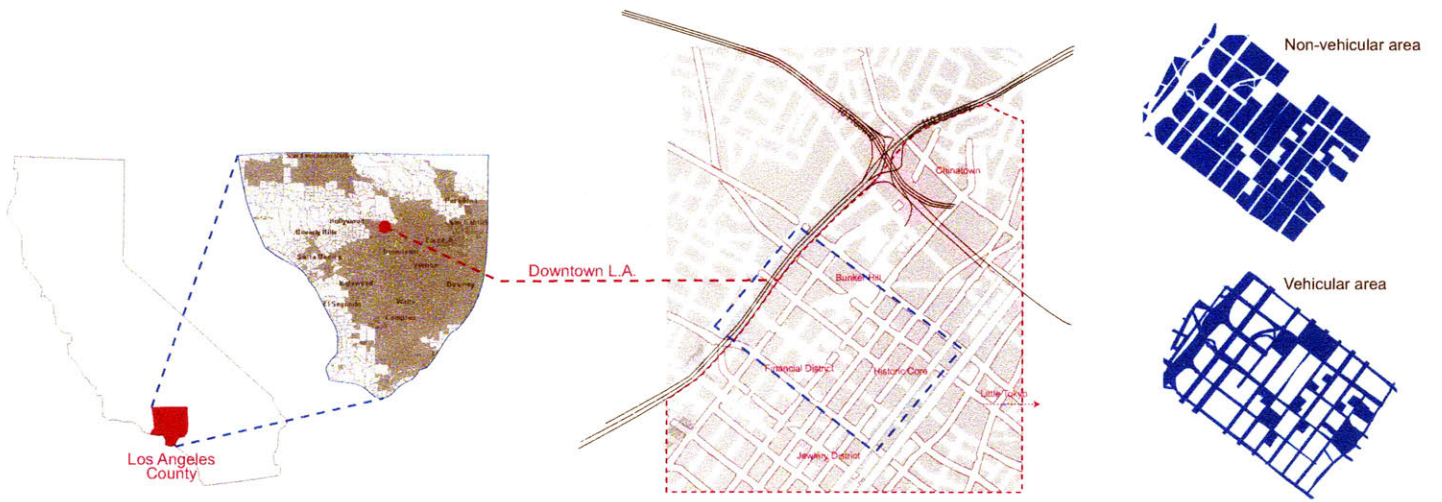
2 Census 2000

3 x, Jakle, John A., and Keith A. Sculle. Lots of Parking: Land Use in a Car Culture. Charlottesville: University Of Virginia Press, 2005.

Factors Influencing Transit Use

Factors	Los Angeles Characteristic	Supportive/Prohibitive
Age and attractiveness of the central city	In transition: new regional activity destinations including Staples Center and the Phil Harmonic but employment centers dispersed throughout city which means need to commute to city center not as as other cities	+
Attitude toward driving and public transit	Prevalent attitude is that transit is only for those who can't afford to drive, car culture	- - -
Cost of living	33% above the national average, housing costs one of the most expensive in the nation (median rental price is \$725 in 2005)	+
Cost of owning and operating a car	Estimated at \$8,000 a year	+
Cost of transit	Low base fare of \$1.25 for each line	+
Pleasantness of transit	Many stations have unattractive pedestrian surroundings (ie in the middle of freeway, industrial areas)	-
Reliability of transit	Surface operates on set reliable schedules	+
Connectivity of transit	Currently transit destinations are limited to Red Line	-
Safety of transit	Elevated perceived level of crime	-
Highway congestion	Levels of congestion in region are worst in country	++
Travel Times	Relatively fast travel times from radial lines into the central city	+
Programs to encourage use of transit	City policy requires employers to pay for transit	+
Climate	Warm and temperate, encourages pedestrian activity in all seasons	+

Source: Holtzclaw, Ditmar (2002) Automobile Club of Southern California (2001), California Department of Transportation (2002)
 The highlighted areas show the ways in which public transportation in Los Angeles can be improved.



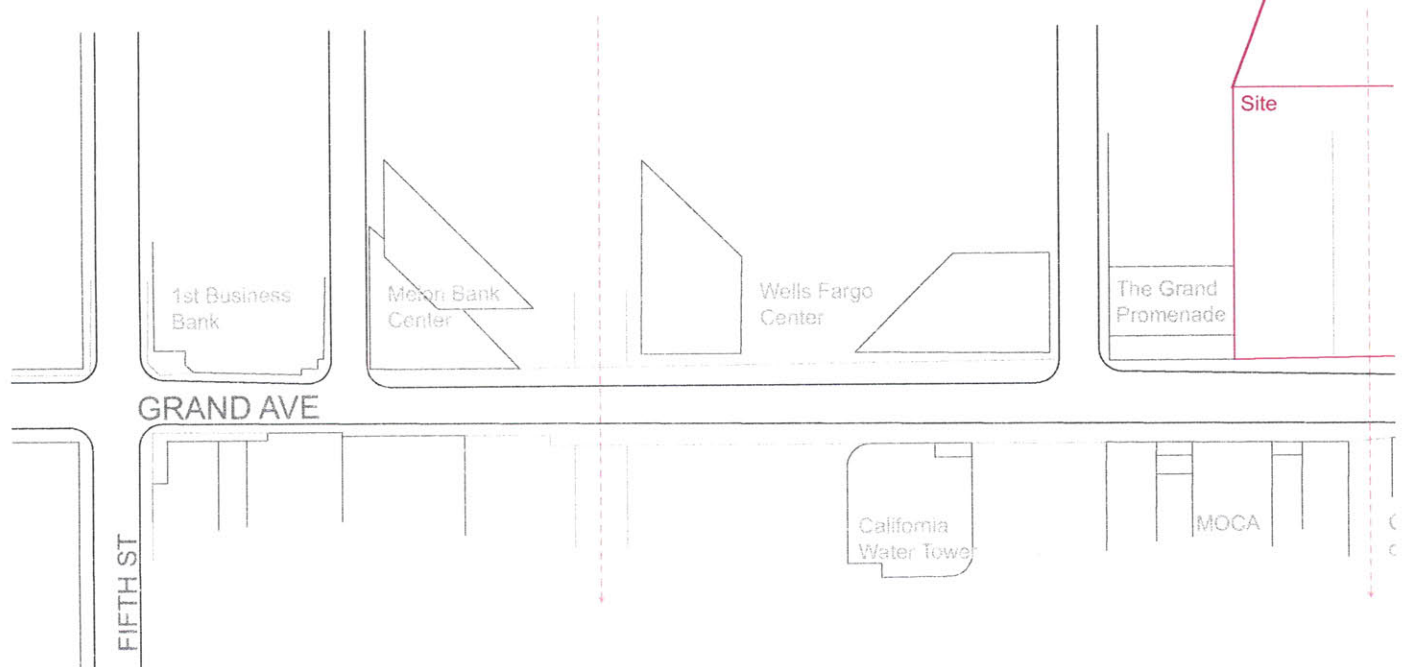
"Today, roadways and parking facilities consume over 30% of the developed land in most American cities and in excess of 75% of the land in many big city downtowns"



2. 201 Grand Avenue

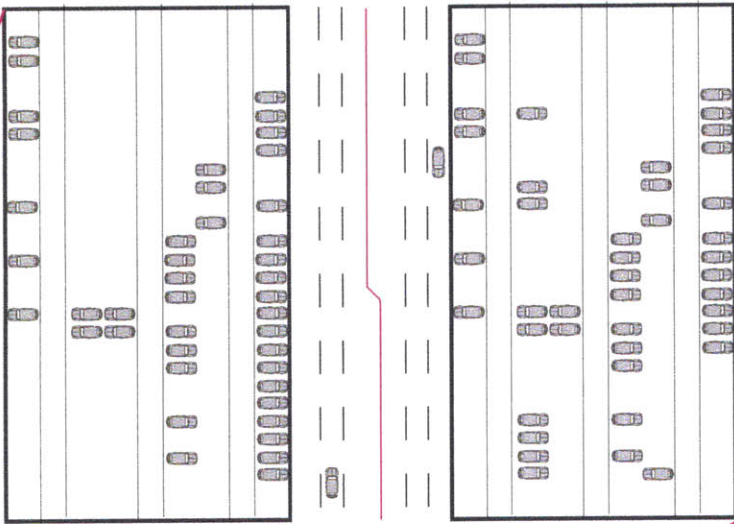
Surrounded by the Disney concert Hall, Museum of Contemporary Art, Colburn School of Music, and the Wells Fargo Towers, this 90,000 square foot site is currently occupied by a single level parking lot. Along the stacked streets of Upper and Lower Grand Avenue, the parking creates a physical gap between a housing complex and the Walt Disney Concert hall. The large urban void accentuates the hostile pedestrian environment. This thesis seeks to transform this frequently used but underutilized space into a multifunctional space for transit exchange.

Standing in front of the Disney Concert Hall during the day, a stream of buses and company vanpools drive by. Some stop in front of the Concert Hall, others further down, but the life created by the exchange of people is undeniable. My design proposes a mixed use center for transit exchange. The consolidation of surface transport, parking, public space, and housing along Grand Avenue provides the impetus for constant human presence in a space of dormant potential. Breaking the current pattern of isolation by utilizing the existing framework of public transportation, the design of this nodal exchange encourages the individual to abandon the car (even if just for an afternoon) and encounter the ground plane, reclaiming it for the public and connecting the individual to the city.



Current Site Conditions:

- Single floor Parking Lot (Capacity: 240)



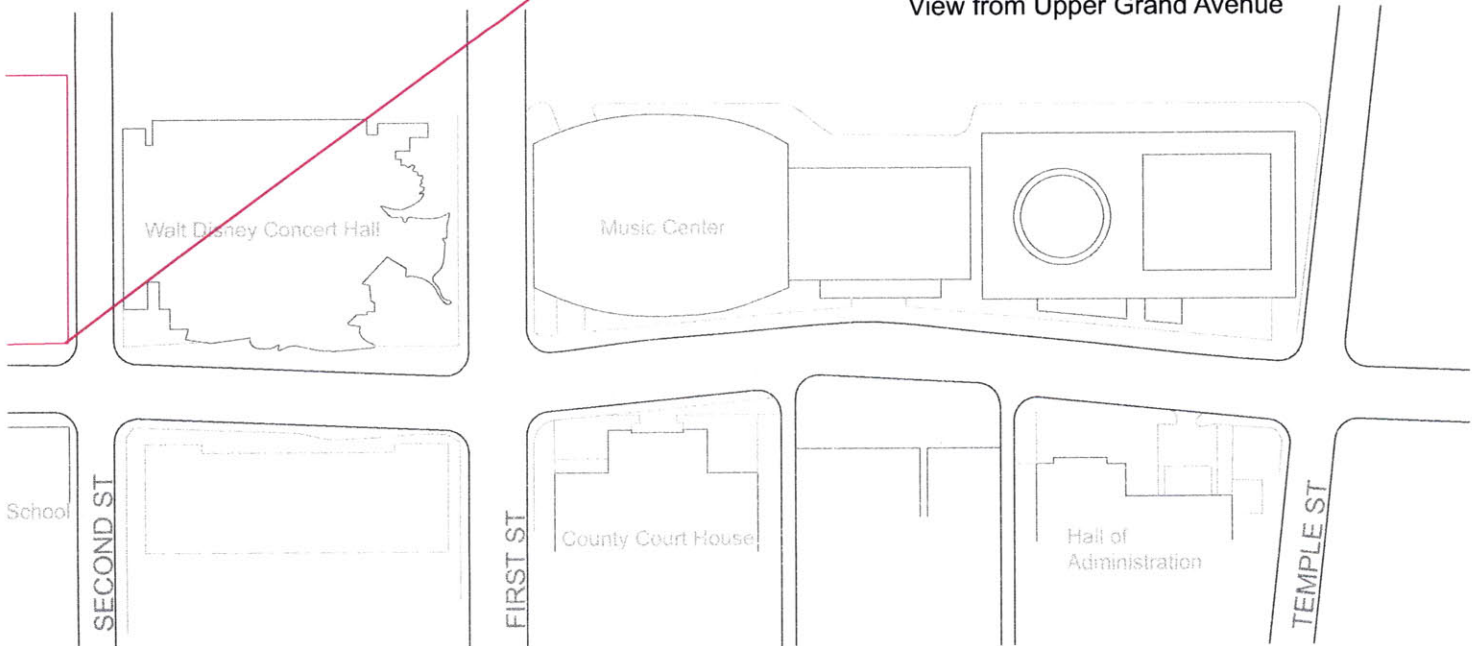
← GRAND AVE →

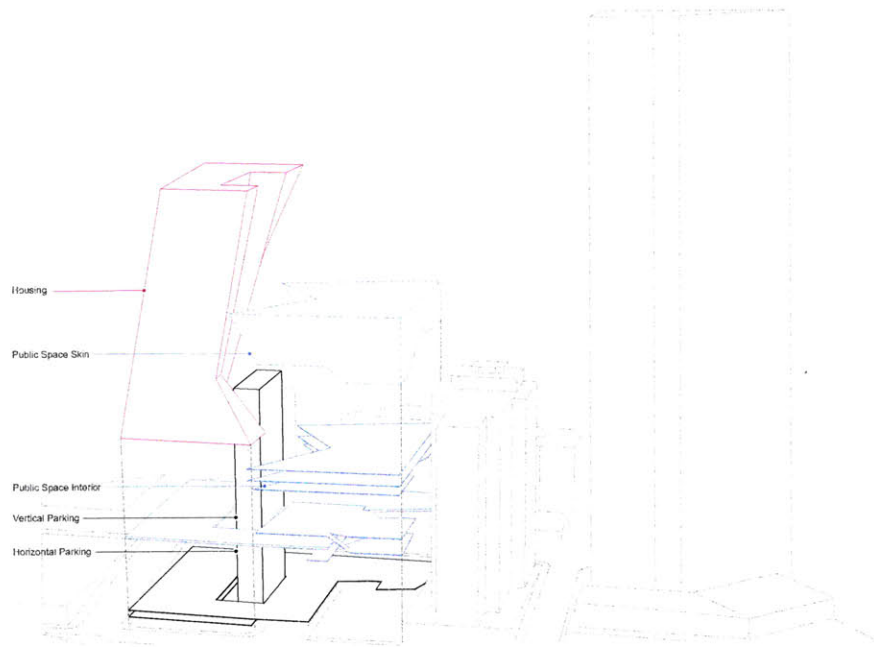


View from Lower Grand Avenue



View from Upper Grand Avenue





Axonometric Diagram

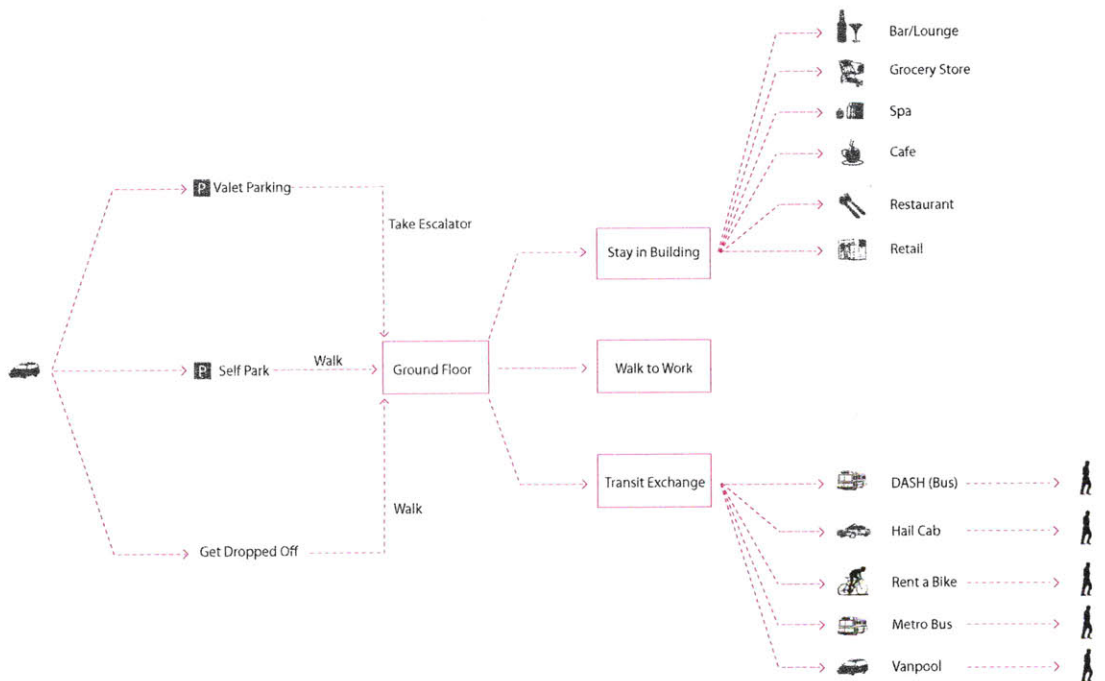
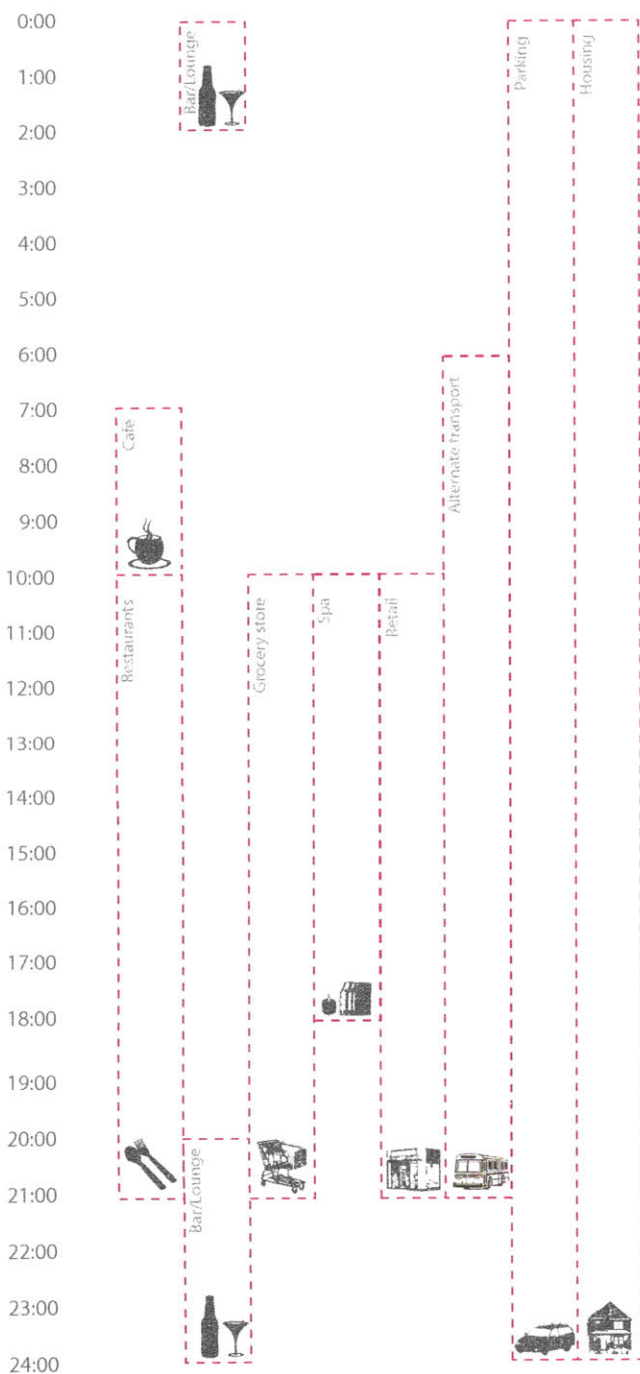


Diagram of Public Space

Proposed Schedule of Activity



Since the discontinuation of the electric rail car system in favor of vast expanses of highway, the social value of downtown Los Angeles has steadily depreciated. In an effort to revitalize downtown, the Grand Avenue Committee has proposed a new vision for the historic city center. The projects range in scope from public parks to residential towers. In this proposal, the current site(201 Grand Avenue) is designated as space for future residential towers.

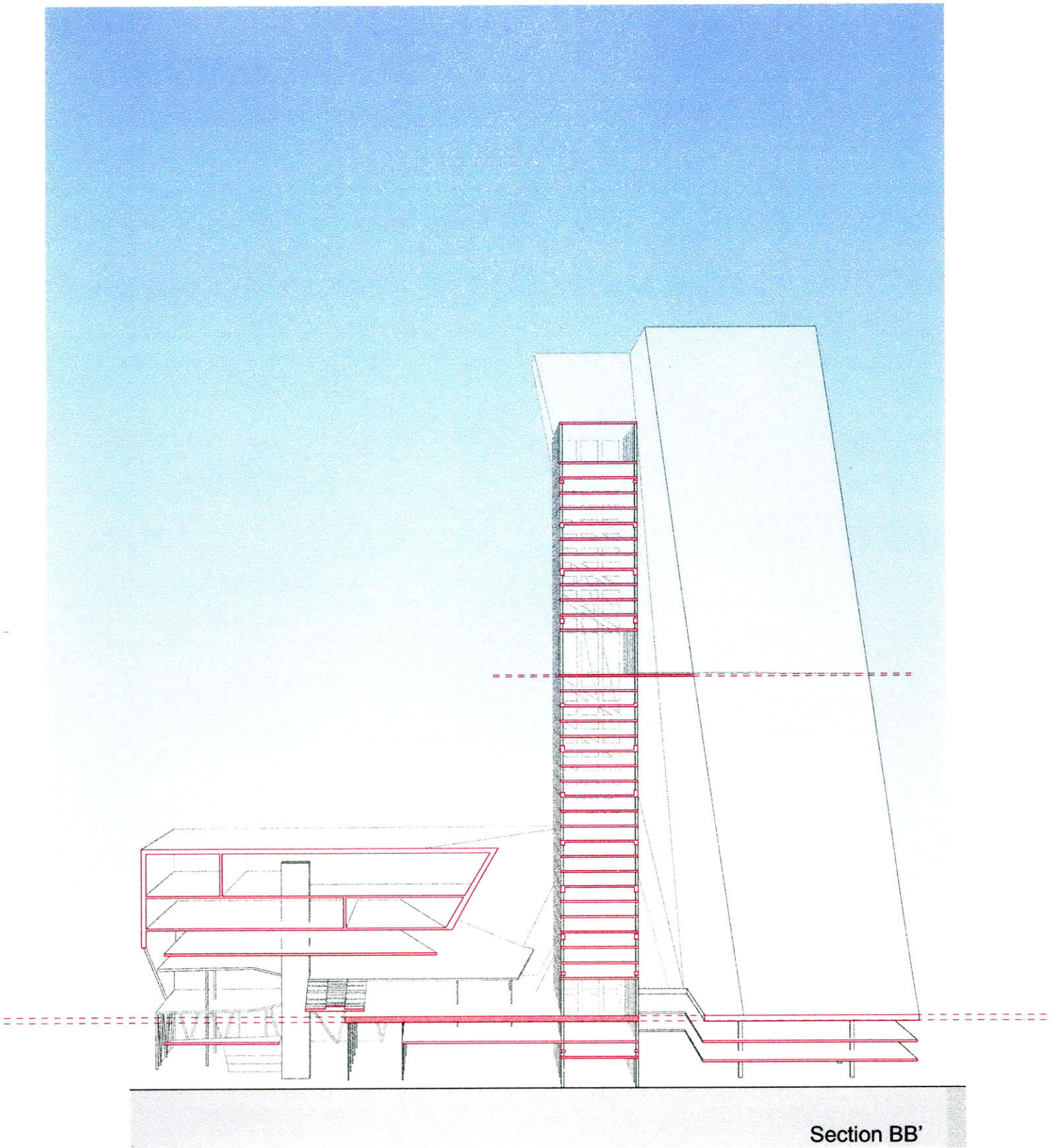
The program of 201 Grand Avenue is broken up into three distinct functions: Parking, Housing, and Public Space. The parking tower uses the advance technology of automated stack parking to store up to 1000 cars. Instead of occupying the ground plane, the function of parking is shifted to the vertical. The Housing complex gives 201 Grand Avenue a constant human presence on the site. In an area with more parking than housing, the additional 350 people bring activity and life. The public space is a place of transit exchange: waiting areas for bus stops, waiting areas for taxis, out door seating, restaurants, bars, grocery store, spa, and retail. Taking on the role of a station, 201 Grand provides the amenities necessary during times of transit.



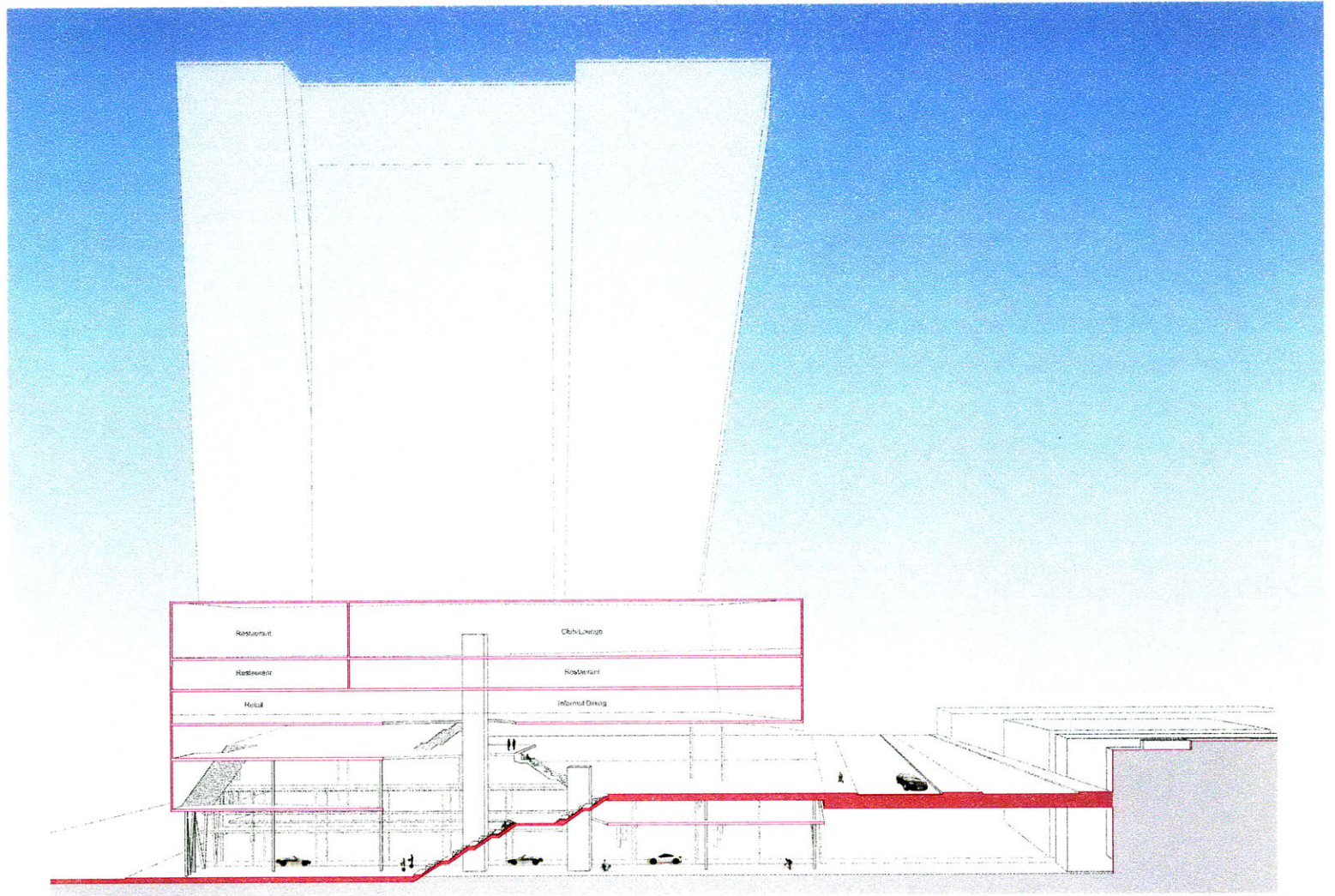
Ground Floor Level 1

Ground Floor Level 0

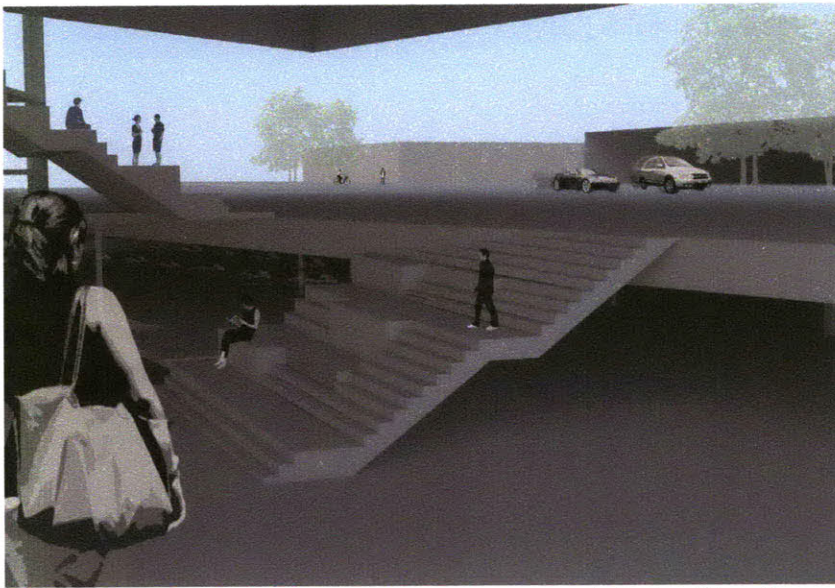
B Basement Level 0



Section BB'



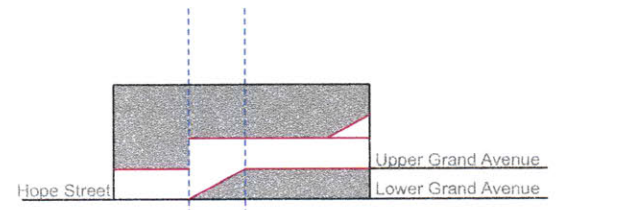
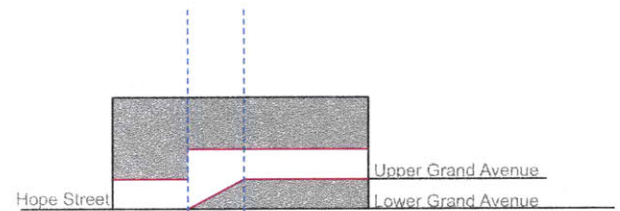
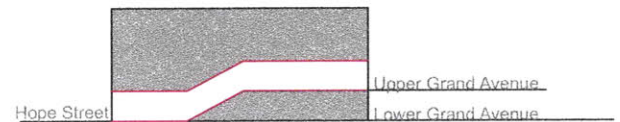
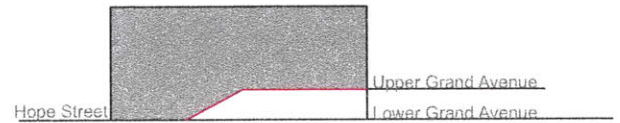
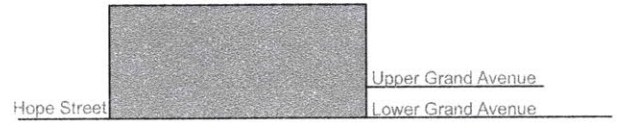
Section AA'



Interior Rendering

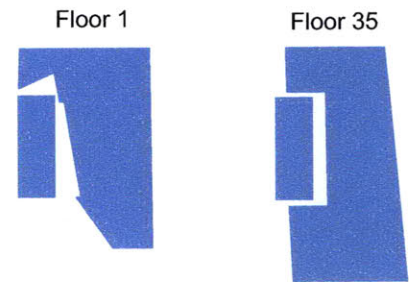
The Section through the public space is designed to connect Hope Street and Upper Grand Avenue. Utilizing the idea of compression and release, the cut through the building is meant to encourage the pedestrian traversing the building to experience the spatial qualities of movement.

On the lower ground floor (Basement level 0), a new "street" carves through the building to internally re-route different lines of public transportation. Serving as a new bus station, 201 Grand Avenue becomes a central node in a greater network of transportation.

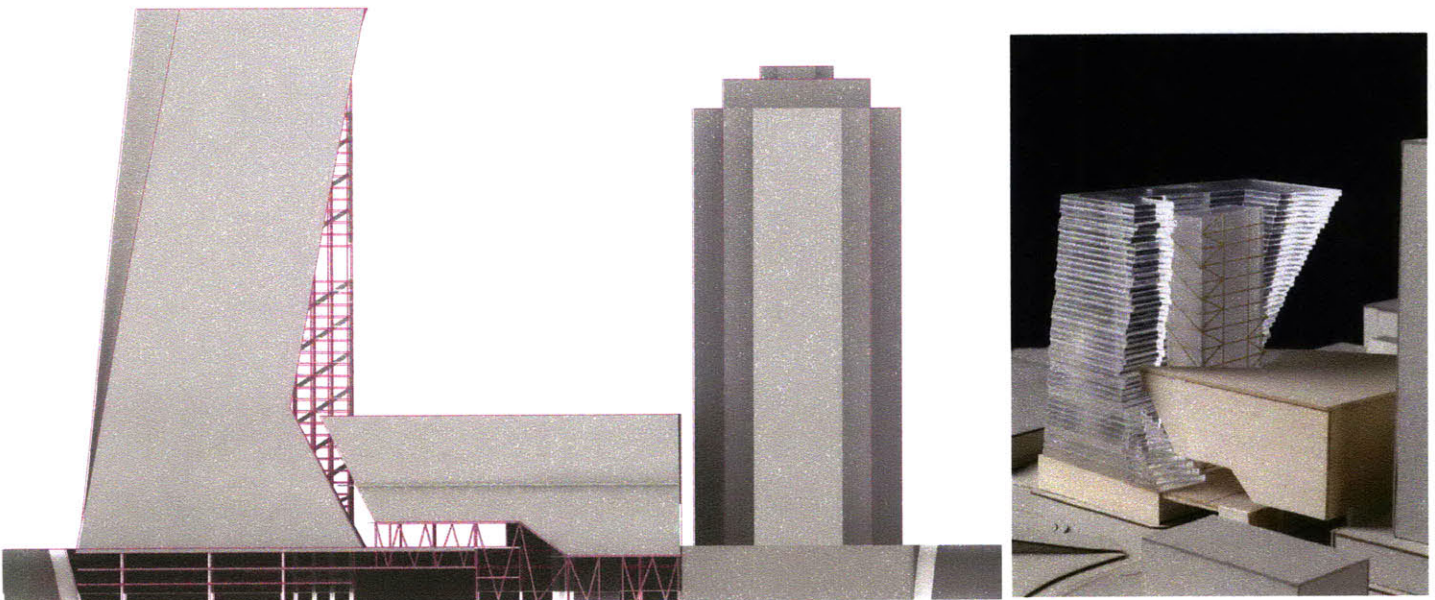


Design moves: Section

The formal relationship between housing, parking and public spaces does not intersect. Though in elevation, there is a semblance of intersecting volumes, in plan, the volumes never completely intersect. The only floor in which the housing and parking towers touch, is where the car-elevator opens up to the residential tower.



Housing-Parking Relationship

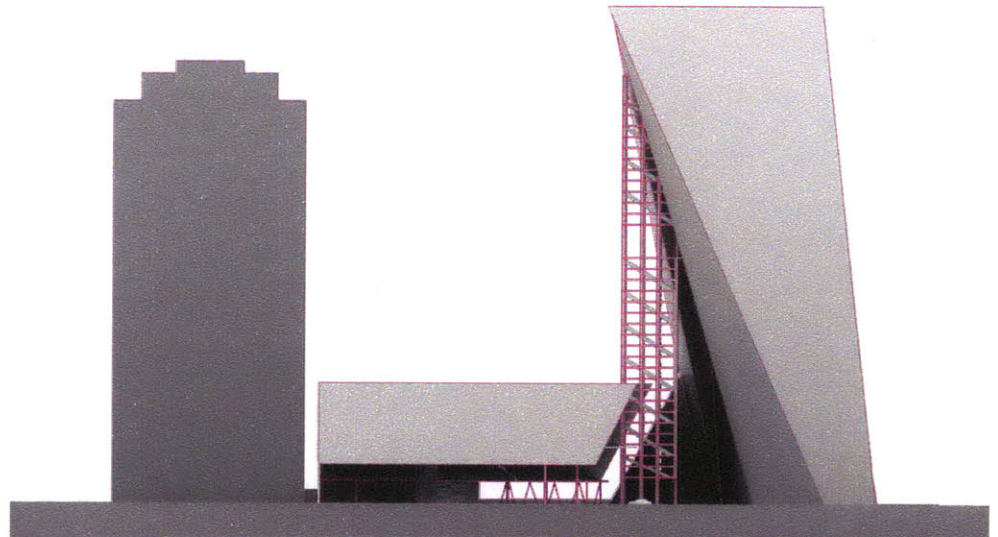


Rear Elevation

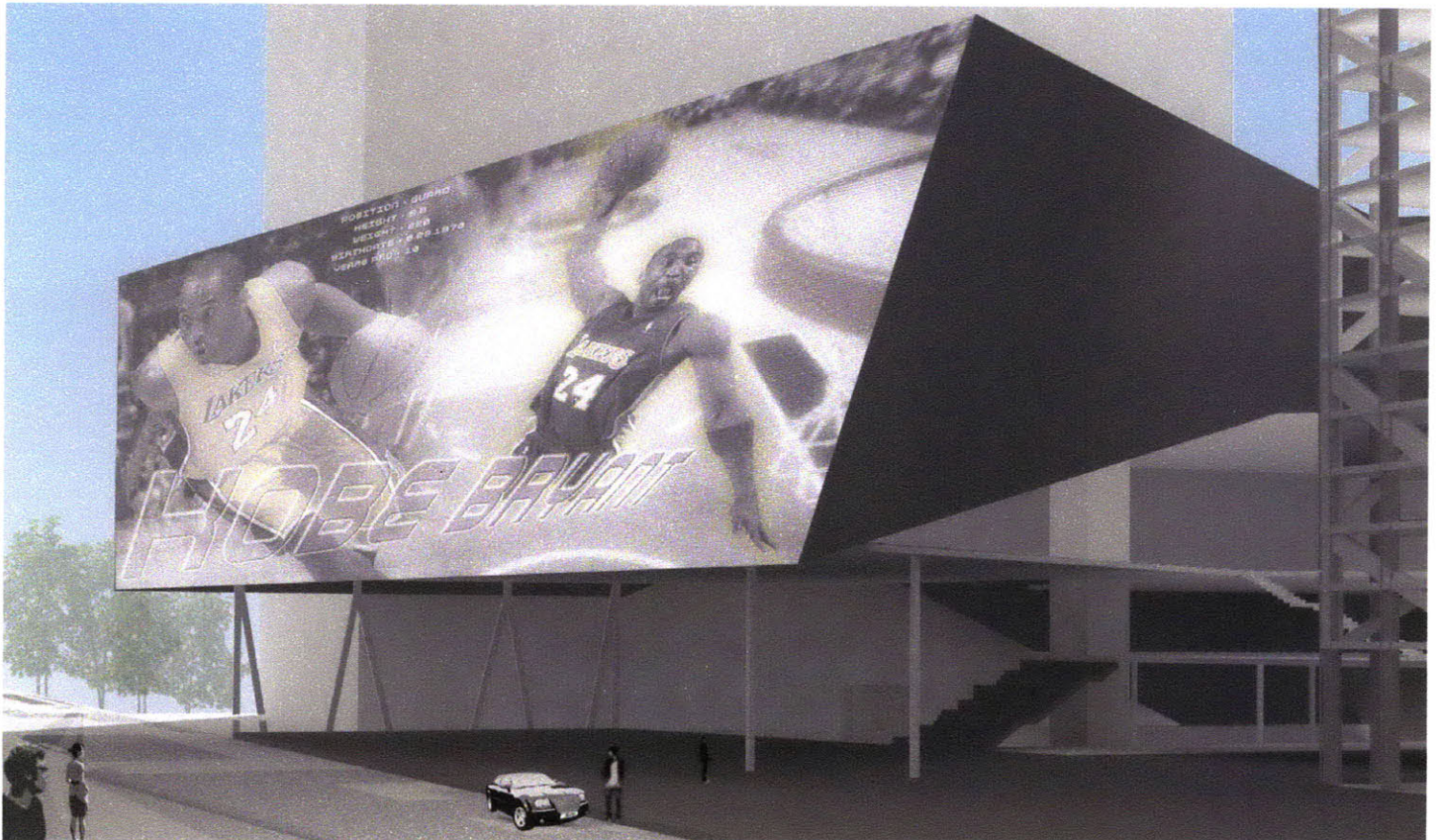
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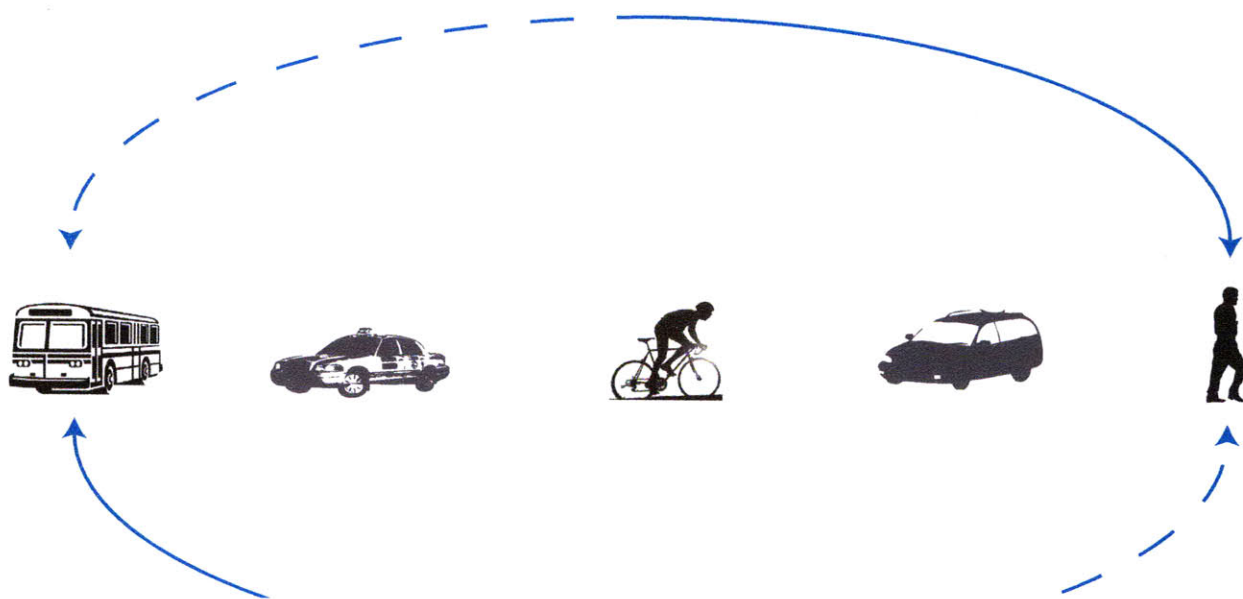
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Front Elevation



View from Colburn School of Music: Media Screen



3. Final Observations and Bibliography

From urban void to urban center, 201 Grand Avenue is transit oriented development that taps into the existing framework of public transit in Los Angeles. Defining 201 Grand Avenue to be the first in a typology of transit exchange, this urban station is a new form of the “park and ride” stations of public transit oriented cities. Instead of only using subway stations, extending the park-and-ride system to surface transport, increases the possibilities for a automobile-less downtown. When spaces in the city are no longer dictated by the automobile, but by the human experience of the individual, then Angeleno can abandon his car, and encounter the ground plane, reclaiming it for the public and reconnecting to the city.

Bibliography + References

- Arnott, R. "Spatial competition between parking garages and downtown parking policy." *Transport Policy* 13.6 (2006): 458-469
- Arnott, R., Rowse, J. "Downtown Parking in auto city", *Regional Science and Urban Economics* (2008), doi: 10.1016/j.regsciurbeco.2008.08001
- Banham, Reyner. *Los Angeles: The Architecture of Four Ecologies*. Berkeley: University of California Press, 2009.
- Crawford, Margaret. "Contesting the Public Realm: Struggles over Public Space in Los Angeles." *Journal of Architectural Education* (1995): 4-9
- Davis, Mike. *City of Quartz: Excavating the Future in Los Angeles*. New York: Vintage, 1992.
- Grand Avenue Committee. *Reimagining Grand Avenue*. Los Angeles: January 2003.
- Holtzclaw, Ditmar (2002) *Automobile Club of Southern California* (2001), *California Department of Transportation* (2002)
- Jakle, John A., and Keith A. Sculle. *Lots of Parking: Land Use in a Car Culture*. Charlottesville: University Of Virginia Press, 2005
- Kayden, Jerold S., The New York City Department Of City Planning, and The Municipal Art Society Of New York. *Privately Owned Public Space : The New York City Experience*. New York, NY: Wiley, 2000.
- Low, Setha, Suzanne Scheld, and Dana Taplin. *Rethinking Urban Parks: Public Space and Cultural Diversity*. Austin: University of Texas Press, 2007
- McDonald, Shannon S.. *The Parking Garage: Design and Evolution of a Modern Urban Form*. Washington, D.C.: Urban Land Institute, 2007.