

AUTOSCALE

Columbia University
Graduate School of Architecture, Planning and Preservation
A4004: Advanced Studio IV, Spring 2017
Vishaan Chakrabarti, Associate Professor of Professional Practice
Christopher James Botham, Associate of Architecture

ABSTRACT

Building on current trends moving away from vehicle-dominated lifestyles,¹ the studio begins with the assumption that 50% fewer vehicles are on the streets of Manhattan. Our focus of examination will not be the technology that renders this change, but rather the question of what to do with an extraordinary amount of new found space that can be re-appropriated from vehicular use. Throughout New York City today, 26.6% of our land area is taken up by streets.² Manhattan's land area is 22.829 square miles,³ meaning that streets comprise just over 169 million square feet of space. This, combined with the area given to parking on our streets, means that a 50% recoupment of the space presents a crucial opportunity for the next evolution of Manhattan's morphology. How do we re-think the city if the dominance of vehicular traffic subsides? What do we do with all this new-found space currently taken up by vehicles throughout the city?

THE STREET AND THE CITY

One cannot experience a city without experiencing a street. Since the first permanent human settlements, a dichotomy between positive and negative space has been present: the positive being the built forms that shelter us, and the negative being the space between these built forms. Streets are the most common example of this negative space. They are the lifeblood of the city, serving as its circulatory system. Traditionally, streets were designed to the scale of the human. This is evident in any medieval town or medina, where foot traffic is predominant (Figure 1,2). As humans congregated in larger numbers, our cities grew and our technology necessitated larger streets to allow for different types of traffic. Thus, vehicles have since dominated the planning of our streets. Cars and trucks have overtaken foot traffic, and the pedestrian experience has become ancillary to vehicular traffic (Figure 3). The island of Manhattan provides us with a felicitous example of this change through time. Moving north up the island, the urban morphology transitions from the irregular street systems of the original Dutch settlement to the rigid and far-reaching gridiron (Figure 4). The streets themselves also transition from the human scale of Lower Manhattan to the vehicular scale of the gridiron. How does this affect the experience of the city? Does the larger street scale of the gridiron make for a better urban experience, or should our streets return to the scale of the human found in Lower Manhattan?

Along with the rise of vehicular traffic on our streets, the vehicles themselves needed a place to reside when not in use. In the urban context, vehicular parking has become a major part of the planning puzzle. Nearly every street in New York City gives at least one lane of traffic over to stationary vehicles, and most of these give two. Add to this the need for a new building typology (the parking garage) to handle the overflow of stationary vehicles, and one can easily see the impact that vehicles have had on the spatial experience of our cities.

¹ Moss, Stephen. "End of the Car Age: How Cities Are Outgrowing the Automobile." The Guardian, April 28, 2015. Accessed December 1, 2016. <https://www.theguardian.com/cities/2015/apr/28/end-of-the-car-age-how-cities-outgrew-the-automobile>.

² New York City Department of Transportation. Street Design Manual, 2015 Updated Second Edition

³ United States Census Bureau. "2010 Census Gazetteer Files: New York Counties." 2010 Census Gazetteer Files: New York Counties. Accessed December 1, 2016. http://www2.census.gov/geo/docs/maps-data/data/gazetteer/counties_list_36.txt.



Figure 1: Brussels, Belgium. An example of a medieval street, planned around the human scale and without vehicular traffic.



Figure 2: Financial District, Manhattan. Irregular street pattern from the original Dutch settlement and pedestrian-only.



Figure 3: Midtown Manhattan. Vehicular traffic is given precedence, with foot traffic pushed up against building facades.

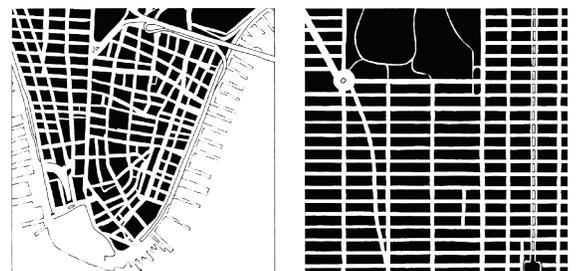


Figure 4: Lower Manhattan and Midtown Manhattan street grids. Irregularity versus regularity in street planning within the same city. (image source: Jacobs, Great Streets)

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STUDIO PROCESS

The semester will progress through four stages, focusing on multiple scales and themes that seek to integrate with and inform each-other throughout the process. The three scales to be engaged are that of the parking space, then multiple lanes on a city avenue block, and finally the highway.

Part One (Week 1): *Precedent research and data gathering*

Students will study the idea of the street through a combination of historic and contemporary precedents, and will compose a project thesis that outlines major themes to be explored throughout the semester.

Part Two (Week 2-3): *The parking space*

Working from data gathered in Part 1 and building upon the project thesis, students will design a re-appropriation prototype for a single parking space on a street on Manhattan. The redesign of this 10' x 24' space will inform the subsequent scale studies. The site will be near the water and is tbd.

Part Three (Week 4-5): *Avenue Lanes*

Moving up in scale, students will consider the re-appropriation of 50% of the lanes of a typical avenue block. The students should assume that the remaining lanes of the block will continue to be used for vehicular traffic. The site will be near the water and is tbd.

Midterm Review

Parking space and avenue block designs to be presented, focusing on 2D representation and study models. See studio requirements for specific deliverables.

Part Four (Week 7-12): *The Waterfront Highway / Linear City*

Continuing with project concepts from the first half of the studio, students will design a proposal for a stretch waterfront highway to be determined; the students should assume that half of the highway must still allow for the flow of vehicular traffic. The program should have an educational component of the student's choosing. The second half of the semester will deal with the intersection of architecture and large-scale urbanism, and will require students to implement ideas from the previous scale into the scale of a linear highway.

Final Review

Projects spanning all three scales to be presented. See studio requirements for specific deliverables.

In addition, throughout the semester particular attention will be given to representation and presentation skills. You will be required to develop a visual language that supports your project thesis, and to implement it at each pin-up and review. Drawing and models are the primary mode of communication for architects, and the studio will put emphasis on both throughout the semester. Presentation skills will also be developed and discussed. Dry-run presentations before each major review will allow for individual feedback and dialogue about presenting your work, as well as framing your argument through your drawings.



Figure 5: The island of Manhattan will be our lab. We will both engage and propose alternatives to the cityscape, all while simultaneously being sensitive to, and critical of, the existing state of the city. Change is the only constant in New York City. (image source: Google Earth)

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STUDIO REQUIREMENTS

In addition to weekly work to be completed, major milestones will require the following:

Midterm

Project thesis: 50-100-word concise statement of intent
Site plan of city block at $1/16'' = 1'$
Detail plan(s) of lanes at $1/8'' = 1'$
Street section(s) of city block at $1/16'' = 1'$, to compliment site plan
Detail section(s) of lanes at $1/4'' = 1'$, to pair with detail plan
Study model(s): at least one each for city block and individual parking space
3D perspective views (at least 3) of both the overall city block and the individual parking space

Final Review

Project thesis: 50-100-word concise statement of intent
Neighborhood analysis diagrams and sketches
Site plan at $1/64'' = 1'$
Detail plan(s) $1/16'' = 1'$
Street section(s) at $1/16'' = 1'$, to compliment site plan
Detail section(s) at $1/4'' = 1'$, to pair with detail plan
Study model(s)
Linked Studiowide Drawing and Model (to be explained)
3D views (at least 4): can be drawings or renderings
Any other supporting drawings or models that support your thesis

READINGS AND REFERENCES

Goodman, Paul. "Banning Cars in Manhattan." In *Utopian Essays and Practical Proposals*. New York: Random House, 1962.

Jacobs, Allan B. *Great Streets*. Cambridge, MA: MIT Press, 1993.

Jacobs, Jane. "Erosion of cities or attrition of automobiles." In *The Death and Life of Great American Cities*, Pages 338-371. New York: Random House, 1961.

Kimmelman, Michael. "Paved, but Still Alive." *The New York Times*, January 6, 2012. Accessed December 1, 2016. <http://www.nytimes.com/2012/01/08/arts/design/taking-parking-lots-seriously-as-public-spaces.html>.

Moss, Stephen. "End of the Car Age: How Cities Are Outgrowing the Automobile." *The Guardian*, April 28, 2015. Accessed December 1, 2016. <https://www.theguardian.com/cities/2015/apr/28/end-of-the-car-age-how-cities-outgrew-the-automobile>.



Figure 6: We will consider the relationship between the city and its waterfront. Currently, Battery Park is the only place on the island where you can access the waterfront without engaging a freeway. (image source: Wikipedia)