Adaptable Street

+ *Observation : In our cities, adaptability has a thickness*

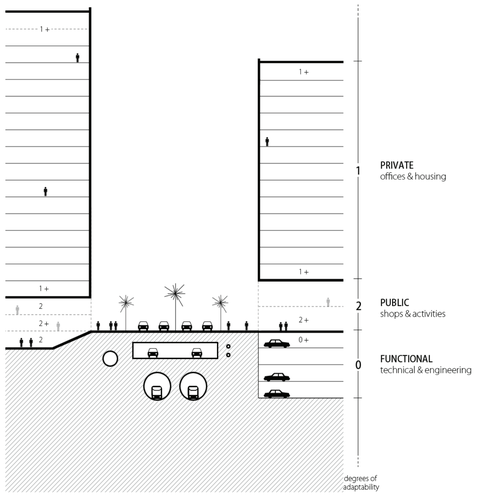
In urbanism as in architecture, adaptability is the capacity of a construction to accommodate changes, to evolve and adjust oneself. So it is an intrinsic quality of a project, that incorporates the notion of time.

Historically, these are the spaces related to the street that hold the greatest potential for change. Indeed, as the lifespan of shops and activities is not the same as the buildings one, the ground floors must be adaptables. In addition, the street has always been an emulation surface for the first floors of a building. These levels stage our streets and contribute to the experience one has of a city. Because they define the relationship between ground and buildings, public and private, they are the privileged interface between the height taken by contemporary cities and the life that takes place on the ground. ***The ground floors founds the use value of our cities and this is their interest to be adaptable.***

Conversely, the spaces in height have always hosted private programs, like housing or offices that can organize themselves in similar spatial configurations. So naturally they hold a certain adaptability. However, their capacity to accommodate change is limited by their size and their location in space.

Finally, ***the less adaptable spaces of our cities are the undergrounds.*** Yet supplicants of colossal investments, these places are completely hermetics to external changes. They are designed for typical functions (subway, sewer, parking, etc.) and reproduced systematically on a very large scale. This potential is all the less exploited as their design is sterile : congested by multiple constraints, these spaces are sized a minima and without qualities of use. Thus, they can hardly accept significant changes which will not stand by the restructuring of the whole. These are only transit spaces for humans, who do not benefit then of their proximity with the active surface : the street.

The functional urbanism has made of the city stand a residual and technical object, largely dedicated to cars. Yet it is the support that allows cities to adapt over time. The vacuum part contained in the urbanism also holds a formidable opportunity for development. So we will look at this interstitial condition, between underground and roadway, which is *the biggest challenge of adaptability for our cities*.



+ *Infrastructures*

Our cities are increasingly constructed around flows : flows of capital and information - so-called immaterial flows – or human, technical and energetic flows – known as material flows. All are carried by more or less physical infrastructures : supports of the city. They freeze it in a network operation, in which architecture takes place in such a ephemeral way.

• Rethinking the city support.

The typical infrastructures that organize the city are the roadways - exterior surfaces of traffic - and the undergrounds - invisible spaces of sewer, electricity or transport networks. The space of these flows is generally conceived in a functional and simplistic system but never in a global and sustainable way. At the moment of a new network installation, the infrastructure is seen as innovative and bearer of progress. But when the latter is obsolete - whether for technical or social reasons - it becomes a scourge for the city until the time of its destruction. In everyday life, a simple renovation of an outdated network or the need of a new underground connection requires the deletion of the asphalt layer. Not very different from the first Roman ways, this street system - support of our current cities - is completely archaic in its inadaptability.

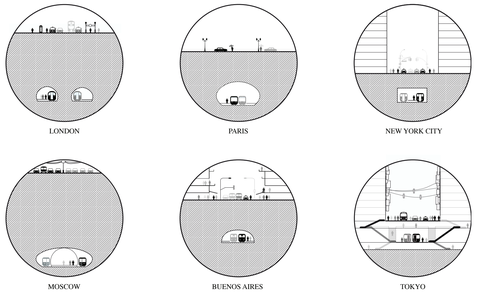
Moreover, archaeologists often summarize the cities of the past through their infrastructures - sewer and pipe networks or remains of roadways. For sure, their indestructible character holds a great potential for identity. Thus it seems essential to confront them face to their resistance to time to design ***infrastructures as durable and adaptable supports***.

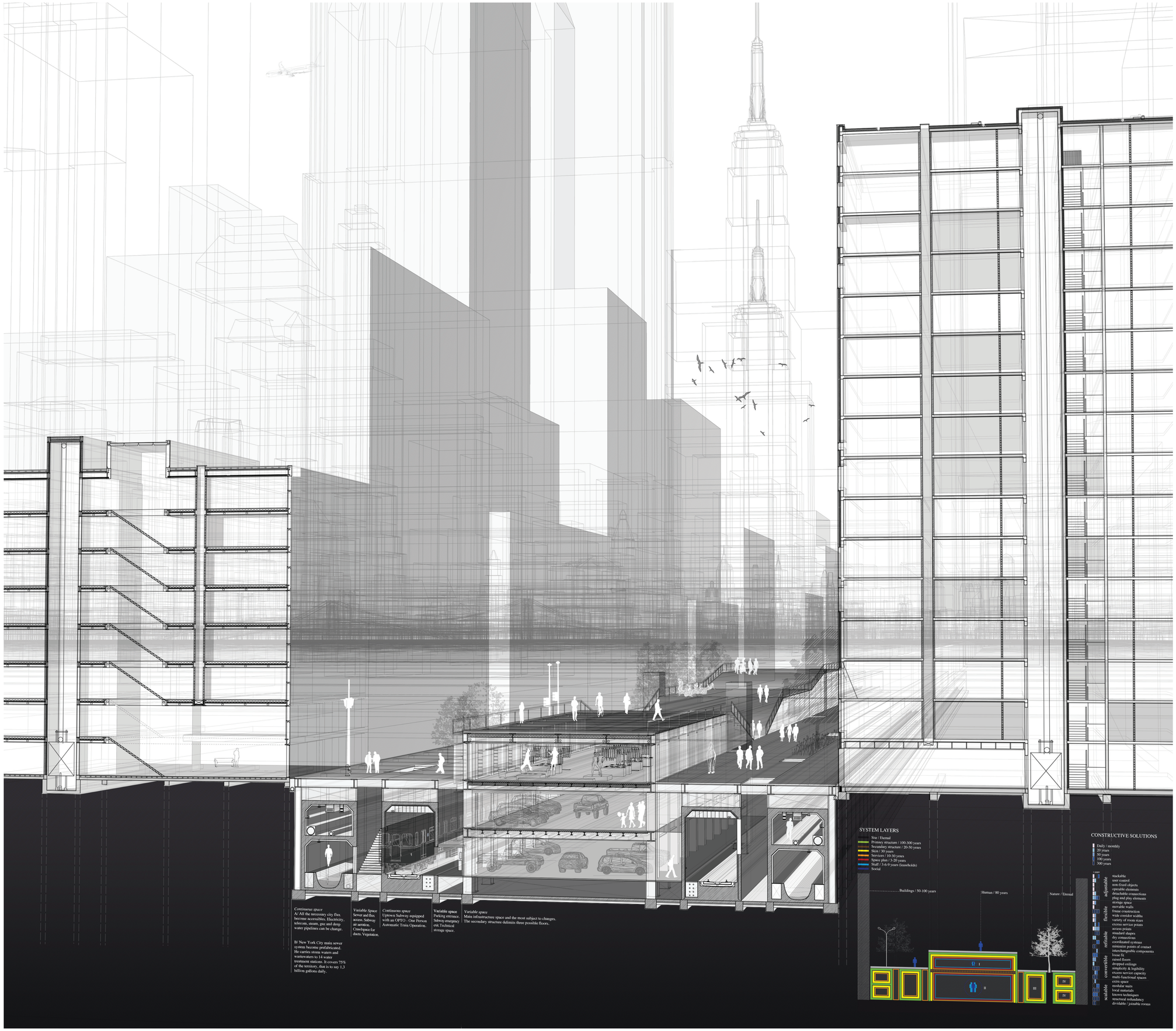
• Changing the image of infrastructures.

Whether in Paris, Tokyo or New York, infrastructures are generally not well received, devourers of space and purveyors of nuisance, they are the necessary evil of the city. The climax of this antipathy is embodied by the underground infrastructures, concealed and unknown, they are the mystical places of the city-machine. When these megastructures lose their initial role for technical or social reasons and when they become unnecessary for the city, only their image will decide their fate. The generic infrastructures, without identity, will be doomed to disappear while the specific infrastructures, which constitute the identity of their environment, will receive new stories and will be transformed to accommodate other functions.

Yet, by the generosity of their volumes, they hold real opportunities of appropriation. Rather than waiting for the past infrastructure to be disused and replaced by a new social program, could we conceive public infrastructures to come with intended social side-effects from day one ? Our public infrastructures for transport, energy, water, sewage etc. are major investments in our public budgets. And what if we could exploit those massive investments and imbue them with positive social side effects from the get go rather than in retrospect ? Domesticating the infrastructure into polyfunctional, open and accessible objects is an urban and architectural windfall. By injecting social programs into the public infrastructures, we can generate new urban life forms into the heart of our cities. The innovative infrastructure as a living and socialization space is called to correct the deficient infrastructure.

What if we could accommodate infrastructures ? Accomodating infrastructures, a new urban horizon.



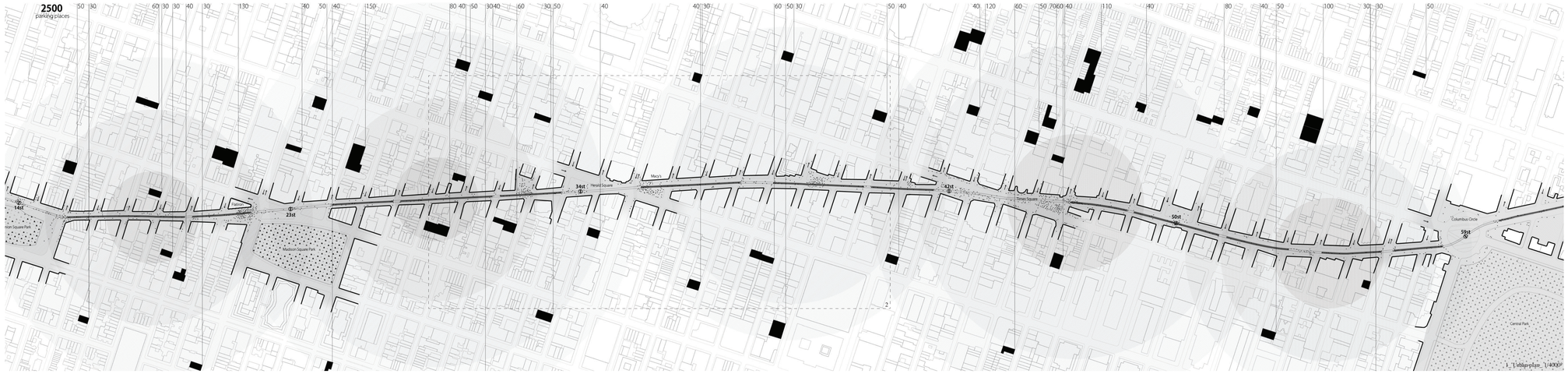


+ Context

New York City is dependent on its underground transport network. With approximately 5 million users a day, it is an inescapable crossing place and a particularly attractive location for trade. However, its network is the second oldest in North America and the major evolutions of its infrastructures date from the 1970s. Recently, the city reinvested several billion dollars in its subway and plans to invest more to increase its capacity. Moreover, although there is only 25% of residents car owners in Manhattan, the city admits about 4,3 cars per square meter. In this conjuncture, the car parks are real problems for the city. Some buildings have private indoor parking, but there are still numerous outdoor parkings, surface or aerial car parks, whose owners take advantage to make land speculation.

Since 2008, the municipality develops a politics of pedestrianization and the transport on foot and in bicycle represents 30 % of the travels in the city. By making the hypothesis that public transport will gradually replace the cars in big metropolises, this system takes advantage of the contemporary situation to fundamentally rethink the support of the city. By investing Broadway, this infrastructure extends from north to south of the Manhattan island. The project gets organized into sections of two New Yorker blocks. In the zone represented in plan, 2500 parking lots are relocated in the infrastructure, so allowing to release 40 000 m² of constructive potentials. According to the street typologies and the urban events caused by the hippodamien plan, the project provides a variety of situations and defines new relationships with the perpendicular streets. The infrastructure becomes the pedestrian nerve of the city, connecting aboveground all the urban attractions of Manhattan.

New York City, already a pioneer of underground life, will show the example for the urban boulevards of global cities, such as the Champs Elysees in Paris, the Avenida 9 de Julio in Buenos Aires or the Chuo Dori Avenue in Tokyo. Broadway, the new metropolitan street, a future urban horizon.



+ Flexibility VS Adaptability

In functionalist architecture, the shape was derived from the expression of efficiency. This amounted inevitably to an extreme specification of forms according to needs and uses. The rapid obsolescence of these specific solutions leads the functionalism to a certain inefficiency. Hardly of this observation, the flexibility then appeared as the postmodern remedy to the changing conditions of the architecture and the city.

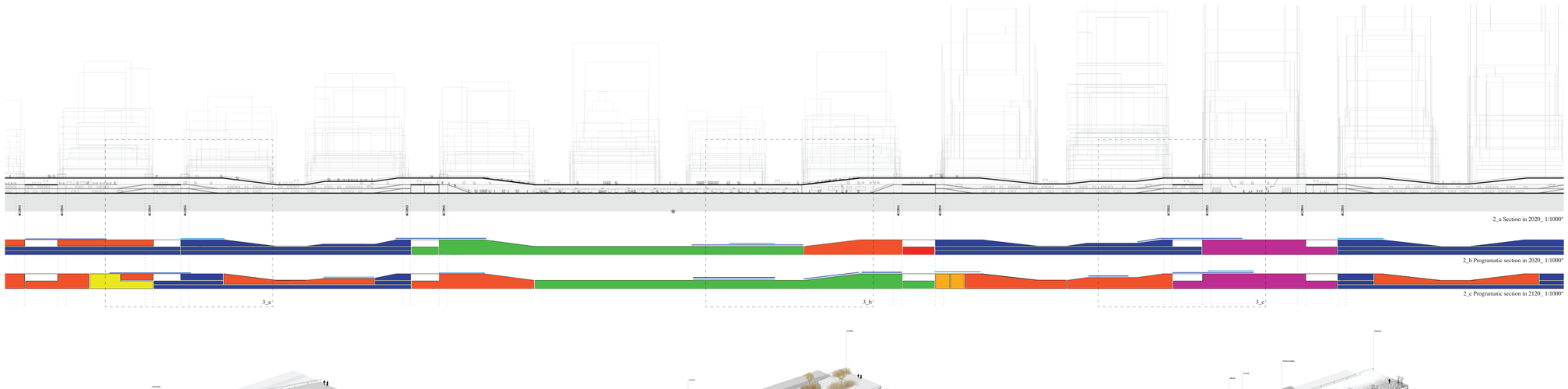
• **Flexibility**

The flexible plan bases itself on the certainty that there is no adequate solution because the problem requires a response always temporary. Of course, a flexible set-up can adapt itself to every change, it may at any time provide any solution, but it will be only a neutral response to specific problems. ***Actually, the flexibility represents the set of all unsuitable solutions to a problem***. By building neutral structures, equipped with networks and services, we hoped to accommodate the most diverse uses without directing them. But the buildings that can accommodate all the functions don't satisfy none of them separately. This approach marks the conception of an architecture which, opened to all possibilities, wants itself without other shape than the one engendered by its functioning. So in that sense, ***the neutrality reveals an absence of identity.***

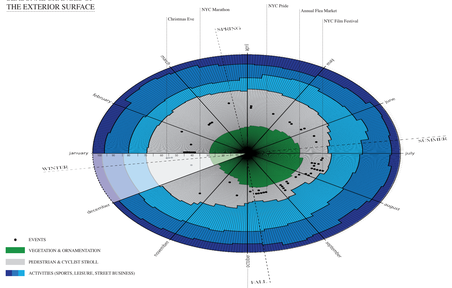
• **The adaptability requires an identity.**

It is clear that neither the specificity - which is the consequence of the functionalism - nor the neutrality - which is the inevitable result of the flexibility - cannot bring a solution adequate to the problem of the adaptability.

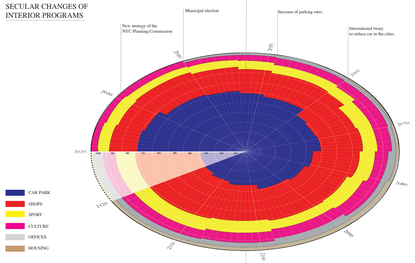
In fact to resist changes, the built forms should be designed to allow many interpretations without losing their own identity. That is to say they must be usable for multiple purposes without having to undergo changes themselves. Thus, there is a real necessity for the architect to make a commitment as for the shape of the space, only susceptible to be appropriate by the users. By virtue of their capacity to accommodate change or even to induce and generate new functions, ***we recommend the employment of stable and strongly qualified architectural forms, which make the individual interpretation possible.***



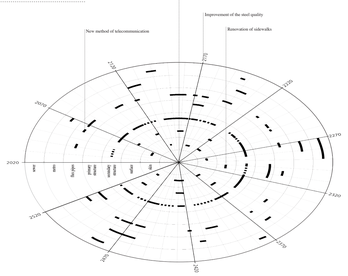
SEASONAL CHANGES OF
THE EXTERIOR SURFACE

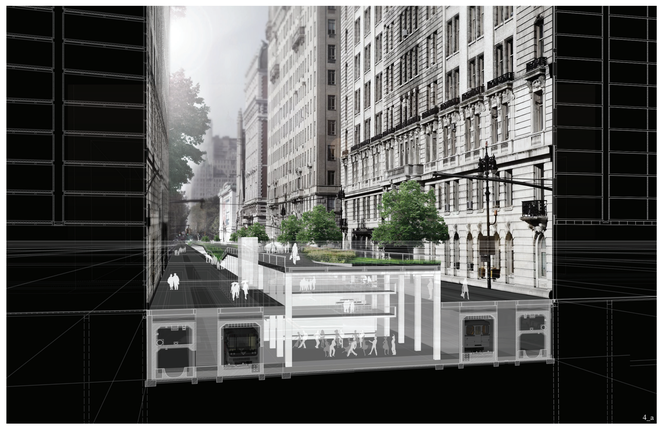


SECULAR CHANGES OF
INTERIOR PROGRAMS



PHYSICAL CHANGES IN 500 YEARS

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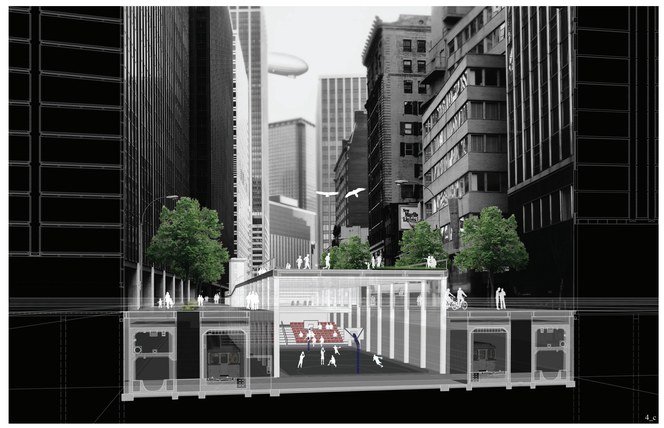
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