Abstract

The city is the spatial manifestation of the relationship between people and power and results as the stratification of **consecutive political visions**.

Democracy has nowadays lost its connection with the urban daily life and it is mostly sustained without **people's involvement**; consequently, public space is perceived as the manifestation of decision-makers and people find it hard to claim their right to it.

The recent riots in Greece show how citizenship is now expressed through frustration and friction, as a reaction to top-down decisions, without being **constructive**.

Historically public space was more important than private space; in the Agora, **Stoa** was the place for discussion and exchange, surrounded by daily activities that constituted the core of the society.

The direct democracy of ancient Greece could be the reference for a **contemporary urban model** which includes members of all age and social groups, in which stoa as its spatial consequence inspires a new approach to public space.

Big urban gestures express a top-down set of mind and tend to neglect the existing **layering of the urban realm**. The latter resembles a **palimpsest** that includes successive materializations of the social economical and political conditions that prevailed **from ancient Greece to the modern era**.

However the current economic and social situation asks for **flexible and cost-effective** solutions that rely on people's contribution. The crisis should be dealt with as an **opportunity** to introduce an additive approach that would lead to a greater benefit out of the minimum intervention.

The proposal provides an **intense linear space** that will awaken hibernating potential for activities to shape the surrounding territory that will be unburdened of the existing restrictions to constitute a field enriched with traces of the city's memories.

Technology carries along great potential for re-establishing the bond of citizens with the city; by **grafting the infrastructure**, which is an effective, costly and permanent intervention, the city will be provided with a framework for **spontaneous appropriation**.

Along with the tramline an infrastructural spine is created for small-scale elements to be plugged-in and serve people's contemporary **daily needs** as expressed and modified in terms of **locality** and **weather conditions**. **The mild Mediterranean climate** expressed in a virtual nine-month summer instilled an innate gregariousness thereby affecting the character of their activities and the way they are spatially manifested. Kitchens, tables, lounge chairs, workstations, bathrooms, ponds, projectors, power sockets and Wi-Fi, water fountains, herb gardens, bike repairing stations, gyms create **a habitable environment**.

A phased construction approach allows the proposal's basic tenets to adapt to any concurrent social, economic and political changes without interrupting the fluidity of experiencing the urban reality.

The expected appropriation will trigger people's **creativity**, stimulate small-scale productions and revive arts and crafts for an alternative lifestyle. **It will create the premises for a new practice of democracy, one interwoven with everyday life.**

Η πόλη αποτελεί τη χωρική εκδήλωση της σχέσης ανάμεσα στους πολίτες της και τους φορείς εξουσίας και καταγράφει στο πέρασμα του χρόνου τη διαστρωμάτωση των διαδοχικών πολιτικών που αφορούν σε αυτήν.

Η καθημερινή αστική πραγματικότητα διαμορφώνεται σε μεγάλο βαθμό χωρίς τη συμμετοχή των κατοίκων της πόλης, ακυρώνοντας έτσι τη δημοκρατική υπόστασή της, ενώ ο δημόσιος χώρος προκύπτει ως αποτέλεσμα αποφάσεων των «αρμοδίων φορέων» με τους χρήστες του να δυσκολεύονται να διεκδικήσουν το δικαίωμά τους σε αυτόν.

Οι πρόσφατες κοινωνικές ταραχές στην Ελλάδα προβάλλουν μια μορφή κοινωνικής συμμετοχής που εκφράστηκε ως αντίδραση- προστριβή στις άνωθεν λαμβανόμενες αποφάσεις, χωρίς καμία δημιουργική συνιστώσα.

Στην αρχαία Ελλάδα ο δημόσιος χώρος ήταν πιο σημαντικός από τον ιδιωτικό. Στην Αγορά κάθε στοά λειτουργούσε ως χώρος συζήτησης και ανταλλαγής συγκεντρώνοντας καθημερινές δραστηριότητες στον πυρήνα της αστικής κοινωνίας. Η άμεση δημοκρατία της αρχαίας Ελλάδας θα μπορούσε να αποτελέσει το μέτρο αναφοράς για ένα σύγχρονο αστικό μοντέλο με τη συμμετοχή όλων των κοινωνικών και ηλικιακών ομάδων όπου η «στοά» θα εισάγει μια νέα προσέγγιση στο δημόσιο χώρο.

Οι παρεμβάσεις μεγάλης κλίμακας αποτελούν έκφραση μιας προσέγγισης «εκ των άνω» στη διαμόρφωση του ιστού της πόλης, τείνοντας να αγνοήσουν την υπάρχουσα διαστρωμάτωση του αστικού πεδίου που μοιαζει με παλίμψηστο το οποίο φέρει διαδοχικά αποτυπώματα των κοινωνικών οικονομικών και πολιτικών συνθηκών που επικράτησαν από την αρχαία ως τη σύγχρονη εποχή. Αντιθέτως οι σημερινές οικονομικές και κοινωνικές συνθήκες απαιτούν ευέλικτες και οικονομικά βιώσιμες λύσεις που θα βασίζονται στη συμμετοχή- συνδρομή των πολιτών. Η υπάρχουσα κρίση θα πρέπει να γίνει ευκαιρία για την εισαγωγή μιας προσθετικής προσέγγισης που θα οδηγήσει στο βέλτιστο αποτέλεσμα με την ελάχιστη παρέμβαση.

Η πρόταση υιοθετεί έναν **έντονα γραμμικό χώρο** που θα αφυπνήσει τις λανθάνουσες δυνατότητες για καθημερινές δραστηριότητες για να διαμορφώσει ένα αστικό περιβάλλον ελεύθερο από προηγούμενους περιορισμούς και να ορίσει ένα **πεδίο** εμπλουτισμένο από τα ίχνη αστικών αναμνήσεων.

Η χρήση της τεχνολογίας περιέχει μια σημαντική δυναμική για την επανασύνδεση των πολιτών με την πόλη τους. Η μεταμόσχευση δραστηριοτήτων πάνω σε ένα σύνολο αποδοτικών, μόνιμων και υψηλού κόστους υποδομών προσφέρει στην πόλη ένα πλαίσιο δυνατοτήτων επαναδιεκδίκησης των δημοσίων χώρων της.

Κατά μήκος της γραμμής του τραμ δημιουργείται μια ραχοκοκαλιά υποδομών στην οποία εσωματώνονται στοιχεία μικρής κλίμακας που εξυπηρετουν τις καθημερινές ανάγκες των πολιτών όπως αυτές εκφράζονται και τροποποιούνται με όρους τοπικότητας και καιρικών συνθηκών. Το ήπιο μεσογειακό κλίμα με τη μορφή καλοκαιριού 9 μηνών εμφύσησε μια τάση για συνάθροιση επηρεάζοντας έτσι τον χαρακτήρα των καθημερινών δραστηριοτήτων τους και τον τρόπο χωρικής εκδήλωσής τους. Κουζίνες, τραπέζια, καθιστικά, χώροι εργασίας, χώροι υγιεινής, μικρές στέρνες, βίντεοπροβολεις, παροχές ηλεκτρικού ρεύματος, διαδικτύου και πόσιμο νερό, κήποι με μυρωδικά, σταθμοί επισκευής ποδηλάτων και γυμναστήρια διαμορφώνουν ένα κατοικήσιμο περιβάλλον.

Η υοθέτηση της κατασκευής σε φάσεις επιτρέπει στις βασικές αρχές σχεδιασμού της πρότασης να προσαρμοστούν σε ενδεχόμενες κοινωνικές, οικονομικές και πολιτικές αλλαγλες που ενδεχομένως θα προκύψουν κατά την υλοποίηση χωρίς να διακόπτει την καθημερινή ροή του αστικού βιώματος.

Η αναμενόμενη επαναδιεκδίκηση του δημόσιου χώρου από τους χρήστες του θα πυροδοτήσει τη δημιουργική διάθεση τους, ενθαρρύνοντας εκδηλώσεις μικρής κλίμακας και προσφέροντας γόνιμο έδαφος για νέες μορφές τέχνης και χειροτεχνίας. Δημιουργούνται έτσι οι προϋποθέσεις για μια νέα εφαρμογή της δημοκρατίας που θα διαπερνά κάθε πτυχή της καθημερινής αστικής ζωής και πραγματικότητας.

RETHINK ATHENS: TOWARDS A NEW CITY CENTER DH17231721

MEETING POINT

The area of intervention possesses a great potential derived from its unique location and distinct public buildings in the vicinity, while it constitutes the middle ground of five lively neighbourhoods of central Athens.

The uses fostered are mostly commercial and despite the minimal recreational spaces the broader Panepistimiou area remains almost monofunctional, essentially a commuting space to and from offices (that occupy mostly the upper floors of the buildings) and a junction point of the public transportation system; a situation that greatly limits its vividness to the rush hour period of the day.

On the contrary, the neighbourhoods found at the edges are mostly residential and while being different from each other, they share one thing; the small scale spatial manifestation emanating from people's everyday life.

The area has a significant historical background and played a profound role in the shaping of recent political movements. It became and still is the physical space of protest where people claimed back their rights to more direct governance. Despite the fact that this area could be a space for negotiation, exchange and an everyday practice of direct democracy, it fails to function so, due to its

monumental character, large-scale spatiality and top-down practices that shaped the urban scape.

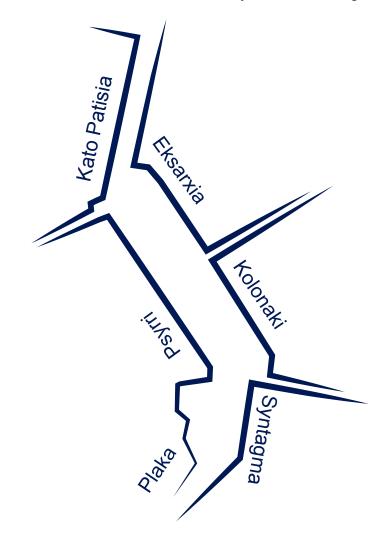
The basic element and prominent intercession that will fundamentally reshape Athens is the pedestrianization of the area along with the realization of the tramline. Such an intervention is a great investment both in pure financial terms and real value to the city's life. The infrastructure that will be brought along is a key element that cannot be simply neglected and left to numeric calculations and mere technically oriented solutions. In an effort to create a condense space that has

In an effort to create a condense space that has the necessary critical mass to compose a profound territory – an intense, potent space- the focus is pointed to the tram line utilizing the latent dynamic facilities it possesses.

A new design approach where infrastructure is the base creates a linear intervention, a spine. This spine is occupied by a series of elements that provoke certain actions that gradually diffuse and affect a wider area of interest.

Following the notion of a minimal intervention that enables a finite amount of material, the space is not treated homogeneously but instead the effort is concentrated in a defined area.

In this way new hierarchies are introduced creating a dynamic field between territories of different density in use and design.

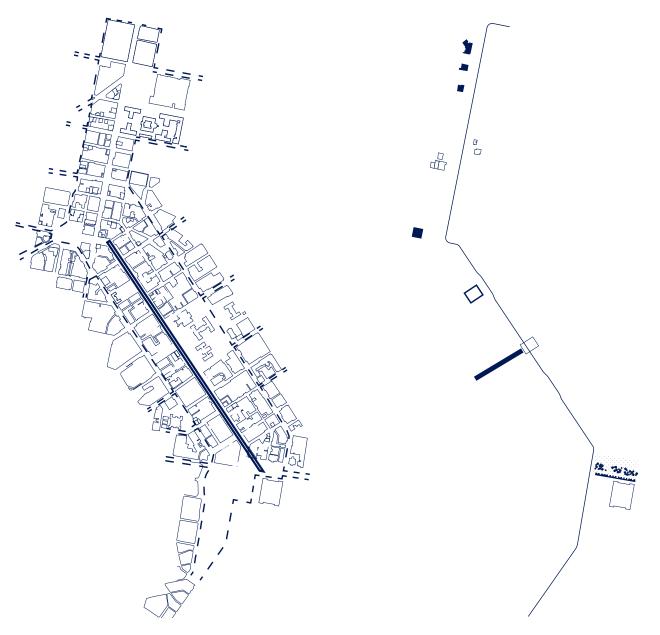


PUNCTUAL INTERVENTIONS

The line is not treated as a repetitive form, even though it contains ideas that point to prefabrication practises to lower construction costs. It is considered an element introduced to the city fabric, an object charged with intense infrastructure. The design adapts to specific site's conditions the choice of uses is dictated by the small-scale urban furniture. The three squares (Omonia, Trilogy, Dikaiosynis) receive through simple and elemental design a new character that shifts their initial significance. The topological characteristics of these places are strengthened in an effort to connect with the history of the city. This new interpretation through design has as a goal to create a place that will be populated and appropriated by the users. More specifically in the Omonoia Square, gravity is given to the commuter, the movement of people is driven to the center and the rich underground life of the station is revealed. Korai due to its position

in between two major city nodes (Trilogy Complex and Klafthmonos Sqr.) is bound to play a pivotal role. Dikaiosynis Square is treated as an interior space resembling the courtyards that hosted the ancient pottery workshops. In addition to these three, smaller interventions provide supplemental uses along the line. A striking example is the old flower shops near the Parliament that are being repopulated and paired with a group of allotments. The gradual transition of the design scale that spans between specific and generic provides to the citizens a fresh and clear reading of the latter so that they can now project their aspiration directly onto the cityscape.

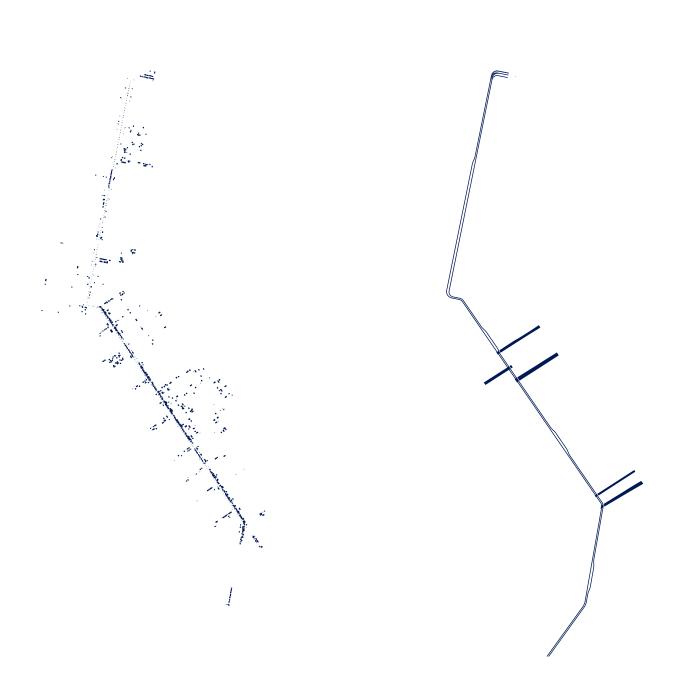
In the area of Patision Street, the implementation of both the tram system and the bus lanes combined with the high density of empty buildings point to an overall approach on the level of land and buildings uses selection, which would complement the historic Polytechnic facilities with an urban campus.



LINEAR DIFFUSION

Space is defined by elements that are in the immediate grasp of the users. A first approach on creating habitable urban space includes a rapid swift in the scale of the street. Apart from the linear structure that creates a sheltered area that clearly serves this purpose, a large number of small-scale objects enrich the city centre. Though unique, these objects follow an overall design in which household items are used as a reference and care is taken so they can be manufactured locally

in small-scale workshops. They constitute easily comprehensible notations on the city field that replace the large-scale projects, which are common practice in metropolitan areas. This approach allows the implementation of a thick web of uses and applications that become dense or disperse at will. Combined with the linear intervention that constitutes a supply and support system of infrastructure, these elements transcend from mere dots on a plane, to actors on a network of people and objects.



ECONOMICAL SUSTAINABILITY

"... a way to do more and more with less and less - less human effort, less equipment, less time, less space - while coming closer to providing citizens with exactly what they want" (J.P. Womack, The lean thinking).

This project is economically lean following an overall design that is driven by lean economical principles: zero waste, value to the value, value to the process that gives value to the citizens while trying to deal with urban and social issues.

Thus the very beginning of the conceptual design is this particular kind of socio-economic approach. An adaptive architecture that through a resilient process lets the city essentially meet the citizens in a interactive, valuable, cost-effective way. The project is thought as a pamphlet: although being one coherent plan, it allows the consequent implementation of singular interventions, making the economical plan flexible and deferrable through a long time span in the form of proposed implementation phases. The lean approach allows the municipality to evaluate the realization of the living infrastructure step by step and day by day, let them decide if, when and how to intervene. The interventions themselves are bound to the existing conditions and act to enhance the potentials found in place including the reuse of existing materials. From a morphological point of view the interventions are defined but able to host changing activities through time in order to ensure resilience. The proposal encompasses the design of the planned infrastructure (tram line) in order to take advantage of its assets to multiply the accrued benefits by plugging different facilities to the infrastructural base of the tram. Due to the simplicity and efficiency of technical construction, the intervention is expected to have extremely low maintenance costs. Furthermore most of the constructions are reversible, dismountable or recyclable.

As the proposal is basically an infrastructure to foster new activities, various enterprises are expected to enjoy its benefits: mostly small-scale businesses, related to the flourishing of local artisanal practices, will expand from Panepistimiou to a wide surrounding area. The pleasant environmental conditions and the multiplicity of equipment ensure a constant presence of people all day long, not only passing-by but actually spending time on the street: this is expected to trigger local entrepreneurship, shops, bars and so on.

The project's effort and expenses, are transformed into the city's playground for the community's creativity in a 2.0 or Indian "jungaad" way. The project becomes a dynamic city interface, built by

the citizens on an adaptive outline, that provides quick and effective answers to the city's everyday issues. This kind of reference literally shapes the overall design and its social and economical impact on the city.

This design policy can be summarized in two main addresses: An additive strategy which limits removal processes and gains the most from the current situation with the minimum effort (i.e: most of the existing pavements are maintained while new ones are added only where strictly needed). The pedestrianization of the street, along with the new tramline, form the backbone of the city center transformation. Therefore most of the construction effort and cost is concentrated along the infrastructure and in several pivotal points along the street. The proposed linear approach will trigger bottom-up initiatives and small-scale interventions, likely to be implemented and transformed according to specific needs with minimum effort. Grafting upon the tram infrastructure constitutes the other branch of the twofold stately. The implementation of the tramline has been planned separately from the street renewal. The two interventions are to be merged in order to share the benefits and minimize the cost (i.e. the "green" covered backbone-stoa" also works as a support for the tram hanging cables, reducing the number of the supporting poles required). In this way some of the assets can be diverged towards a more effective impact in daily life.

The time frame of the proposal follows closely its socio-economical implications. The first intervention will focus on the central spine and the acme points, namely Omonoia, Dikaiosynis and Korai Square. The concentration of effort towards a swift realization and lasting effect allows for tight budget and schedule control.

Once built, the main, defined, top-down framework will foster spontaneous activities, which in turn will facilitate the transformation of the city center to a living community. This second phase will follow through a longer time span accommodating for dynamic social economic and political changes depending on a decentralized funding process.

SOCIAL SUSTAINABILITY

The social aspect forms the core of the proposal. The project aims to demonstrate that the city can still be the place of the public realm. This is even clearer in a city like Athens, which faces greater and greater disenchantment towards institutions. The recent strikes and protests show that the citizens are able to claim their right to the city (and they always will). It is therefore necessary to redirect these forces to more creative purposes. The design project acts like a graft in the city body. As the Gilles Deleuze "Rhizoma" concept. It's not a simple intervention in the city's heart, it's more. It provides the city a new complex system of relationships, pointing straight to the community values. It builds urban communities; it triggers new social and urban dynamics. By quoting Alice Amsden, one can say that the main aim is a spillover effect on a "labor based development strategy".

By providing public amenities for everyone, with no specific social target group in mind, the proposal aims for social integration. Spending more time on the street, citizens will create stronger social relations and become more aware of their citizenship rights and obligations. Combining leisure and education, Panepistimiou transforms into a centre of cultural evolution, a culture created by the daily activities of all citizens.

The involvement of the citizens is not only expected in the use but also embedded in the design phase: given the main top-down morphological approach, the small scale set up will be formed and elaborated following design workshops with the citizens' participation. As Adriano Olivetti said about communities: "To let born an authentic community it needs generations. The new city face doesn't belong to the creativity of just one man, but it belongs to a system, a decentralized and spread culture" – (A. Olivetti, La città dell'uomo) In this context according to citizen's requests and desires, the design can be easily modified or enhanced in the future. Particularly important to this regard are the streets meeting Panepistimiou perpendicularly that will be turned into pedestrian cul-de-sac, acting as "nurseries". Each nursery features a different paving strategy and a special object under the roof, an incubator where activities emerge. Once the incubator is enabled, the particular activity spreads from there along the adjoining street, eventually transforming it and expanding out of the area. Namely, the nurseries are: tree nursery, playground, sport field, event street, open library. A greenhouse, swings and toys' boxes, lockers and changing rooms, a di stage and bar, a bookcase for book exchange acting respectively as incubators.

PANEPISTIMIOU STREET

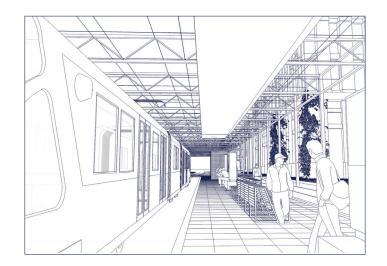
Ensuring pedestrian accessibility poses as the most significant challenge; however solely by changing the road into a pedestrian area one does not necessarily create a lively urban space infused with meaning, a locus.

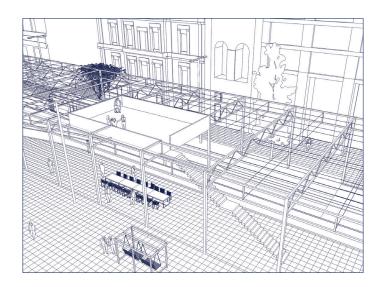
Taking advantage of the planned tramline the effort is directed along the infrastructure in order to create the critical mass for a locus to be formed. The potential that extensive infrastructure carries along can be used to stimulate impromptu initiatives. A diffuse deployment of small scale elements make good use of the planned technology to facilitate people's appropriation of public space. The steel "spine" fosters a number of unexpected

events that spread into unused areas, alleys and backyards.

Following the archetype of the Stoa, the protected space in the Agora, the intervention shelters a number of diverse activities and objects creating the feeling of an interior space. Various different elements reach their maximum density in the space defined by the truss "ribs" of the linear "backbone" of Panepistimiou, affecting not only its full width but also the arcades and backyards in the entire area.

Infrastructure is nowadays the defining element of our everyday life; a house is characterized as such, not only in terms of a shelter against natural elements, but mostly from the networks that serve it. The same notion can apply to public space.





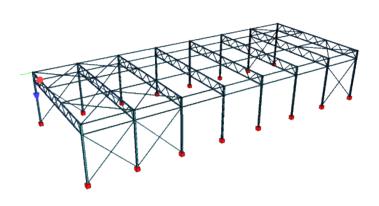
Linear structure

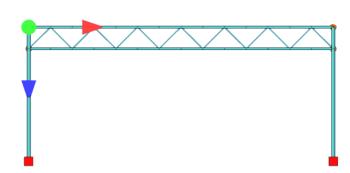
The steel backbone is composed by separate truss frames supported by a square hollow section on its side.

The span of each frame is 16,80 m and the axial distance of the frames is 6,0 m. The overall height of the frame is 7,20 m and the height of the truss beam is 1,20m. The girders are box trusses girders of hot rolled sections with welded joints. The columns are square hollow sections and the beam of the truss is hollow circular sections. In the longitudinal direction, diagonal wind bracings are spaced out.

The entire structure is wired with infrastructure

routes, which become accessible via the square hollow columns that are arrayed on both sides invoking the archetypical stoa. Chances of a panoramic out look of the green bed crawling upon the steel structure are offered by means of three elevated wooden terraces acting as "crow's nests" observatories in a sea of green. A plug-in system provides more diversity and the ability to adapt to future scenarios. As infrastructure has the capacity to last through time and given that the system is designed with a high level of redundancy, numerous new elements can be added as a response to future needs, greatly affecting the character of the area. This ability to act and react embedded in the design is a key point for the longevity of the project.





Regenerating nature in the urban fabric

As far as the greenery is concerned there is a philosophy following the line and the surrounding streets, while in specific sites different approaches are introduced in an effort to create an alternative reading of the area or underline a specific idea for a particular space.

This proposed structural element functions as a notochord that connects all dispersed little green areas and commercial uses along Panepistimiou str The landscape proposal is a strong asset to the steel webbing once vines and climbers cover almost the whole structure and while differentiating the density of the shade provided, they enhance its identity through the flowering seasons of the plants as well as their foliage textures and their ability to produce fruit. For instance fruit climbers and vines are planted along open-air restaurants and flowering and aromatic climbers are placed along sitting and relaxation areas.

The climbers are also covering the redesigned existing bus stops that are no longer necessary at

Panepistimiou Street and get transformed to bike stops and urban swings.

A synthesis of the plants uniqueness unfolds the final character of the structure. Areas of fruit production, and areas of blues and reds through the flowering seasons as well as thick shadow and full sun become the first step of the essential elements along this corridor.

Furthermore, a series of thematic gardens along the pedestrians walk reinforce the experience of a regenerated nature in the city. Allotment, therapeutic gardens as an extension of the Hippocrates garden, aroma and herb gardens, wetland and dry Mediterranean gardens, woodland as part of the Hardwood and deciduous forests will compose the infrastructure of ground activities along the structure. This formerly hectic urban strip, now unfolds the magnitude of the Greek nature, and introduces it back to the city by establishing a series of Greek ecosystems and flora biomes. These gardens will function as catalytic expansions in the urban fabric and create a new nature of urban activities and natural processes.

evergreen hardwood trees climbing trees citrus trees fruit trees bushes deciduous water plants palm tree herbs



Starting with the strips of cultivation and soil regeneration on Amalias Str. a series of allotment gardens are placed along the pedestrian zone. In these gardens the soil will be purified and refreshed so as to be able to produce eatable products. These gardens can be rented by anyone who is interested to cultivate a small plot of land. Every four plots there is an amenities area with a compost pit, tools and utilities that are necessary for this function. These products can be sold on little markets along the "backbone".

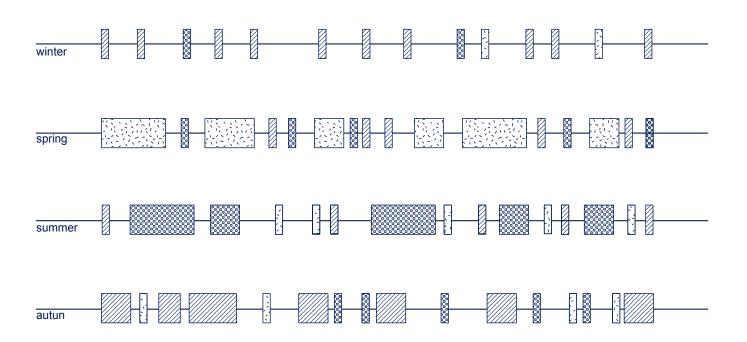
On the way to Panepistimiou we encounter a tree nursery where a variety of urban trees are grown from seedlings, to large trees and can be sold or transplanted on major pedestrian walkways around Athens. At this site one can be informed on the growing process and the needs of each plant. Along the walk towards Omonoia square a series of thematic gardens mark the versatility of the greek flora. All these gardens are related with other

activities that are proposed along the walkway, such as the open-air restaurants where edible herbs and vegetables are planted next to them. A variety of greek aromatic and medicinal plants can be placed next to bookstores, pharmacies and small market places.

At the end of Panepistimiou Str. towards Omonoia Square, where the steel structure fades off, by complementing the existing locust trees a dense deciduous forest is formed. Under this canopy a variety of activities can take place on sitting and relaxation platforms. At the west end of this forest and at its lowest point, a large water basin containing aquatic plants which form numerous filtration zones, collects part of the runoff of Panepistimiou str. and through the plants root system purifies the water. The clean water ends in a second reservoir and is used for the irrigation of all proposed plants as well as for the supply of the waterfall on Omonoia's square roof.

foliage

fruits



Materials

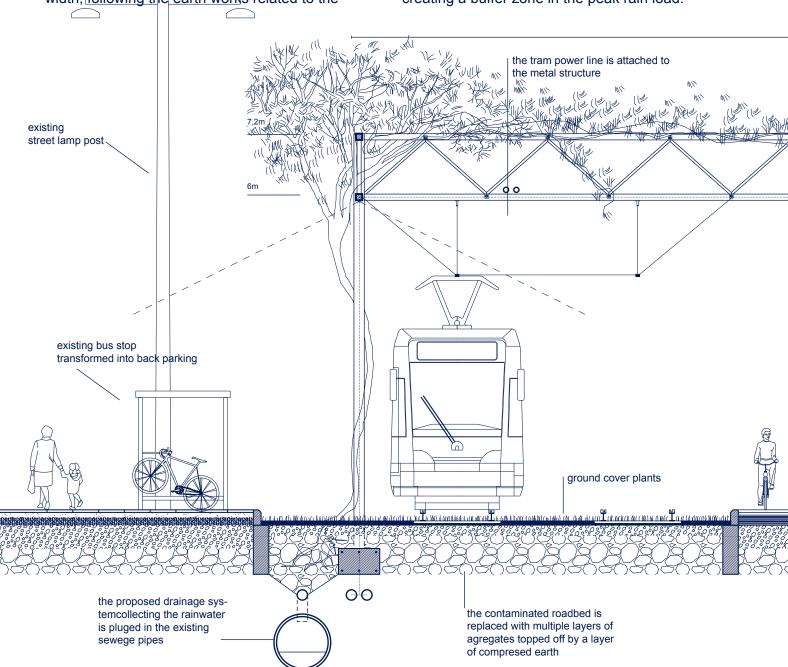
Much of the current unattractiveness of Panepistimiou Street could be attributed to the climatic conditions: the vast impermeable surfaces, heat-retaining materials and scarcity of shadow, constitute a low quality microclimate and a pedestrian-unfriendly atmosphere. According to the overall strategy of the minimum intervention for maximum benefit, the proposal focuses its efforts in few, precise choices in the issues of materials and climatic control, considering to extensively recycle from the existing. Special attention has been paid on flooring.

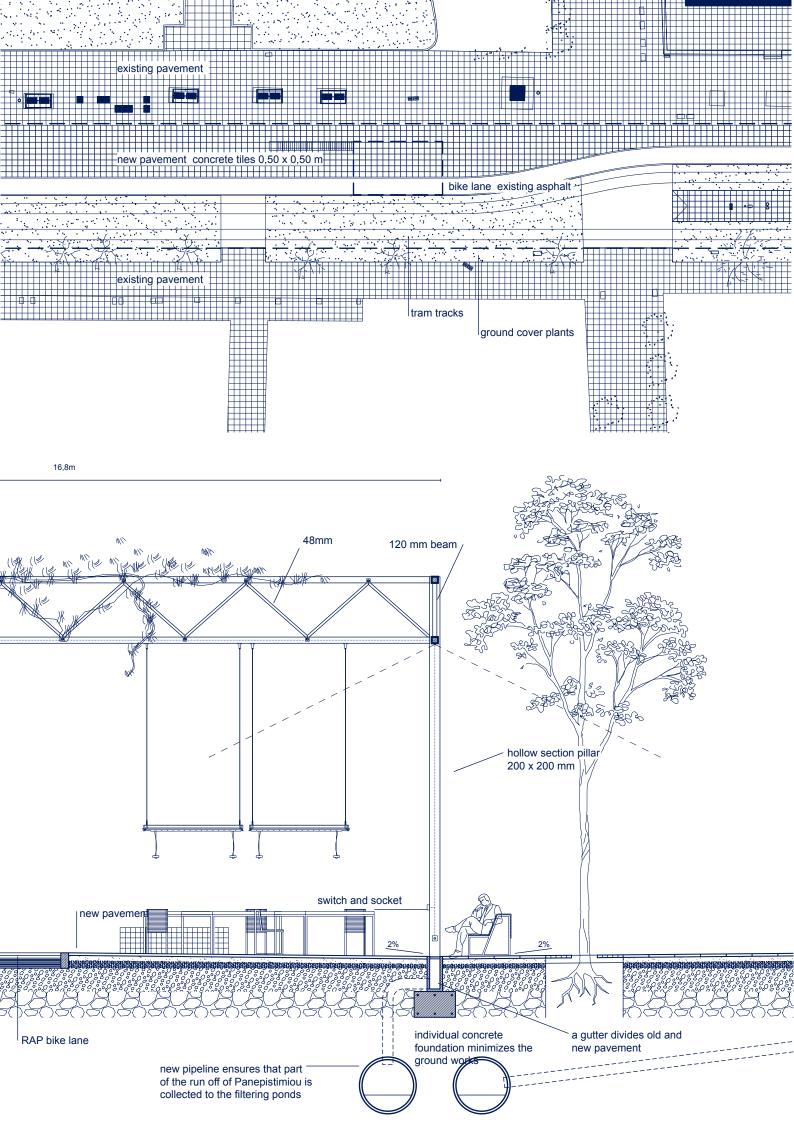
The current pavements on both sides of Panepistimiou street are maintained and expanded along one side to a maximum width of 6m with concrete tiles of the same size. A part of the old asphalt now serves as a bike lane, properly recycled with the RAP system (reclaimed asphalt paving) thus preventing any costly dismantlement of the entire roadbed. The rest of the initial Panepistimiou width, following the earth works related to the

tram infrastructure becomes a planting area both for climbers and ground covering plants so as to minimise the paving costs.

In specific spots where greenery is planned, punctual perforations allow trees to grow, reusing the ground excavation spare materials as gravel to cover the soil.

Last but not least, three small-depth ponds are integrated within the new paving area acting as reservoirs for part of the rainwater collected on the paved surfaces. A two stage phyto-depuration system filters it to be used to irrigate the surrounding greenery as well as a reserve for omonoia roof supply while ensuring a highly cooling effect thanks to evaporation. This whole process of recycling assumes a didactic component as it raises awareness on the scarcity and value of the most essential resource on our planet. The majority of the rest is diverted to the existing pipes on either side of Panepistimiou, while half of that seeps through the ground cover plants and the gravel substrate, creating a buffer zone in the peak rain load.





Microclimatic improvement

Amongst the goals of the proposal is the improvement of the city center in terms of microclimatic response and thermal comfort. There are three main strategies forming a low-tech passive philosophy of dealing with microclimatic improvement, in order for these goals to be achieved: I. Extensive shading II. Usage of highly reflective materials for exposed surfaces and III. Evaporative cooling from exposed ponds and vegetation.

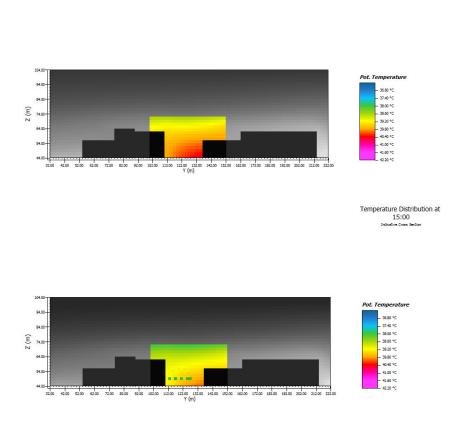
In more detail: Shading is the most common strategy used for the reduction of temperature peaks during summer. Proper shading prevents heat from accumulating during the day and thus significantly lower temperatures can be achieved. Shading as a heat mitigation strategy is dominant in the proposal, by means of the extensive shading structure along the Panepistimiou Str.

Highly reflective materials behave in a similar way, by reflecting the solar radiation and maintaining a lower surface temperature. Excess energy is thus reflected and not absorbed by the usually high thermal mass paving materials. This strategy is mainly used on the exposed surfaces in Omonoia square, where a special cast in situ highly reflective concrete is used, along with reused aggregates. Similarly, light coloured materials cover most of the open spaces throughout the intervention area, such as Dikaiosynis square, clad in white gravel, or Korai pedestrian street, where the light coloured paving is maintained.

The use of vegetation, as well as exposed ponds of water, can significantly lower temperatures through evaporative cooling, where heat is absorbed from the atmosphere in order for the water to change state. Vegetation is extensively used in Omonoia square, where now only a couple of trees exist, as well as the top of the shading construction over Panepistimiou Street. Additionally, the water ponds proposed on top of the metro entrance on Omonoia square and the lower part of Panepistimiou Street provide more cooling through evaporation. A typical cross section of Panepistimiou Street was simulated during the hottest day of summer, in order to evaluate the behavior of the shading construction with vegetation cover that is being proposed. The following diagrams illustrate the function of the system on the street canyon. Though the grid dimensions are coarse, the improvement is still evident:

The heat accumulation is more intense on the leeward side of the street, due to the protection from the building, which reduces the wind speed. Through shading and plant evapotranspiration the air temperature has been significantly reduced. Finally, the careful selection of materials is also an important part of the proposal. Many paving surfaces with favorable properties were maintained, whereas low embodied energy materials were preferred in new constructions. The majority of the materials selected can be locally produced to minimize the environmental impact and can be applied by local laborers.

Temperature Distribution at 15:00

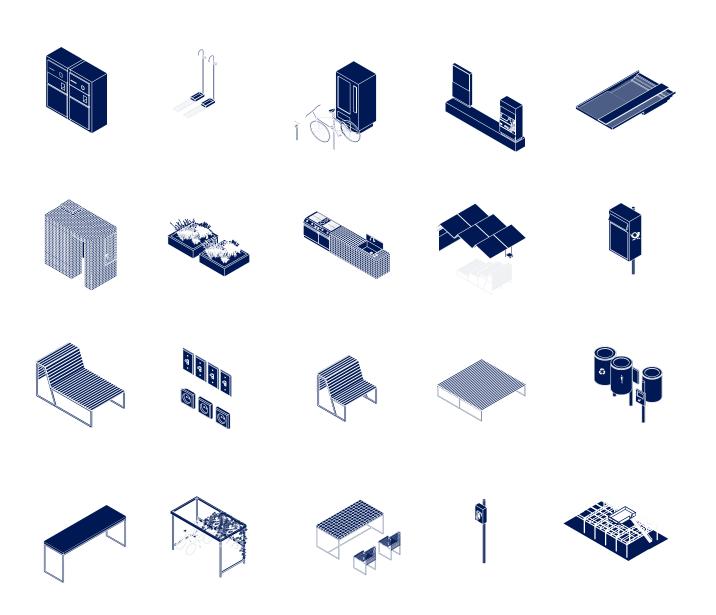


Urban furniture

In an attempt to render the public space accessible to the citizens the urban furniture are designed with an indoor approach both regarding the materials and the suggested uses. By inserting the small scale a habitat is created that attracts people to appropriate the space since it is closer to their experience.

Material-wise a straight forward approach is applied. The galvanized steel of the skeleton is paired with wood in sitting areas, tiles where hygiene is necessary and recycled concrete for more stable working surfaces.

The shift from the big scale urban furniture does not compromise neither the quality not their lifetime. On the contrary, the smaller scale makes it possible to be produced locally thus invigorating the economy, while at the same time provides the ability for more elements to be added or even removed in the case of a special event. Moreover security regulations can be met without rendering them items, so rearrangement is possible, changing the scenery and allowing users to appropriate and feel that they are able to shape their city as their home.

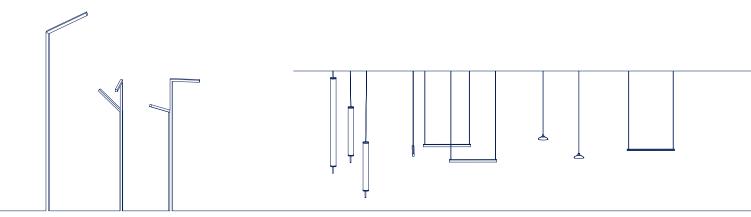


Lighting

Light is a factor of safety and a crucial part of the nightscape in urban areas. The main lighting fixtures recessed in the sides of the Panepistimiou backbone, provide the basic luminance level for the entire street. These integrated lights turn the steel structure into a night landmark. The existing lampposts are retained to provide illumination to the green carpet above the truss frames intermittingly casting shadows. The rest of the lights are localized on certain areas and can be operated through time-lapse light switches. Using this control system, energy efficiency can be maximized. Furthermore, the light is directly connected with the use of the urban elements and conforms to the habitat concept. The light patterns thus produced correspond to the density of human activities dispersed along Panepistimiou Street. Both working and dinning tables use pendant lights and toilet lights turn on when you use them.

A safety light strip follows the bike lane. In the wider area of intervention the existing light fixtures are maintained thus a gradual replacement of their lighting sources from conventional to energy saving is proposed. The forest area is equipped with large diameters pendant light tubes creating a dreamlike ambience. All lighting sources are LED's to minimize energy consumption and maintenance costs. Direct light is exclusively used to avoid light pollution and glare. Warm white colour temperature creates a cosy atmosphere. Omonoia square during the night takes on a different face with the crater lights under the roof vividly radiating to the whole area. This illumination is complimented by diffuse lighting provided by lamp posts, either dispersed between the trees or placed at regular interval on the south side. Dikaiosynis square is equipped with a light web of cables that hold the lighting fixtures interspersed among the trees. The rest of the area is treated with point intervention that ensures a minimum luminance during the whole night.

street lamp posts
park lamp posts
pendant light tubes
working table pendant lights
kitchen table pendant lights
direct pendant light tudes over cooking surfaces



KORAI

The complex of Athens "Trilogy" was conceived in the most scholastic neoclassical tradition, in order to dictate respect through monumentality being seen from far away.

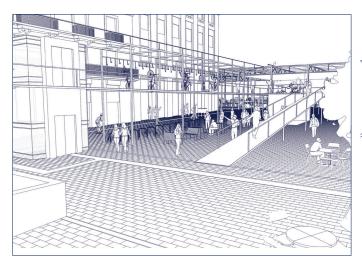
The vast formal garden spread among the buildings with its geometric bushes create the emptiness necessary to appreciate the symmetry of the built masses and at the same time discourages any attempt for appropriation.

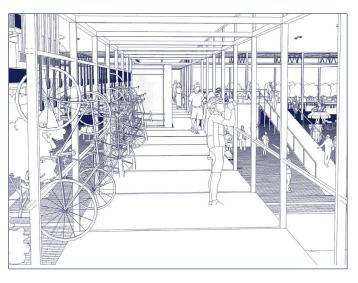
The designed emptiness though being inherent in the representation of the institutions does not provide to the daily life of citizens. This austere solely existence, gets reversed by the new dual role now assigned to Korai walkway.

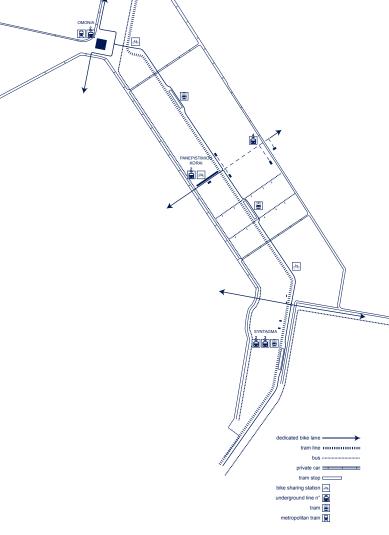
By introducing a linking element in the form of a light metal passageway housing a bike parking, Korai emerges as a piece of connective tissue between two main urban organs enabling them to act in unison. The increasing use of the bicycle as a transportation means reinforces the hub like character of this walkway.

The elevated passageway hosting the park and ride for bikes, leaves the ground level for pedestrian movement. The parking will also be equipped with a space for bicycle self-repair, while a multi-purpose storeroom with sliding steel grating doors, is used to store portable equipment for various outdoor activities oriented towards the Trilogy gardens. Complementary to the above, the raised terrace facing the Trilogy Complex combined with the tinted glass roof suspended from the Panepistimiou "spine", support a multitude of events (concerts, flea market, sporting events and art fairs) involving small or large groups of people.

In the intervention, two additional parking spaces for bike sharing will be provided, at both ends of Panepistimiou Street. Additionally, Korai station acts as a neuralgic centre of the new mobility model proposed, in the form of an interchange station between the different systems transport: metro, tram, bus and bicycle.







DIKAIOSYNIS SQUARE

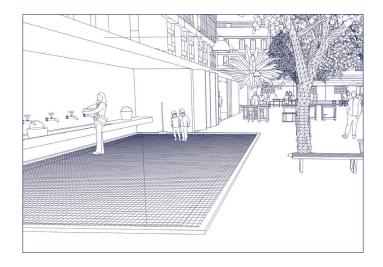
The existing square is a forgotten space along the busy street. Despite its centrality, it is somehow out of the main fluxes, lacking a character as well as a specific function.

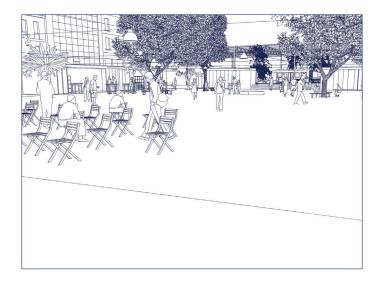
Nevertheless it has special features that can be found nowhere else in the surroundings; the small building that limits one side and the slightly sunken central plane, determine a very small scale compared with the six to eight story buildings around creating a false feeling of enclosure. The latter characteristic, probably being the main reason for its abandonment is in this case regarded as a quality and gives birth to the main idea. With a three-meter tall wall embracing the square, the project aims to make an explicitly closed space with three entrances. The main one faces the new tram station of Panepistimiou Street while the other two open to the side streets corresponding to the public galleries of the surrounding buildings. The layout of the main entrance exposes the inner courtyard -teeming with events- to Panepistimiou triggering

passers-by curiosity.

Even though it bears an introvert spatial character, the activities performed are completely open to the public. In the three meters width of the wall layout small workshops with workbenches, closets and shelves for tools are hosted; once opened, the functional wall transforms Dikaiosynis in a huge open-air workshop, constituting an open-source didactic space for the practice and the revival of arts and crafts. The existing building hosts a permanent school for craftsmanship and related exhibition spaces.

Concerning the choices of materials, the hard floor surface of the square is replaced by medium sized white gravel, more suitable to working with heavy machinery and tools while creating the ambiance of a small village square. The latter effect is enhanced by the wall perimeter's design, which takes into consideration the existing array of trees, while incorporating six large platanus trees to provide extensive shade.





OMONOIA SQUARE

The square has passed through many changes and designs that were mostly replacing one another, in an effort to populate the empty space of the surface while not always managing to treat it in a way that will repopulate it and avoid the creation of dead zones. These interventions were usually neglecting the condense human circulation area that lies below, where the station users create an underground realm.

The proposal focuses on the constant flow of people that can be used as a leverage to drive the rehabilitation of the square.

The flux of people, on the square's ground level was until now limited to the perimeter, whereas the real hustle and bustle was taking place below. To bring this activity to light, a crater is formed by lifting the square roof-lid off the ground, thus imbuing Omonoia Square with a long lost centripetal dynamic. By diverting all the over and underground movement to the center, the dead space that existed is eliminated. Part of this dynamic is the transition from the Panepistimiou "forest" area to a clearing where the outlook of the cascading ponds merges with the reflecting pool in the center of the square's plateau to create a unifying horizon. The space with the large staircase can act as an amphitheater to host cultural events.

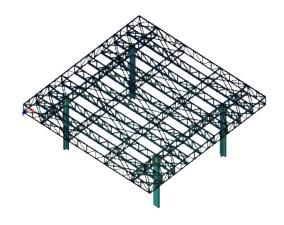
The overhanging roof provides shade and acts as a landmark for the area.

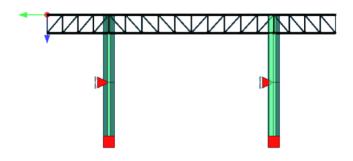
Its surface dimensions are 35m x 35m, designed as a grid plate formed by steel truss beams, having depth 2,20 m.

The roof structure is supported by 4 concrete columns, placed to the corners of a rectangle, which is in the center of the plan of the roof and the axial distances are 20 x 25 m. The shape of the two columns is a cross, each part of which has a cross section with dimensions 1,40 x 0,30 m. The other two columns have a cross section of 1,40 x 0,30 m. and a «T» shape respectively. The total height of the columns is 12,5 m. and at mid-height it is framed by the floor of the station. The foundation of the columns is realized at the level of the platform. The roof is covered by water that overflows on two opposite sides. Apart from the climate improvement the waterfall is a reminder of the old roundabout lavout with the characteristic fountain that dominated the square for decades.

The rest of the plaza is fitted with a minimum number of furniture and will have an urban character.

Omonoia Square seen from a landscape planting view is formed as a clearing in a mature mix hardwood forest that one can encounter on the northern part of mountainous Greece. A variety of large trees shades the surrounding buildings. Most of the trees remain and new are planted along the perimeter, the only space where the depth of the ground allows it.





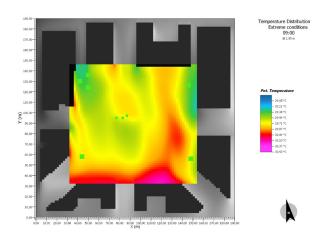
Microclimatic improvement

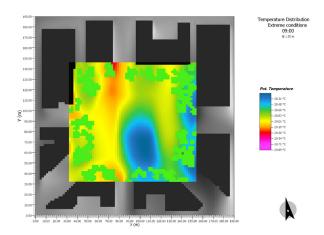
The area of Omonoia Square was simulated in Computational Fluid Dynamics (CFD) software. Being an integral part of the proposal, as it includes all of the microclimatic intervention strategies used, it can be considered strongly indicative for the improvements achieved throughout the whole project. The site was simulated in Envi-MET software, which is considered a very useful and reliable tool for such investigations in the built environment. Its main advantages are the inclusion of vegetation and exposed water evaporation, as well as the thermal properties of the materials used in open spaces. The weather data input represent the average hottest summer day in Athens, after statistical analysis of several years, as published by the American Department of Energy and being widely used in energy analysis software.

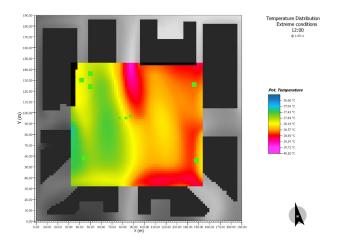
The environmental conditions of the square in its current state, as opposed to the area after proposed interventions, were compared. The following diagrams illustrate the improvement that was achieved,

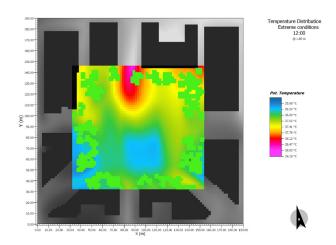
for both air temperature at 1,80 m height and surface temperature. Indicative 3-hour time intervals (09:00 am, 12:00 am and 15:00 pm) are shown. It is evident that the proposed strategies accomplish significant microclimatic improvement, as shown on the tables below. It should be noted that the differences are smaller in the morning (09:00 pm) because the system has not yet accumulated enough heat, being closer to sunrise.

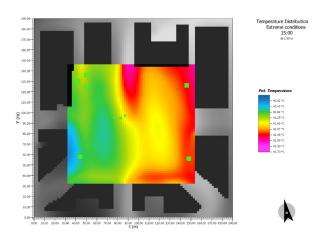
Furthermore, the pedestrian thermal comfort was calculated, using the Cooling Power Index (CP), which indicates the rate of heat loss from the skin (with a temperature of 36,5 °C) when exposed to the external air. This index is considered more appropriate for external space applications than other indices, which are more suitable for indoor spaces, such as the Predicted Mean Vote (PMV). It should be noted that values are well off the thermal comfort threshold (too hot), given that the simulated day is the hottest day in summer. The following table summarizes the improvements achieved on pedestrian thermal comfort.

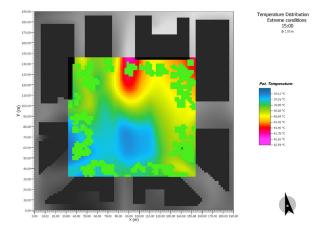


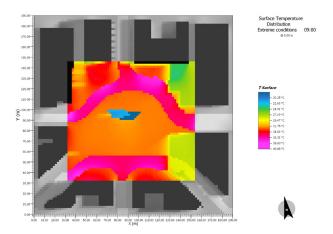


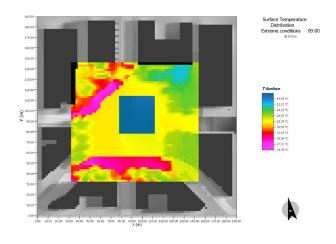


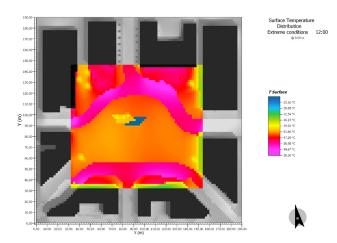


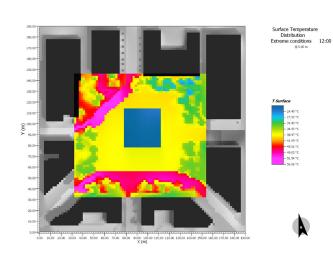








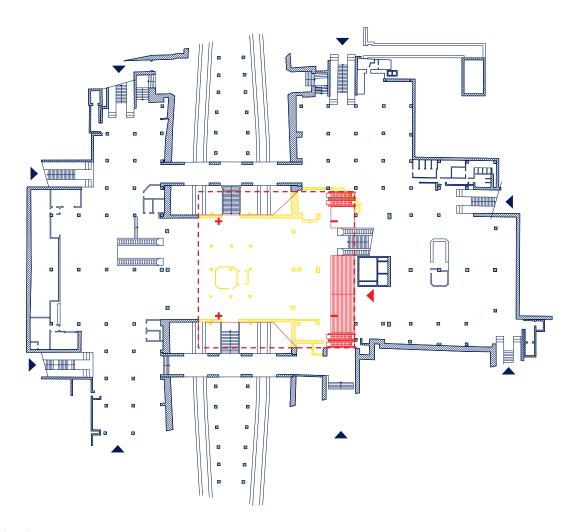




Due to the stations phased construction that spans several decades and to the different circulation model approaches applied, a number of redundant routes exist. The proposed construction schedule makes good use of those in order to ensure the uninterrupted operation of the site during the full length of the implementation period. The perimeter -now largely unused- roots will assume the full burden of the circulatory needs when the central part is closed, since it is involved in the vast majority of the demolition – construction works, allowing the metro station to operate at near full capacity. The metro line two want be affected by the modification works while the metro line one will operate using only the side platforms.

The removal of part of the station's roof for the construction of the overhanging roof, according to the new proposal, will demand a series of modifications to the existing electromechanical installations, which

either serve the specific area or are just crossing it. The electromechanical facilities that will be affected are, fire-fighting systems, electrical supplies, telecommunication systems, security systems, signage and lighting. At this area there are no crossings air ducts. Before the beginning of the former central paved area removal, all installations that serve adjacent areas, and should continue their supply during the construction of the project, will be modified. This will be done with shortcuts, extensions and new local installations. All details will be suggested by the final design. Installations serving the specific region will be removed and build as new in the new roof. Parts of the existing installations will be used to serve the construction site and ensure security. The above ground electromechanical utility building in front of the main entrance of the station will be submersed. It will be reformatted into a mechanical "cour anglaise" with a proper louver at the ground level.

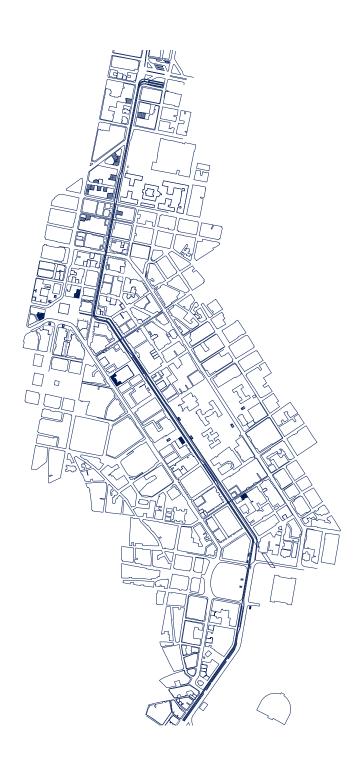


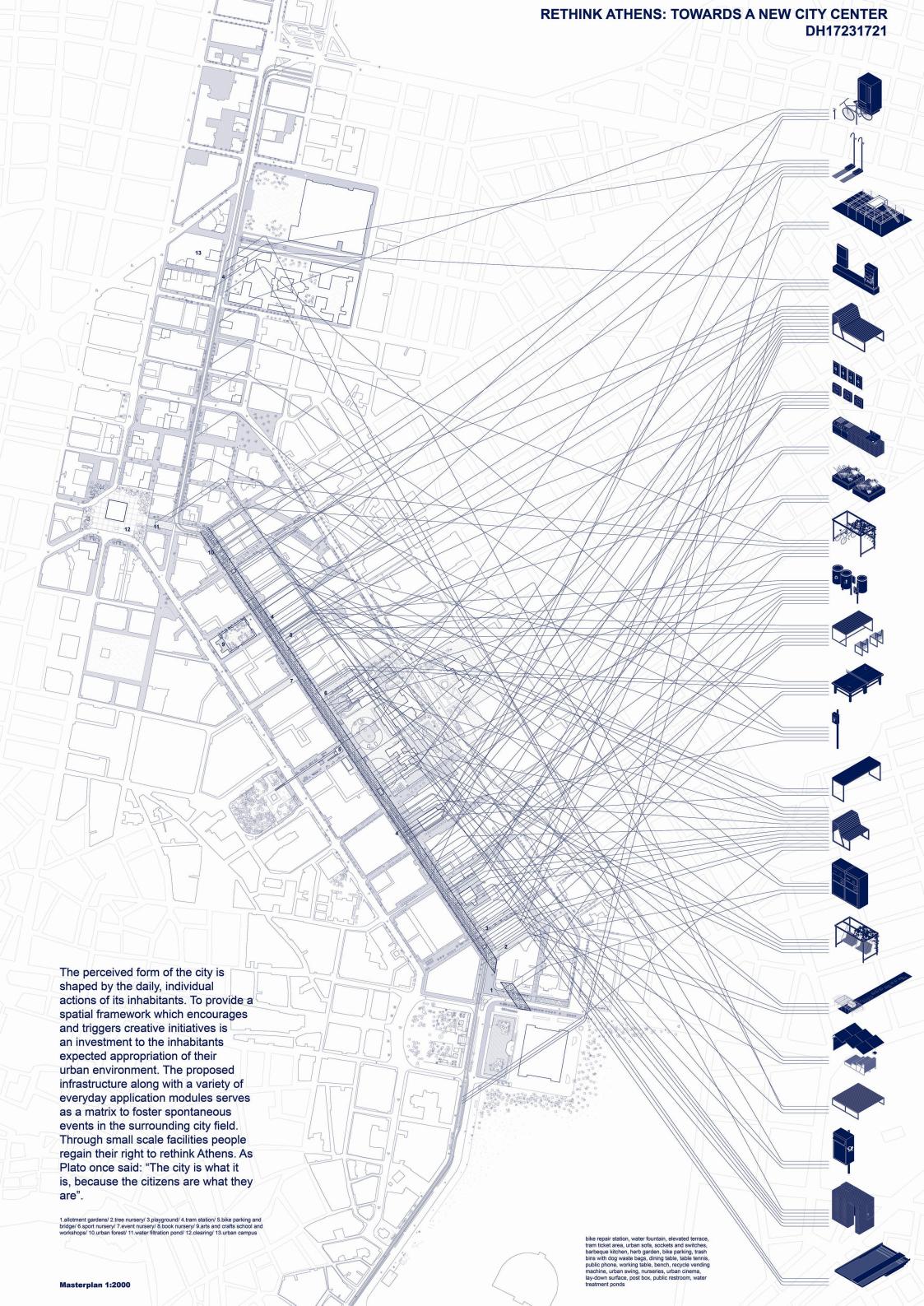


BUILDING USE DIRECTORIES

The use of the empty buildings included in the intervention area, follow two different directives. A small set of buildings that bear a significant role to the urban space will be scheduled and designed for a specific use that will need a top down investment as an initial spark and for the rest directives and restrictions will be given. More specifically, special uses are planned for the buildings around the Polytechnic school and along Patision Street (28th Octovriou). The creation of a campus scattered in the area along with the construction of small working spaces that can be rented by the students or alumni as a startup space, are proposed. The expansion of the lively public space of Exarchia in a broader area

is attempted. A profound example that could be the initial investment is the old Acropole Palace Hotel. The buildings surrounding Omonoia Square are to maintain their commercial character that will be regenerated along with the whole plaza. Some of the ground level floors could be transformed into art galleries taking advantage of the open, vehiclefree space of the plaza for exhibitions. For the rest of the area an effort should be made to repopulate with residential uses or small bed and breakfast hotels that will host a more urban form of tourism. Buildings near alleys as the one in the Numismatic Museum will be transformed into multi-purpose open spaces. On a number of buildings, when it is possible, the ground floors will become part of the public space.



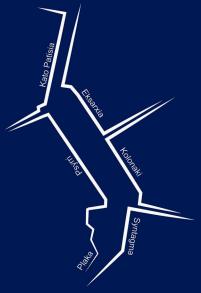


PANEPISTIMIOU STREET

Changing the road into a pedestrian area does not necessarily create a **locus**.

Taking advantage of the planned tram line we concentrate the effort along the **infrastructure** in order to create the critical mass for a locus to be formed. Infrastructure is usually the largest investment in city planning and as such it cannot be left to a mere statistical approach.

The potential that extensive infrastructure carries along can be used to **stimulate impromptu initiatives**. A diffuse deployment of small scale elements make good use of the planned technology to facilitate people's appropriation of public space. A **roof** fosters a number of **unexpected events** that spread into unused areas, alleys and backyards.



Panepistimiou Street is the meeting area of 5 distinct neighborhoods with their own urban realm. Nevertheless its monumental scale hinders desirable interactions



Rather than treating homogeneously the whole area, the intervention is focused on a **spine** grafted on the tram infrastructure and works as an attractor.

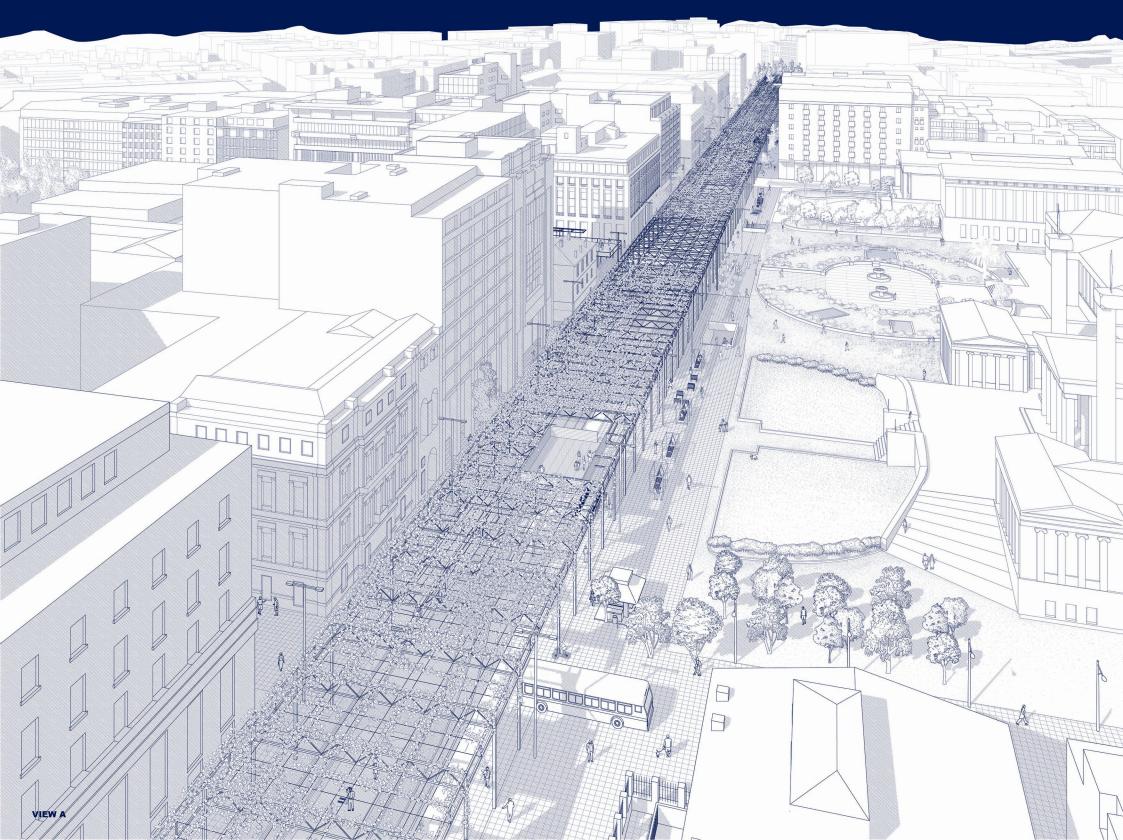


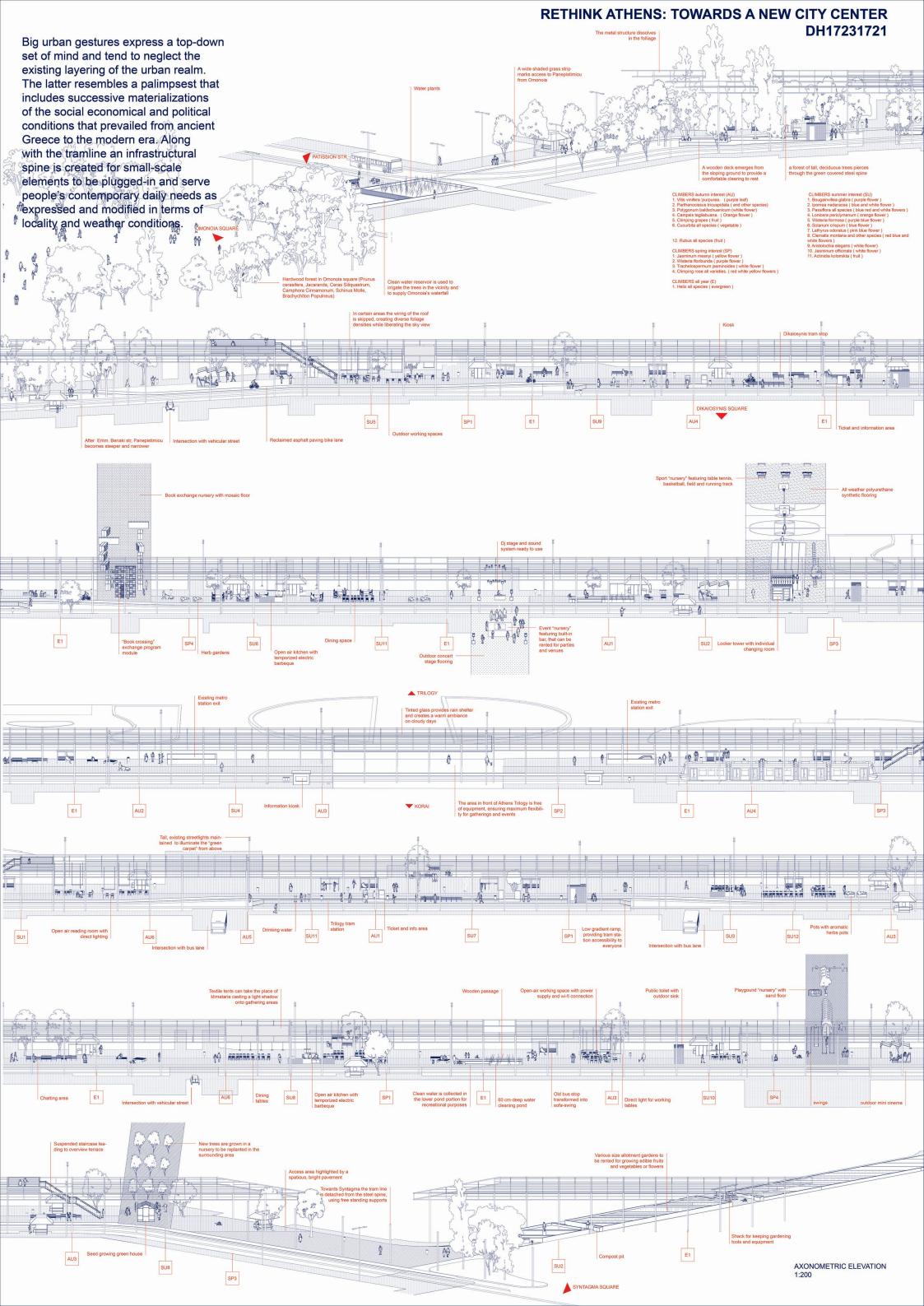
A diffuse array of que equipment creates that gray may be used to the fing new public ambiances thing the ground that will bour further appropriation.

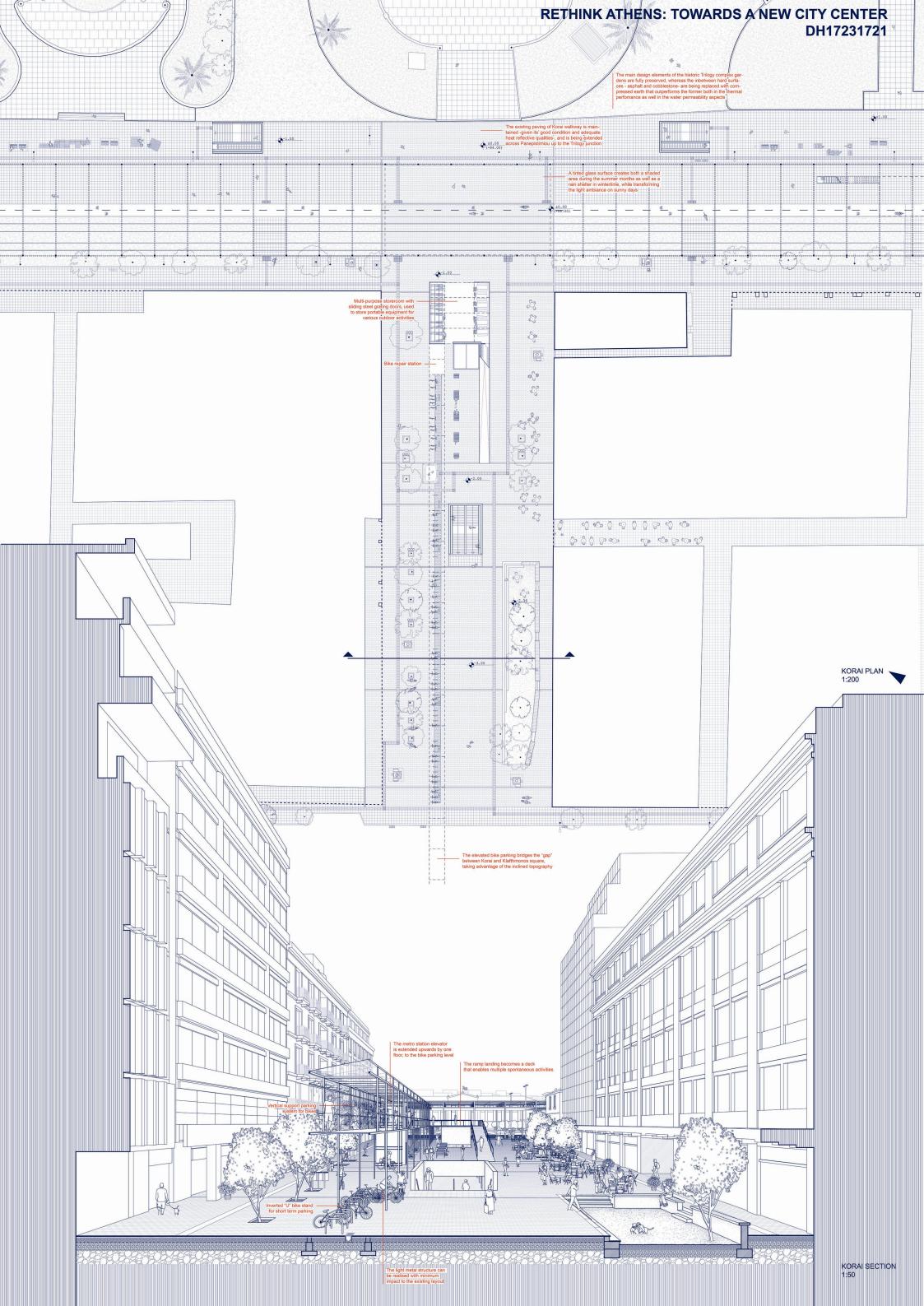
A diffuse array of que equipment creates that interior space. We have the specific properties of the specific pr



Singular objects acting as nurseries, placed at the junction of Panepistimiou Street with the intersecting pedestrian streets trigger the process of **spreading** activities to nearby areas.

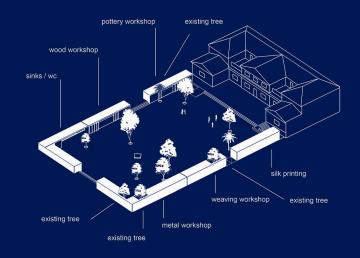


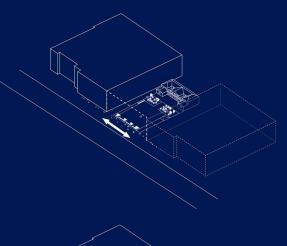


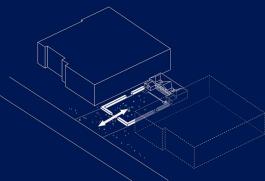


DIKAIOSYNIS SQUARE

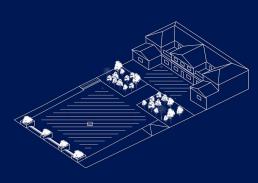
A space formerly perceived as **bland** and **dispersed** where nobody would enter, is being walled to trigger people's **curiosity**. Once inside, the wall **contains** facilities for small **art** and **craft** workshops, that provide an outlet for creative ventures. A new kind of active appropriation of urban space is thus enabled, with a multitude of craftmanship items created, reinserting the **small scale manufacture** in the inhabitants experience.

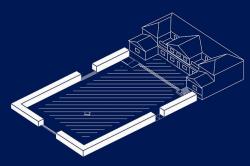




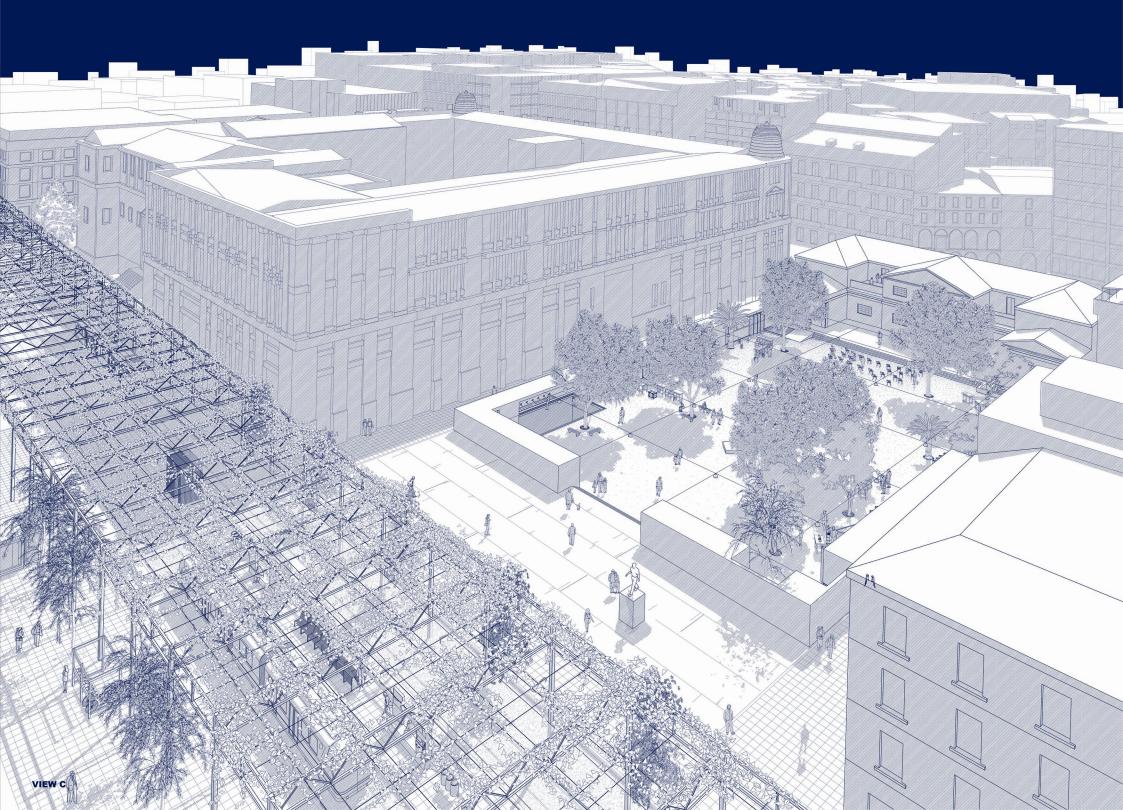


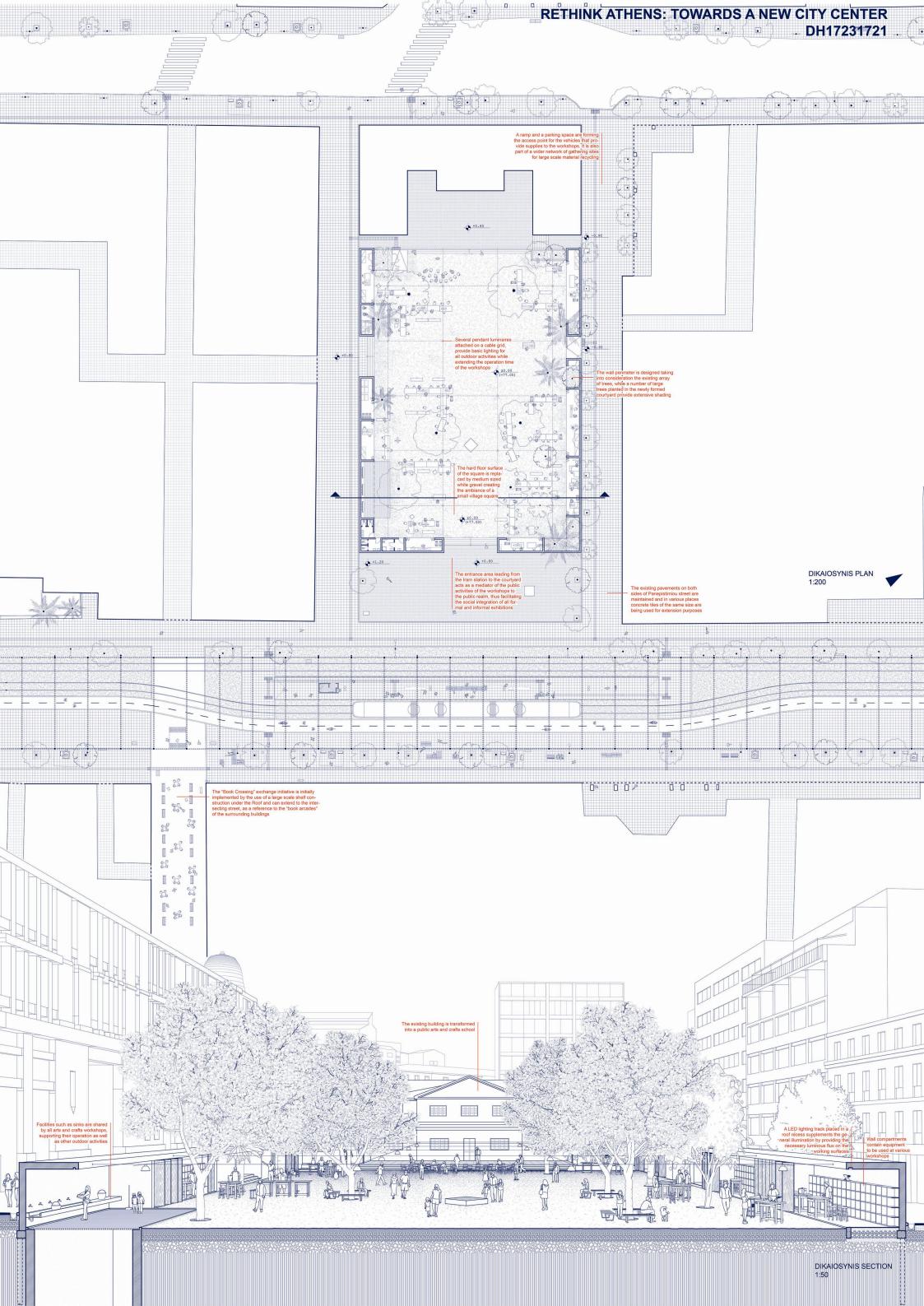
The spatial relation to the adjoining buildings along with the depressed level of the courtyard and the obstructed sightline caused by the existing greenery, imbue to the square's ambience, characteristics typical of interior space. Responding to this reality the thick wall defines the copy indicator to the vice in a contraction.





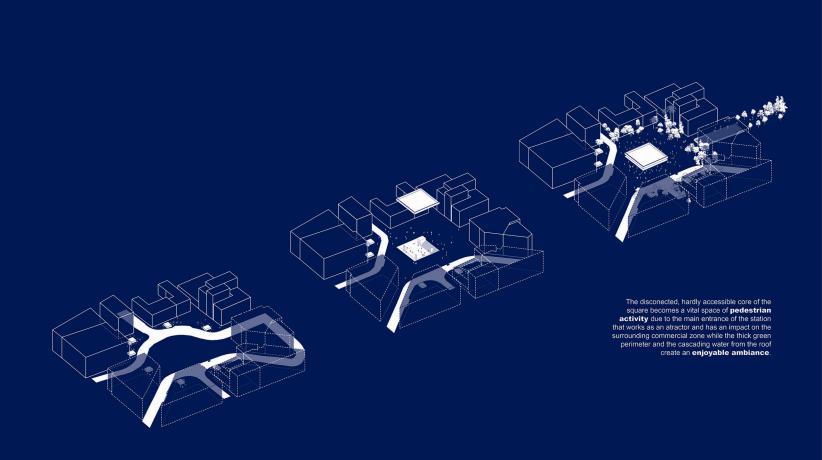
The geometry and the greenery of the existing space devides the square in two parts lacking critical size to host any activities. By redesigning the square, a unified space emerges filled with appropriatiation potential relating to the arts and crafts school.

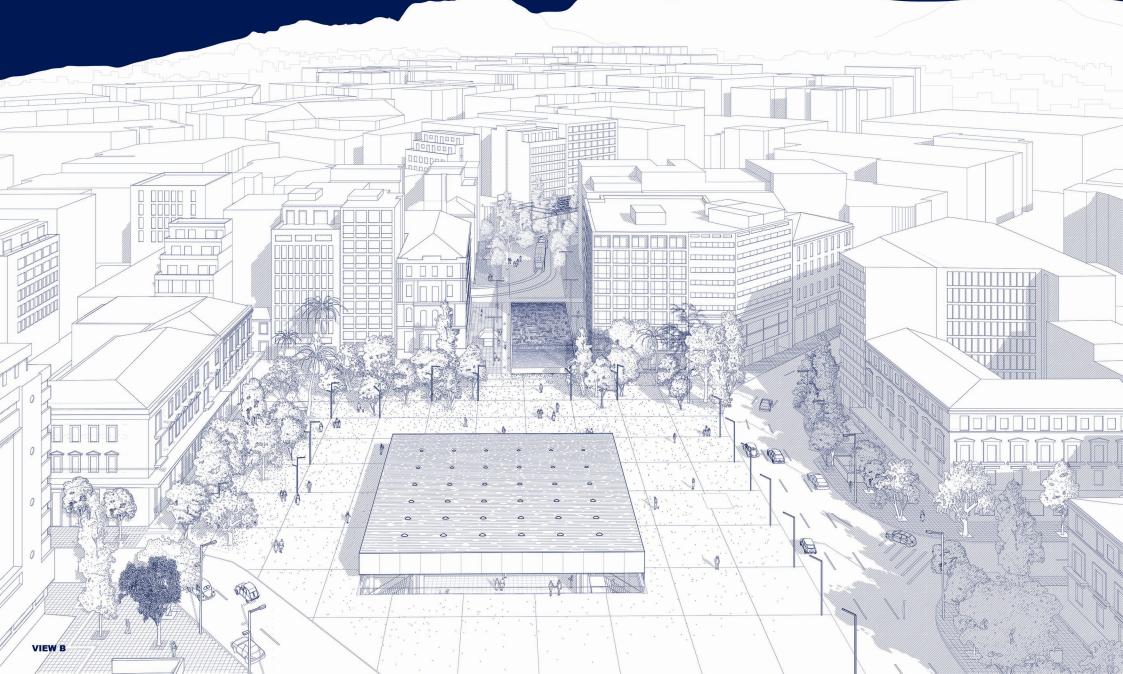


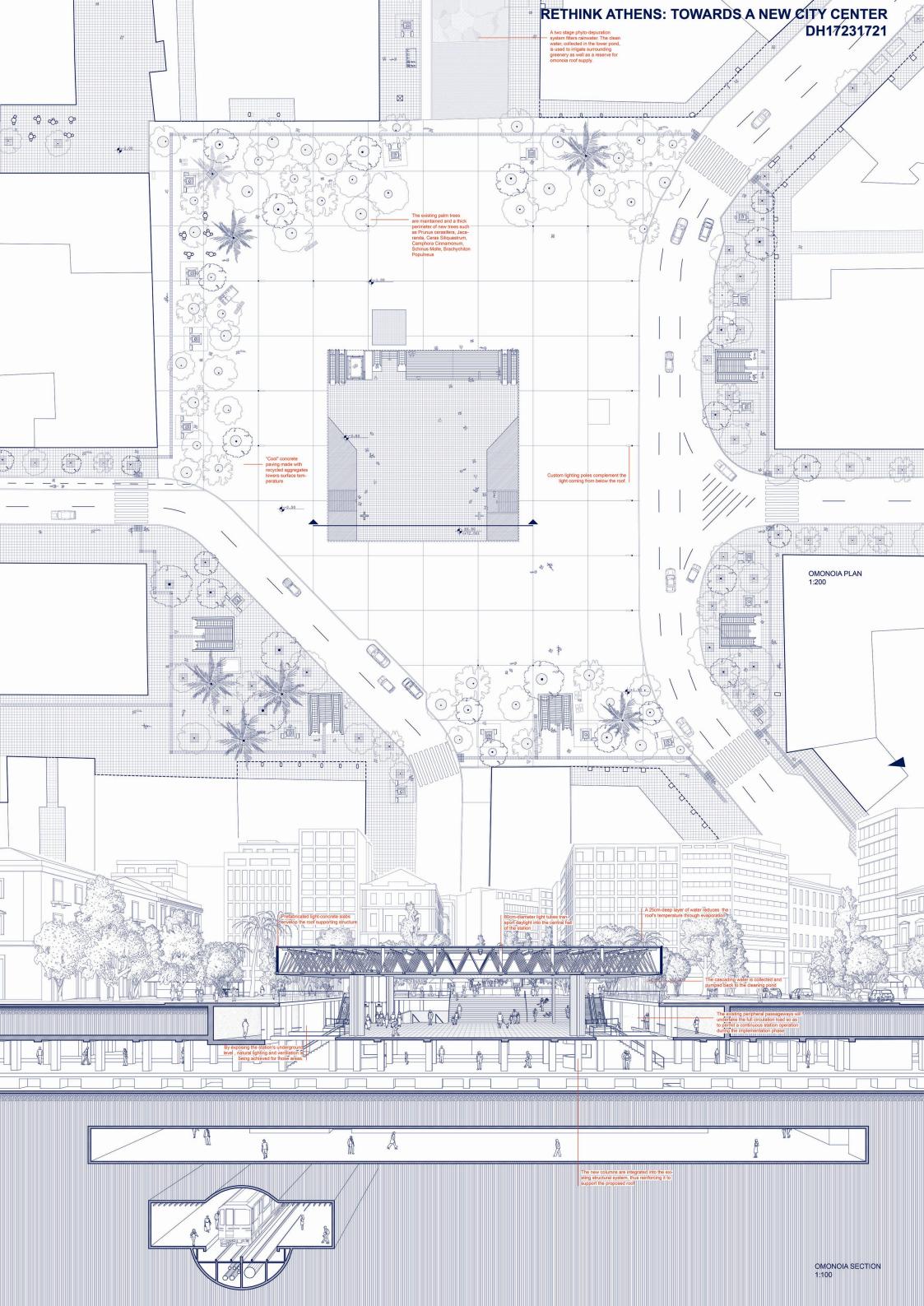


OMONOIA SQUARE

The **flux of people**, on the square's ground level was until now limited to the perimeter, whereas the real hustle and bustle was taking place in the underground center of the station. To bring this activity to light, a crater is formed by lifting the square roof- lid off the ground, thus imbuing Omonoia Square with a long lost centripetal dynamic. Part of this dynamic is the transition from the Panepistimiou "forest" area to a clearing where the outlook of the cascading ponds merges with the reflecting pool in the center of the square's plateau to create a unifying **horizon**. The simple and explicit design gesture strengthens its function and character as an urban plaza.









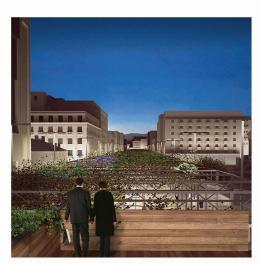
Early Sunday morning in Syntagma, working at the allotment



Young trees growing in the nursery on Kriezotou Street, waiting to be transplanted in a green deprived city



Having lunch after a Mass, outside Agios Dionysios Catholic church on Panepistimiou Street



Enjoying a dusky outlook on a sea of green from a wooden terrace



A typical noonday along the "bike-alley" crossing Korai walkway



Finding rainshelter under a glass roof in front of the Trilogy Complex



A strip site of athletic activities offering a chance for some evening muscle flexing on Asklipiou Street



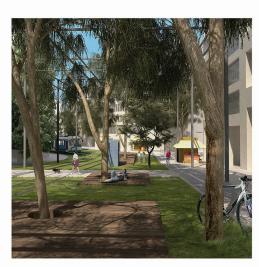
Catching a glimpse of a favorite movie at the openair cinema



Small urban "book lockers" combined with reading desks sprawling around a book nursery (in front of the "Stoa tou Vivliou" arcade), form the backbone of the "Book Crossing" exchange movement



Arts and crafts explored in the cool shade of Dikaiosynis workshop courtyard on a hot summer noon



Recreation time under the green shading "forest" canopy near Panepistimiou's intersection with Omonoia Square



A cool breeze emanating from Omonoia's Metro station water curtain, offers relief to the crossing of the square's plateau on a hot summer day