Integrated urban plan - the Augmented Urbans annex

Local Action city/municipality: Helsinki

The official planning document created with support from the Augmented Urbans activities:
Teollisuuskatu Outline Plan

Background

The Central Baltic programme definition of integrated urban planning activities:
"The specific objective 'Better urban planning in the Central Baltic region' targets the challenges and opportunities related to improving the urban space via joint urban planning activities. Integrated urban management is understood as a broader set of activities than the planning required by legislation. It includes activities preceding the official planning processes and activities following the official planning process."

The project Augmented Urbans (AU), funded by the Central Baltic Interreg programme, set out to co-create integrated urban planning for urban resilience in five cities and municipalities around the Central Baltic area. This was pursued with running local participatory and collaborative planning activities supported with and facilitated by the novel extended reality tools and applications. The selection of these tools was based on the information collection and communication needs identified in the planning process in question.

The purpose of this document is to clarify the contribution and added value from the EU-funded project activities as well as their impact on the official plan (the integrated urban plan) created.

To illustrate the realisation of integrated urban plan, 3 drawings or diagrams are also included.

1. What added value was pursued and achieved through the AU activities:

What resilience objectives were set?

Identified urban design challenges & resilience objectives of Teollisuuskatu axis

- to create attractive and resilient urban space with variety of social activities
- incorporating different, partly opposing urban design aims (infill building, traffic, green infrastructure, public space etc) into one integrated plan
- to deepen the involvement of the local land owners, entrepreneurs and residents
- how to communicate planning ideas and to facilitate discussion between stakeholders
- committing stakeholders more strongly to planning process and development of the area
- tempting current and new actors to implement new ideas of urbanity, mobility, cultural life and work to the Teollisuuskatu area

What knowledge resources (experts, university collaboration, research, data sets, designers etc.) were included in the planning process that otherwise would not have been?

University collaboration:
Metropolia UAS, XR & design expertise, student assistants & assignments

XR companies:
Teatime research, xr expertise in 1st iteration
Plehat: xr expertise in 2nd iteration

Scientific research and data:
Natural Resources Institute Finland (LUKE), iTtree ecosystem service data

Collaboration and knowledge sharing:
Virtuaalivehreä project, Forum Virium, co-organised discussion event during 2nd iteration

Which stakeholder groups (participation) were included in the planning process that otherwise would not have been?

Not any specific stakeholder group to mention, but in general the participation activities were more extensive and interactive than they would have been without the AU project.

Interactive methods and an opportunity to test new technologies attracted certain groups (school classes, teenagers) that in general might be inactive in taking part and involving.

2. Activities completed in AU Local Action, what inputs were received to the planning and if, how they are visible in the official planning document?

1st iteration

Two-week pop-up on planning area (Fredriksberg, Konepaja area) in January 2019. Focus on the whole Teollisuuskatu axis. XR tools tested:

TEOLLISUUSKATU VR EXPERIENCE - maptionnaire online questionnaire in VR-format
We found out that giving and receiving valuable citizen feedback (drawing routes, showing good & bad places and development ideas) was difficult with this tool. It served more as a test tool and was seen more as a toy.

3D CITY INFO ON TOUCHSCREEN
Touchscreen was easy to use and gave basic information to people about the area. It worked nicely as a tool for information sharing.

2nd iteration

Three-day pop-up on planning area (Fredriksberg, Konepaja area) in November 2019. Focus on Bruno Granholm square. XR tools tested:

BRUNO XR - VR-tool for presenting and commenting urban plans

- Zooming in on one of the key parts of the Teollisuuskatu axis design area (Konepaja area) in order to test VR-tools and gather feedback.
- Three views available in different seasons and times of day: 1) current state, 2) currently valid street plan, and 3) new street plan
- Viewer is free to move around the square area and has control over weather, season and time of day
- Trees (both existing and new) are presented in two stages of growth, some information of their ecosystem service values (CO2 and runoff water) included
- New buildings (planned or under construction) presented by schematic models, depending on their status
- Commenting by taking snapshots and including a short text

We received good variety of feedback, that was utilized in further planning, e.g. trees, placement of public infrastructure etc. It was found that combining the feedback with a screenshot (photograph taken from the model) facilitated and made it easier to analyze the feedback.

3D CITY INFO ON TOUCHSCREEN
Information was shared: besides the basic information of the area, also the results of the previously made maptionnaire survey were shared to the people. This communicative act might have increased the citizens' experience of being heard. People got the chance to see what others have said and commented.

360 VIDEOS WITH MAPTIONNAIRE FEEDBACK AS VOICE OVER
This tool helped participants to understand what the planning area is all about and brought out different opinions and views.

THREE DISCUSSION EVENTS WITH THEMES OF URBAN GREEN, RESILIENCE, PARTICIPATION & NEW TECHNOLOGY
Thematic discussion events increased the conversations and understanding of the urban planning themes and stakeholder groups.

In summary: The citizen feedback received through participation activities has been clearly highlighted in the outline plan description with the explanation of how it has been taken into account. Based on the feedback, the locations of public transport stops, routes, the extent of green areas and the location of supplementary construction have been studied in more detail.

3. Lessons learned, and recommendations for future

DIGITAL TWIN +
Including: existing physical environment + known future projects / changes. Creating such model and system within an organization workflow would greatly facilitate and ease the wider use of XR tools in city planning. The quality of the model has a considerable effect on usability (including vegetation).

360 VIDEOS
360 videos works conveniently, especially with audio (existing + voiceover). It takes you to the spot and design area in a different way than just a picture. This helps one to understand and comment the project and plans.

VR
For now and for many of us, VR is still taken as a toy or a game. It is in itself exciting enough, so it might be hard to focus on the content (for example urban plans). On the other hand, at its best, it can really help people to understand what it's all about.

4. Timeline and next steps of the development of the Local Action area, further communication plan with the local stakeholders

After the Outline Plan is validated, it will start guiding the detailed planning in the area. The detail plan process includes different forms of participation with stakeholders. In some cases it is required by law, the extent of participation activities depends on each project and case.

5. How does the plan or process you have worked on during Augmented Urbans fit to the general plan?

The Teollisuuskatu Outline Plan is based on the Helsinki Master Plan 2016, specifying its' regulations and visions.

6. Political interests and resources?

The main political interests in the Teollisuuskatu area are amount of infill building, whether or not to incorporate housing in the area, traffic, green areas and trees.

The outline plan will be implemented as separate detailed plan changes as well as transport, park and infrastructure projects. They will be guided by the outline plan. A significant part of the new construction projects linked to transport solutions, i.e. they cannot be implemented until large transport projects have been executed or, in some cases, at least planned and decided on. Infill building depends mainly on private land owners and their needs and interests.

7. Extended reality (XR) tools and equipment, what did you learn and how do you expect to use it in future?

Out awareness of XR tools has grown a lot. The intention is to strive to develop new methods and tools within the city organization, so that these kind of projects would not special cases. We hope that Helsinki woul apply and integrate them to the wider use in the future. The XR tools should be incorporated into the workflow and their use should be made as easy as possible for the planners.

There are some more or less thematically similar projects going on or just about to start at the City of Helsinki now. These projects will explore the use of tools of the same type: 360 videos + audio, touchscreens, 3D models and visualizations, digital green infrastructure, digital twins, and even VR in some situations. There has also been interest in studying AR, which was not tested in the Helsinki pilot.

Possible future scenarios and ideas: Using AR tools and visualizations as part of designer-guided urban plan walks organized by the City of Helsinki. This "urban plan walks" method is used especially within detailed planning projects as a part of their participation activities and AR tools would most likely support people to understand the plans and to form clearer perspectives and future views.