

Urban Redevelopment Concept (URC) for Existing Neighbourhoods

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Abstract

Europe faces a huge challenge in renovating the energy hungry concrete suburbs constructed during the periods of urbanization. Especially, in the Nordic countries these concrete suburbs represent large housing stock, which is now facing extensive renovations. Deficiencies of the traditional sequential construction and planning to cope with this major challenge are becoming more and more evident, and new approaches for improving the dialogue between all actors for low-energy urban redevelopment are becoming crucial. Similarly, the studies in the field of real estate and construction economics have mainly concerned the feasibility of low-energy design options from the construction cost and process perspective. However, hardly any studies have approached the issue from the opportunity, i.e. value creation perspective in a suburban context.

The purpose of this research is to rethink the “suburban challenge” and to innovate a value creation strategy for the concrete suburbs. The study presents an Urban Redevelopment Concept (URC), which tries to maximize the value of redevelopment to the users and owners of the buildings. URC recognizes the multi stakeholder environment of urban innovations and presents a new urban redevelopment framework based on urban-design-management thinking. The new concepts test the role and requirements of an external urban manager, as well as a new financing approach based on the logics of investment markets instead of solely traditional loan markets. The URC concept was tested in one major neighbourhood redevelopment project. The first results of the framework show a significant change in the direction of the suggested urban planning and design solutions. Instead of adding costs to the owners and tenants, the framework has produced a solution where urban planning supports urban design innovations and value creation for both the internal (tenants and owners) and the external (investors, authorities, customers) stakeholders.

Keywords: suburb, renovation, redevelopment, financing, investment, energy conservation

Introduction

Europe faces a huge challenge in renovating the energy hungry concrete suburbs constructed during the periods of urbanization. Especially, in the Nordic countries these concrete suburbs represent large housing stock, which now faces extensive renovations. In this study, we mainly discuss the situation that prevails in Finland, but the overall concept is applicable internationally. Suburban construction boom in Finland took place in the 1960's and 70's, when a great amount of Finns moved from countryside to cities. In the most active years, construction companies would mass-produce more than 45 000 new apartments (Salmela 2010, p. 26).

Now, after 50 years, these concrete suburbs, which inhabit more than one million people, are presenting one of the biggest challenges in the Finnish building stock. The 570 000 apartments are now facing their first extensive renovations, including, for example, façade renovations and pipe repairs (Mölsä & Heikkonen 2010, p. 10). This means that during the next two decades, there is a need to renovate almost 30 000 suburban apartments a year, which is a lot more than the new construction production (Salmela 2010, p. 24).

However, the physical condition of the buildings is not the only concern – social environment has been changing as well. The population of these suburbs is getting older, services are diminishing, people move out, and the overall image of the areas is, in many cases, depreciating. Just renovating old buildings is not enough – suburbs as a whole need to be revitalized so that they would be attractive again and able to compete with the newly built housing areas. From here on, we are going to refer to these suburban renovations using a term redevelopment, which better describes the overall physical and social revitalization of the existing suburbs.

Majority of the Finnish apartments belong to a housing company. Housing companies are limited liability, non-profit organizations – they are not allowed to be adventurers, i.e. take risk. Their purpose is to own and possess one or more buildings in which more than a half of the total floor space of the apartments is specified in the articles of association as residential apartments in the possession of shareholders (Housing Companies Act 1991). Thus, the Finnish housing companies cannot be compared, and should not be mixed with other limited liability companies.

One of the reasons for the redevelopment process being so complicated is because there are so many stakeholders present: homeowners, housing companies, state, municipality, developers, banks, institutional investors, private investors, companies, and registered associations practicing in the area – to mention a few. Another point making the renovations and redevelopment difficult to start is the fact that the housing companies we are studying are owner-occupied (privately owned). People who already own their apartments, as well as the land underneath, may be reluctant to take additional loans (most likely on top of their existing ones) to finance redevelopment if they do not see it necessary. The deficiencies of the traditional sequential urban planning to cope with this major challenge are becoming more and more evident, and new ways to improve the dialogue between all the actors for low energy urban redevelopment are becoming crucial (Kuronen *et al.* 2010).

The need for redeveloping the existing neighbourhoods is a very current subject – it has been discussed widely in the media (Häkkinen 2010; Salmela 2010; Mölsä & Heikkonen 2010; Tikkanen 2009) and the Finnish Government has paid attention to the issue by interacting with the municipalities and initiating a research program called Suburban Program 2008-2011 (Reports of the Ministry of the Environment). Similar situation prevails in many other European countries. Infill development, one the most important factors when considering suburban redevelopment, is currently being discussed in all the cities of the Helsinki metropolitan area: Helsinki, Espoo and Vantaa. Renovation financing in Finland has been shortly studied in some books and papers (Hekkanen 2005; Virta & Ojajarvi 2009; Koskela 2009).

All in all, there are many suburban related studies going on, which indicates the importance of the subject. However, many of these studies omit the economical and financial point of view and hardly any have approached the issue from the opportunity, i.e. value creation perspective in a suburban context.

The purpose of this research is to rethink the “suburban challenge”, and to innovate a value creation strategy for the concrete suburbs. The study presents an Urban Redevelopment Concept (URC), which tries to maximize the value of redevelopment to the users, owners and public stakeholders of an existing neighbourhood. URC tries to recognize the multi stakeholder environment of urban innovations and develops a new urban redevelopment framework based on both urban design management thinking and the external investor’s interest (Ahlava & Edelman 2009; Staffans & Väyrynen 2009).

The new concept tests the role and requirements of an external urban manager, as well as a new financing approach based on the logics of the investment markets instead of solely the traditional private loan markets. The study shows a new substantial approach how to think about renovating the energy hungry existing suburbs. Instead of only adding costs to the owners and tenants, the framework has produced a solution where the suburban redevelopment is considered an investment opportunity that brings potential value to both the internal and external stakeholders.

Methodology

The study uses mixed methods research with an emphasis on the qualitative research. The required data was collected from various sources – existing data such as newspaper articles, published reports, zoning plans, and demographic studies were used. In addition, new data was collected through workshops, thematic interviews and financial analysis (financial analysis model).

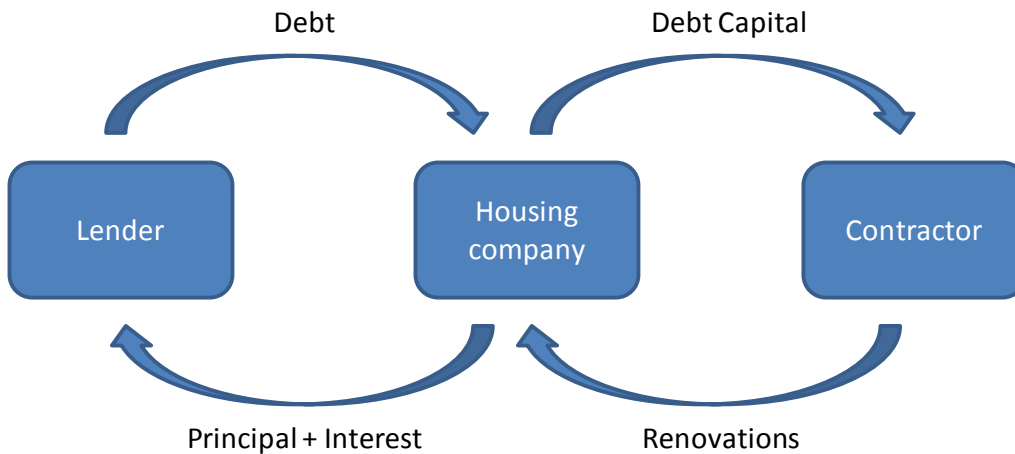
In the first part of the study, literature review and previous experiences provided a theoretical suburban redevelopment investment framework, i.e. urban redevelopment concept (URC). In the second part of the study, we applied the URC concept to a real life case of Siltamäki. We utilized workshop meetings, thematic interviews and the financial analysis model in collecting data from the case. In the last part of the study, based on the results from Siltamäki, we draw conclusions and suggest further development themes for the URC framework.

The research was conducted by interviewing multiple stakeholders including the housing company, municipality, construction company, bank, private investor and Siltamäki workshop attendees – these stakeholders provided valuable insights for the research. To allow emerging ideas to stand out, we used mostly open-ended questions and the form of the interviews was semi-structured.

URC Framework

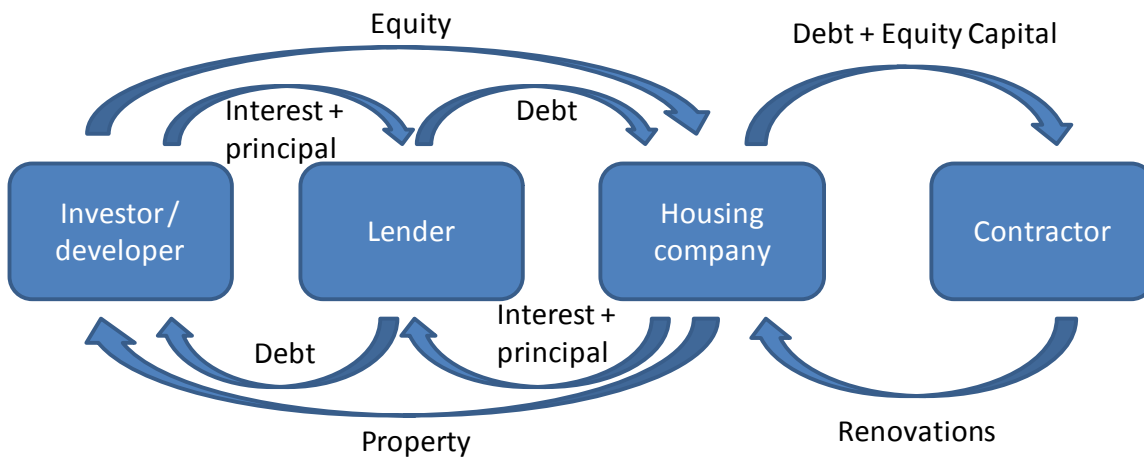
The URC recognizes the multi-stakeholder environment it faces. A separate study within URC concerns the role of an Urban Manager (UM) in bringing the different parties and their interest together. In this part of the URC, we see the suburban redevelopment project as an opportunity for equity financing, rather than solely relying on the traditional model of loan markets in financial arrangements.

The difference between equity investment financing and debt financing is important to keep in mind. In the traditional debt financing (see picture 1), housing company borrows money for the renovations from an institution, for example a commercial bank. In return for the money it lends, the bank receives interest payments on the principal left, until the whole principal has been paid off. To safeguard its investment, the bank keeps enough of the borrowers’ property as collateral. After the lender has received the whole principal, it does not retain any ownership rights.



Picture 1. Traditional debt financing

In the equity investment financing (see picture 2), housing company sells or rents its property to an external investor in order to raise additional capital for financing the renovations. This external investor retains an ownership right and requires a certain level of yield in order to embark on the investment. The risk is always higher for equity investment than for debt investment because debt is paid off first and there is such strong collateral backing it up. As for the equity, there is no guarantee about the cash flows, thus the amount of uncertainty is higher.



Picture 2. Debt + Equity financing

Involvement of external investors could bring the needed relief and additional value for the struggling housing companies. The large scale of these redevelopment actions most likely requires so-called big-money investors, such as banks, investment banks, big construction companies, and institutional investors – who have the resources to design, renovate, build and finance large-scale suburban redevelopment.

A market-based external investor needs certain business incentives in order to join the redevelopment process as an investor or developer. The most basic principle is that the business has to have the potential to be profitable – if this requirement is not met, no external investor will be interested. What are the requirements and what is the framework within which it would be feasible for these investors to join the redevelopment investment process? We discuss this issue and provide a financial analysis model, which can be used for a rough estimate of the investment’s overall feasibility.

Case presentation

The 22-hectare area of Siltamäki acts as a case study for this project – it represents a typical Finnish suburb built in the 1970's. The location of Siltamäki is in the very north of Helsinki, 15 kilometres from the central business district (CBD). It consists of seven privately owned housing companies, which encompass approximately 1000 apartments in 44 three-storey apartment buildings, total net floor area being 65 500 square metres. (Salastie, S. *et al.* 2009) The renovation costs in Siltamäki are estimated to be 60 million euros (without public subsidies). These extensive renovations include façade and balcony renovations, pipe repairs, and renewal of the electricity and ventilation systems.

Table 1 below includes the estimated renovation costs for Siltamäki apartments, as well as the subsidies offered by the state and the municipality. Subsidies are offered for renovations, which have a potential for great energy savings. In Siltamäki these include façade renovations and ventilation system renewal. Conventional façade renovations and ventilation system renewals presented in table 1 would significantly improve the energy efficiency, but real low-energy construction would be more expensive and difficult to justify for the housing companies. Old suburbs like Siltamäki have a *huge* energy saving potential – but to unleash this potential, the incentives for low-energy construction have to be strong.

	Renovation costs (€/m ²)	Subsidy (%)	Subsidy (€/m ²)	Total cost (€/m ²)
Facade renovations	423 € (481 €)*	15 %	63 €	360 €
Pipe repairs	270 €	0 %	0 €	270 €
Electricity renewal	55 €	0 %	0 €	55 €
Ventilation system	50 €	15 %	8 €	43 €
Balcony renovations	107 €	0 %	0 €	107 €
Total	905 €		71 €	834 €

Table 1. Estimated renovation costs and subsidies in Siltamäki, renovations marked with green have a potential for great energy savings. * = cost for low-energy renovation. (Lantto & Saari 2010)

Housing companies are joint-owners of a company called Siltamäen Huolto Ltd, which manages all of them and the land parcels dedicated to parking – some of these parcels are potential infill development sites as marked in picture 3. Commercial centre in the middle of the area has 14 tenants who own both the building and the land underneath it. Siltamäki is a preserved area because of its value as a representative suburb of the era. (Salastie *et al.* 2009)



Picture 3. Siltamäki, potential infill development sites marked with red (Source: Salastie *et al.* 2009)

The management group meetings of the Siltamäki project (workshops) were one of the ways of collecting new data. The workshop consists of the following professionals:

- Veikko Hokkanen*, Helsingin Energia (major energy company in Helsinki, owned by the city of Helsinki)
- Helena Tammisto*, Siltamäen Huolto (management company of Siltamäki housing companies)
- Jaakko Markkula*, Helsinki Public Works Department
- Lars Lindeman*, NCC Construction Finland (chairman of the workshop)
- Juha Luhanka*, Confederation of Finnish Construction Industries
- Jani Kemppainen*, Confederation of Finnish Construction Industries
- Arto Saari*, Aalto University School of Science and Technology
- Seppo Junnila*, Aalto University School of Science and Technology

In addition to the workshop, the Siltamäki project has attendees from different companies and federations, the City of Helsinki, Ministry of the Environment, and Aalto University School of Science and Technology.

Presentation of financial analysis model

Financial analysis model tries to unite the interest of the most important stakeholders in suburban redevelopment. With the model one can estimate the effects of an investment opportunity and create different scenarios like those that we did in the financial analysis section below. It can be determined which variables are important to each stakeholder and which variables are those that can be most easily affected and who has the power to do so. The following paragraphs briefly describe each stakeholder and its relation to the financial analysis model.

The shareholders, i.e. the occupants of a housing company, are in a key role because in the end they are the ones who will pay for the renovations. In the financial analysis model the shareholders' financial burden can be calculated using simple input information – it can then be compared with benefits that the potential investment would bring. The calculations also include sensitivity analysis with the most important variables.

The housing company represents the shareholders at all negotiations concerning renovations and financing. The housing company's overall position can be determined based on its shareholders – if there is a need for equity financing, it is necessary to make an inventory of the property that could be used for this purpose. According to the results of the interviews there are four types of property that can be used for investment purposes. First, land owned but not needed by the housing company could be sold for infill development purposes; we provide an example of this in the results section below. Second, if the municipality allows, housing companies could sell building permit for extending their current buildings – this is not possible in Siltamäki because of the preservations. The last two types of investment property are reverse housing trade and plot concept offered by Hypoteekkiyhdistys (Hypo) – these are discussed in more detail in the improved framework section. The Financial analysis model tries to give a realistic view of how the housing company's property could bring added value for it. In the end debt financing, equity financing and public subsidies should match the renovation costs.

The municipality is one of the key stakeholders; it has a very important role in determining if the investment is feasible for other stakeholders. The municipality has the zoning monopoly and poses other restrictions and norms that can significantly hinder the investment opportunities. Financial analysis model tries to determine the net position of the municipality after the direct and indirect costs/benefits it faces. According to the net position, it can be examined if the municipality would be able to make the project more feasible for all parties without hurting its own position as an authority or as an economically responsible unit.

The developer-constructor is the party that will execute the renovations; it can also act as an investor, for example by buying and developing land from the housing company. These developer-constructors have their requirements for the renovation projects, as well as for the potential investments in infill development. Financial analysis model tries to identify these requirements and see the project from the developer-constructor's perspective.

The investor is an external actor who puts up equity for suburban redevelopment in hope for profit. Profit can be attained from different sources and these sources include different amounts of risk. Each suburb is a unique investment opportunity and has to be assessed individually – there are many things that affect the investment and its feasibility. Financial analysis model tries to consider the overall investment environment, and based on it, assess the investment opportunity. All investors have their incentives and requirements concerning the suburban redevelopment, and as we noticed during the study, the issue is multidimensional and further development of the framework is needed in order to fully appreciate this environment.

Results / case experiences

Workshops

Originally, the URC concept was developed and pre-tested at workshop meetings with the Siltamäki management group. This far the workshop has assembled at two meetings where the URC framework has been presented, discussed, and approved. It was acknowledged in the workshops that URC is a new approach for the Finnish markets and the closest resemblance could be found perhaps in neighbourhood development projects in Australia and North America. However, both workshop meetings concluded that it is exactly these kinds of new openings that are needed to untangle the low-energy renovation challenge of Siltamäki. In addition to this equity investment financing based model, the steering group also decided to further develop the more traditional debt-financing model.

Thematic interviews

Interviewees

Thematic interviews were conducted in April 2010. The interviewees included Jorma Heinonen, Customer Director from Nordea Bank's Tampere branch. The construction company representative was Lars Lindeman, Marketing Director from NCC Construction Finland, and Chair of the workshops. Matti Inha, the CEO of Hypoteekkiyhdistys (Hypo) and Chair of The Finnish Real Estate Federation, told us about the financial products offered by Hypo. The perspective of Real estate fund was discussed with Wisa Majamaa, the CEO of ICECAPITAL Real Estate Asset Management Ltd.

Key results from thematic interviews

All the interviewees saw the *troublesome decision making process* in the Finnish housing companies as one of the main problems facing large-scale suburban redevelopment. The communication, planning, designing etc. are very laborious compared to the new construction production. Another thing that all the interviewees agreed on was the *role of the municipality*; it is very important in determining whether the investment is feasible for other stakeholders. The municipality has the zoning monopoly and poses other restrictions and norms that can significantly hinder the investment opportunities.

The development of suburban renovation process and concept is very current in NCC – overall, there are big business opportunities for developer-constructors. These opportunities naturally include the extensive renovations, but also the potential infill development with new construction production. Cost savings from the *economics of scale* could be one of the motivating factors for occupants, as well as for big construction companies.

Hypo profiles itself as an innovative specialist in the field of home financing and housing (Hypoteekkiyhdistys 2010). Hypo has two financial products that are not offered by any other institutional loan provider in Finland – these products include renting or selling of a housing company and/or an occupant's property. In the *reverse housing trade*, Hypo buys the occupant's apartment and subleases it back to the occupant, thus allowing him to release equity and retain his apartment. For housing companies, Hypo has a product called *"the plot concept"*, in which Hypo buys the plot of the housing company and leases it back. This offers one way for the housing company to release equity tied to its plot. Hypo would sell the plot back to the housing company at any time during the lease period, for the same price it was bought – incremented with the cost-of-living index. The plot needs not be redeemed as a whole, but each shareholder has the right to redeem his or her part of the plot once a year, so basically one can redeem the whole principal if he does not want to pay rent for the plot. If some of the shareholders do not want to embark on the plot concept to begin with, it is also possible by selling just the portion of the plot that includes the shareholders willing to use the concept. So far, Hypo has not realized any of these plot concepts for renovation purposes with a housing company it does not own.

Real estate funds see the suburban redevelopment as an interesting business opportunity; it is in their interest to be a part of the redevelopment process to make sure that the area will be appreciated in price, because most of the income is derived at the point of sale. The main emphasis is on newly built apartment buildings, but also some renovated apartment buildings are accepted to the funds.

Financial analysis model

Table 2 provides three different scenarios for investment opportunities: Base Case and Scenario 1 concern the excess land the housing companies own in Siltamäki – Scenario 2 utilizes Hypo's *plot concept*, which is explained above. The last column tells which stakeholder is considered as an interest group in each phase of the calculation; bolded names are the parties that have a good opportunity to alter the outcome.

Investment calculations for building permit	Base Case	Scenario 1	Scenario 2*	Interest group
Price of building permit	500 €/m2	600 €/m2	500 €/m2*	hc, investor, hc*, Hypo*
Sellable building permit in Siltämäki	11 500 m2	32 000 m2	78 400 m2*	hc, mun, investor, Hypo*
= Market value of building permit	5 750 000 €	19 200 000 €	39 200 000 €*	hc, investor
– Replacement costs of existing garages	500 000 €	1 390 000 €	0 €	hc
– Arranging existing easement parking	2 750 000 €	7 650 000 €	0 €	hc
= Income before municipality's fees	2 461 000 €	10 050 000 €	39 200 000 €*	hc, mun
– Development compensation	596 000 €	302 000 €	0 €	mun
– Zoning costs	39 000 €	109 000 €	0 €	mun
= Net income available for housing companies	1 865 000 €	9 748 000 €	37 600 000 €*	hc, Hypo*

Table 2. Financial calculations for three different scenarios (hc stands for housing company; mun stands for municipality). Note that the income in Scenario 2 is not profit for housing companies as the incomes in the Base Case and Scenario 1 are (*). Adapted from (Tolvanen 2009).

Base Case scenario

Base Case is a more realistic scenario, whereas Scenario 1 is considered as an opportunistic alternative. The plot for sale in the Base Case is presented with red in the southern part of picture 3. Market value of building permit is simply the sellable building permit multiplied by its price. This is the amount that an investor has to pay for the land, but housing companies will not benefit the whole amount. To achieve the housing companies' income before the municipality's fees, we deduct costs incurring from parking arrangements from the market value of the building permit. The plot has existing garages that have to be compensated (500 000€), and the plot has easement parking for some 100 shareholders – arranging structural parking for these shareholders is very expensive (2 750 000€) (Tolvanen 2009). The municipality decides on the development compensation according to the income before the municipality's fees – zoning costs are more or less fixed. The last row gives us the net income that is available for the housing companies' renovation financing.

Scenario 1

In the more optimistic Scenario 1 the housing companies are able to sell all available land (three infill development sites marked with red in Picture 3), and the price of the building permit is higher due to the anticipated price appreciation of the whole area. Proportional costs incurring from parking and zoning are the same as in the Base Case. The development compensation is only one tenth of the amount the municipality would normally charge – in the scenario the municipality does not require the development to be fully compensated because the housing companies choose the low energy façade renovation option, which is 3.8 million euros more than the conventional façade renovation. Therefore, the municipality relinquishes a part of the development compensation in order to give the housing companies an incentive for low-energy renovating. With the alternations made in Scenario 1 we get a net income that is approximately five times the one in the Base Case.

Scenario 2

In Scenario 2, instead of selling the infill development plots to external investors as in the Base Case and Scenario 1, the housing companies sell their own land and lease it back using *the plot concept* offered by Hypo. We use the theoretical maximum price for the land, which is 500 € per square meter of the building permit. In the *plot concept*, it really does not matter what the asking price for the land is since Hypo is willing to sell the land back at the same price it was bought.

The seven housing companies own a total 151 000 m2 of land in Siltämäki, excluding parking places and potential infill development sites marked in Picture 3. With a plot ratio of 0.52 this amount of land translates into 78 400 m2 of building permit. If all this land was sold to Hypo at a maximum asking price,

which is highly unlikely, it would result into an income of 37 600 000 € after the transfer tax of 4 %. It must be stressed that this income is not profit for the housing companies as selling of the building permit is in the two previous scenarios – it has to be paid back in good time.

For buying the land, Hypo requires a certain yield; in this example an initial yield of 5 % would result into a yearly rent of approximately two million euros. Therefore, although the initial amount that can be used for renovations is significant, the housing companies pay it in the form of rent and possible redemptions. The advantages of this concept are that the costs are distributed over a long period and that it is flexible for the shareholders in different financial situations. In addition, it does not include the municipality in an active role as an interest group, which can be considered an advantage.

Scenario conclusions

Table 3 presents the renovation costs for the whole Siltamäki area after subsidies and potential investment income, separately for each scenario. In Scenario 1 the housing companies choose the low-energy alternative for façade renovations in an exchange for the lower development fee, and thus the initial renovation cost is higher.

The last row presents the potential investment income as percentage of the initial renovation costs. As can be seen from the Base Case, this percentage is only 3.2 – much less than the subsidies offered by the municipality (7.8 %). It is questionable if the housing companies will use the investment opportunity in this case.

With the alternations in Scenario 1 the percentage rises to 15.5 (even though the renovation costs are higher), which is a much more tempting figure from the housing company’s point of view and could result into real measures.

Scenario 2 includes 100 % use of the *plot concept* offered by Hypo – the percentage of 63.6 is not comparable with other scenarios since it is income that has to be paid back with interest – nevertheless it is initially deducted from the renovation costs (*).

These simple scenarios show us that there are many possibilities for financing. Depending on the housing company’s situation, the initial cost of the renovations falls between 57 860 000 and 16 890 000 euros, which is a significant margin to “choose from”.

Siltamäki renovations	Base Case	Scenario 1	Scenario 2	Interest group
Net floor area in Siltamäki	65 500 m2	65 500 m2	65 500 m2	
Renovation cost per m2	905 €/m2	963 €/m2	905 €/m2	hc
= Initial renovation cost	59 280 000 €	63 080 000 €	59 280 000 €	costructor/hc
– Public subsidies	4 650 000 €	5 220 000 €	4 650 000 €	mun/state
= Renovation cost after subsidies	54 630 000 €	57 860 000 €	54 630 000 €	hc
– Investment income	1 870 000 €	9 748 000 €	37 600 000 €*	hc/hypo*
= Total renovation cost	52 760 000 €	48 112 000 €	16 890 000 €	hc
Public subsidies / initial renovation cost	7.8 %	7.8 %	7.8 %	
Investment income / initial renovation cost	3.2 %	15.5 %	63.6 %*	

Table 3. Siltamäki renovation costs for three different scenarios. (* = not real income as with the Base Case and Scenario 1)

Improved framework

As we noticed during the thematic interviews, our initial (single investor) URC framework might be too simplified. Investment environment is multidimensional – different investors act according to different logics, and it is not very simple to plot this behaviour into a model. For example, the commercial centre is a separate unit within suburban redevelopment and has to be approached from different point of view, which takes into account the ownership structure, among other things. Hypo's innovative concepts also have to be taken into account when deciding on the improved framework. These concepts allow the financial model to go further than just the on the effects of selling the housing company's excess land.

Discussion and Conclusion

Europe faces a huge challenge in renovating the energy hungry concrete suburbs built in the 60's and 70's. Especially, in the Nordic countries the concrete suburbs represent large housing stock, which now faces extensive renovations. Just renovating old buildings is not enough – suburbs as a whole need to be revitalized so that they would be attractive again and able to compete with the newly built housing areas. The neighbourhood of Siltamäki acts as a case study for this project – it represents a typical Finnish suburb built in the 70's.

The purpose of this research was to rethink the “suburban challenge”, and to innovate a value creation strategy for the concrete suburbs. Instead of only adding costs to the owners and tenants, the framework has produced an option where the suburban redevelopment is considered an investment opportunity, which brings potential value to both the internal and external stakeholders. As our financial analysis model shows, a total renovation cost of 54 630 000 € or 57 860 000 € can be compensated (under favourable circumstances) with an investment income ranging from 1 850 000 € to 9 748 000 €; and including Hypo's plot concept, an initial compensation of 37 600 000 € is possible.

We started our study with a simplistic view, but it was revealed much more complicated during the process – there is a need for further development of the concept to better consider the multi-dimensional environment we are facing. The results from the workshop meetings and thematic interviews concluded that the issue is very important and new discussion openers and ways of approaching are welcome. Parties should step out of their “comfort-zone” and think about the upcoming redevelopment from versatile perspectives, rather than only from the traditional one.

Financial analysis models similar to the one presented here have been studied previously (Tolvanen, A. 2009), but we aim in bringing the concept a bit further by adding different financing possibilities and perspectives of different stakeholders into the same model. We also bring out the scale of the concepts presented here compared to the renovations and redevelopment, in order to assess the feasibility better. Compared to the previous studies, we also put more emphasis on the investors' perspective in order to have the general view more complete. In addition, one of the goals is to bring the concept “mainstream”, rather than keep it in the hands of certain interest groups.

References

Ahlava & Edelman 2009

Ahlava, A. (ed.) & Edelman, H. (ed.) (2009) Urban Design Management. A Guide to Good Practice. New York: Taylor & Francis. 242 p. ISBN 0-415-46922-8

Hekkanen 2005

Hekkanen, M. (2005) A guide to facade renovations – financial examination (*Juko – Ohjeistuskansio julkisivukorjaushankkeen läpiviemiseksi; rahoitustarkastelut*). Espoo: VTT. 6 p.

Housing Companies Act 1991

Housing Companies Act 17.5.1991/809. Available in English at:
<http://www.finlex.fi/en/laki/kaannokset/1991/en19910809.pdf>

Häkkinen 2010

Häkkinen, H. (2010) Suburban reform looks for new perspectives (*Lähiöuudistus hakee uusia uomia*). Rakennuslehti. Vol. 8. p. 10-11

Hypoteekkiyhdistys 2010

Suomen Hypoteekkiyhdistys (Hypo) webpage 2010, <http://www.hypo.fi> (15.4.2010)

Koskela 2009

Koskela, J. (2009) Financing of housing company's renovations (*Asunto-osakeyhtiön korjaustoiminnan rahoitus*). Bachelor's thesis. Helsinki University of Technology, Faculty of Engineering and Architecture. Espoo. 25 p.

Kuronen et al. 2010

Kuronen, M. et al. (2010) Public-Private-People Partnership as a way to reduce carbon dioxide emissions from residential development. International Journal of Strategic Property Development. *Accepted 04/2010*.

Lantto & Saari 2010

Lantto, J. & Saari, A. (2010) Agile renovation model project (*Ketterä korjausmalli*).
<http://www.teeparannus.fi/parhaatkaytannot/tutkimusjakehitys/kettera/>. Interview 20.4.2010.

Mölsä & Heikkonen 2010

Mölsä, S. & Heikkonen, H. (2010) Concrete suburbs face extensive (energy) renovations (*Betonilähiöillä edessä valtavat perus- ja energiakorjaukset*). Rakennuslehti. Vol. 5. p. 10-13

Reports of the Ministry of the Environment

Suburban program 2008-2011 (*Lähiöohjelma 2008-2011*). Reports of the Ministry of the Environment 17/2008, 14 p. ISBN 978-952-11-3133-2 (PDF). Available at:
<http://www.ymparisto.fi/download.asp?contentid=84967&lan=fi>

Salastie et al. 2009

Salastie, S. et al. (2009) The contact city of Siltamäki (*Siltamäen kontaktikaupunki*). Helsinki: Edita Prima Oy. 128 s. ISBN 978-952-223-400-1. Available at: http://www.hel2.fi/ksv/julkaisut/julk_2009-3.pdf

Salmela 2010

Salmela, M. (2010) Renovation of half a million apartments (*Puolen miljoonan asunnon remontti*). Helsingin Sanomat Teema. Vol. 1/2010. p. 24-31. ISSN 1797-3740

Staffans & Väyrynen 2009

Staffans, A. & Väyrynen, E. (2009) Learning city planning (*Oppiva kaupunkisuunnittelu*). Espoo: Painotalo Casper Oy. 221 p. ISBN 978-951-22-9727-6.

Tikkanen 2009

Tikkanen, T. (2009) Financing a renovation (*Korjausurakan rahoitus*). Suomen Kiinteistölehti. Vol. 2/2009. p. 22-25. ISSN 0355-7537.

Tolvanen 2009

Tolvanen, A. (2009) Analysis of a start-up phase of the infill development process (*Täydennysrakentamisen kehittämisympäristön analyysi*). Master's Thesis. Helsinki University of Technology, Faculty of Engineering and Architecture, Department of Surveying. Espoo. 67 p.

Virta & Ojajärvi 2009

Virta, J. & Ojajärvi, M. (2009) Renovation of a housing company – governance and communication (*Taloyhtiön korjaushanke – Hallinto ja viestintä*). Helsinki: Kiinteistöalan Kustannus Oy. 144 p. ISBN 978-951-685-218-1