LIVING CLOSER TOWARD A SUSTAINABLE FUTURE OF THE HOUSING ESTATE





DIPLOMA THESIS PORTFOLIO

LIVING CLOSER - TOWARD A SUSTAINABLE FUTURE OF THE HOUSING ESTATE

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ACKNOWLEDGMENT AND DEDICATION

I would like to thank my supervisor, Henry Hanson, for his guidance throughout the diploma project and many valuable and inspiring talks we had the opportunity to have during my studies. I hope to have many more of them in the future.

I dedicate this thesis to my parents to whom I am very grateful for supporting me in getting the education I wanted and also throughout my entire life.

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zadání diplomové práce:

1/ popis zadání projektu a očekávaného cíle řešení

Vytvoření kvalitního, bezpečného a zdravého prostředí v reprezentující části území stávajícího sídliště Jižní Město, s důrazem na zvýšení dostupnosti a přístupnosti, změnu využití stávajících veřejných prostorů jejich aktivace a diversifikace a využití potenciálu napojení na systém veřejné dopravy. Projekt navazuje na předchozí před-diplomní masterplan. Předpokládaný výsledkem je návrh prostředí, které bude nabízet současným a budoucím obyvatelům příjemné místo pro život.

2/ součástí zadání bude jasně a konkrétně specifikovaný stavební program

Residenční, pracovní, volnočasové a komunitní aktivity, příslušná sousedská vybavenost, bezpečný systém mobility.

3/ popis závěrečného výsledku, výstupy a měřítka zpracování

Minimálně 5 řezů nebo řezopohledů různých měřítek 1:50 až 1:500, organizační diagram zobrazující prostorové uspořádání, prognóza využití navrhovaného prostředí s důrazem na veřejné prostory, minimálně 3 vizualizace z pohledu chodce, 3d zobrazení vnitřního a vnějšího propojení (může být v kombinaci s ostatními výkresy),

4/ seznam dalších dohodnutých částí projektu (model)

Fyzický model maximálního měřítka 1:1000.

4

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(ČJ) LIVING CLOSER – UDRŽITELNÁ REVITALIZACE SÍDLIŠTĚ

(AJ) LIVING CLOSER – TOWARD A SUSTAINABLE FUTURE OF HOUSING ESTATES

JAZYK PRÁCE: ANGLICKÝ

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Oponent práce:		
Klíčová slova (česká):	REGENERACE, SÍDLIŠTĚ, UDRŽITELNÝ ROZVOJ, REVITALIZA	
Anotace (česká):	Pražská sídliště jsou domovem pro skoro polovinu c letech mnoho obyvatel sídlišť odešlo kvůli nepřízniv degradace a nedostatečné vybavenosti vzniklo. V s rozrůstá do okolní krajiny, jsou to právě sídliště, kte revitalizována a svojí blízkostí k přírodě, napojení n plochami nabídnou udržitelnou alternativu k součas Diplomní projekt představuje regeneraci jedné část do kterého je v budoucnu plán zavést tramvajovou plán má a prezentuje vizi pro udržitelnou transform nová tramvajová zastávka a s ní spojené smíšené fu Hlavním cílem projektu je vytvoření veřejných a kon rezidenty, implementace udržitelného systému dop životního prostředí v řešeném území.	
Anotace (anglická):	The housing estates of Prague are home for almost years many people have left the estates due to the not changed much in the last two decades. With th housing estates regeneration could offer an alterna cases have the benefit of being close to large natur many opportunities for recreation, as well as the be transportation, which is a crucial element of a susta This project presents a vision for regeneration of or Prague, South City I, which is planned to have a tra regeneration project uses the potential of a new tra Ke Kateřinkám to transform the whole neighborhood work and retail places, revitalized housing and dive is on making people live closer together, by creatin to the city, by implementing sustainable means of t diverse urban landscape within the neighborhood.	

Prohlášení autora

Prohlašuji, že jsem předloženou diplomovou práci vypracoval samostatně a že jsem uvedl veškeré použité informační zdroje v souladu s "Metodickým pokynem o etické přípravě vysokoškolských závěrečných prací."

V Praze dne

9.1.2015

stav: 15121 Prostorového Plánování

ACE, TRANSFORMACE, JIŽNÍ MĚSTO

obyvatel hlavního města. V posledních dvaceti ivému prostředí, které na sídlištích vlivem jejich současné době, kdy se území Prahy stále terá by mohla být v budoucnosti regenerována a na městskou hromadnou dopravu či rekreačními asné suburbánní zástavbě.

ti největšího pražského sídliště Jižní Město I., trať. Projekt využívá potenciálu, který takovýto naci čtvrtě Ke Kateřinkám, do které je navržena unkční využití, kterého je místě výrazný deficit. omunitních prostranství pro současné i budoucí pravy a vytvoření kvalitního a zdravého

t half of the city's inhabitants. In the last 20 e dissatisfying living environment, which have he increased sprawl of the city of Prague, the ative to the suburban living, as they in most ral areas and their open spaces can provide enefit of good connection to the public tainable future.

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podpis autora-diplomanta

und can

PROJECT SUMMARY

The housing estates of Prague are home for almost half of the city's inhabitants. In the last 20 years many people have left the estates due to the dissatisfying living environment, which have not changed much in the last two decades. With the increased sprawl of the city of Prague, the housing estates regeneration could offer an alternative to the suburban living, as they in most cases have the benefit of being close to large natural areas and their open spaces can provide many opportunities for recreation, as well as the benefit of good connection to the public transportation, which is a crucial element of a sustainable future.

This project presents a vision for regeneration of one of the parts of the largest housing estates of Prague, South City I, which is planned to have a tram line implemented in the future. The regeneration project uses the potential of a new tram stop placement in one of the neighborhoods Ke Kateřinkám to transform the whole neighborhood into a sustainable area with newly created work and retail places, revitalized housing and diverse public realm. The main focus of the project is on making people live closer together, by creating various public and community spaces, closer to the city, by implementing sustainable means of transportation and closer to nature, by creating diverse urban landscape within the neighborhood.



HOUSING ESTATES INTRODUCTION

40 YEARS OF CENTRAL PLANNING

THE FIRST ESTATES: 1950-1970

During the 1950s the first developments after the War continued with the pre-war typology of modernist low rise slab buildings which were built on the edges of the city, connected to the existing infrastructure. These neighborhoods are still very popular as their scale and location makes them very well located in the urban structure. From the beginning of the 1960s under the political influence of "Comprehensive Housing Construction" scheme the construction of the first housing estates begun. The new estates built in 1960s provided housing for almost 70 000 people. The location of the first developments was in the reach of the existing infrastructure, but soon most of these well accessible locations were used. As the political pressure to deal with the housing shortage increased, new locations outside of the urban structure were chosen and the housing estates increased density, construction speed. As most of the investment went into the housing itself, the development of necessary public infrastructure for the estates was reduced. Housing estates became the only option for new housing, therefore many people moved there from center, where the flats were in a substandard condition.

NEW CITIES: 1950-1970

The increased speed of construction in the 1960s led to many compromises with the built quality and standards of living. As the housing shortage continued together with the economic issues, the compromises became a new standard and the answer to the economic issues was even increased housing density through the increased height of the blocks and reduction in investments in facilities and services in the new housing areas. When most of the adjacent sites to the city edge were used, the idea of three satellite cities Prague was introduced. The plan of new self-sufficient cities were under the circumstances reduces to the necessary minimum- housing, making them a large mono-functional complexes with enormous size. New subway lines were planned to connect these new cities, but since the housing had priority, many part of the new town did not have any subway connection until 2000s. More than 300 000 people found new home in the newly built prefabricated blocks of flats.



HOUSING ESTATES, PUBLIC TRANSPORT





SUBURBAN DREAM: 1990-2011

The last 20 years of urban development of Prague could be referred to as a suburban dream. Many people fled the city as well as the socialist housing estates to single family houses built on an agricultural land around the city. When people got an alternative to living in the housing estate, many people left. Even though the newly built suburban satellites were missing public infrastructure in a same way as the housing estates and the accessibility to the city is in most cases worst, the comfort and environment of living was more favorable. Many of the estates did not have an ef- was to buy a car. The housing estates, which were built ficient to the public transport, which caused many people to favor car transportation. The total number of cars in Prague almost tripled in last 20 years making the traffic one of the main issues of today. The social heterogeneity in the former estates remains and there are not yet any major issues with social segregation, but the population loss in some of the areas can be a threat towards the future. Most notable loss of population is in the largest estates which were part of the new towns and area less accessible. On the other hand many of the early built estates are very popular and becoming an integrated urban layer of the Prague city.

As the demand for suburban housing rapidly increased after the end of the socialist regime, the rapid increase in car ownership occurred. In Prague the number of cars almost tripled since 1990. This was also supported by large scale developments of shopping malls in the suburbs as well as large office parks, logistic centers and recreational facilities.

CAR OWNERSHIP PER 1000 PEOPLE - PRAGUE



Since majority of the housing estates were built as nonfunctional residential neighborhoods the need of everyday transportation is enormous. Even though the subway system was built to connect these estates with the city it did not reach all of them or were built late after the people decided to own a car for their needs. The use of public transport was relatively high during the socialist regime as the price of car was relatively high and people had no other choice, but in the last 20 years the comfortable solution for transportation with a lot of leftover green space, were shortly transformed into automobile landscapes with parking lots filling out the space in between the buildings.

Lately, there is an increase of investment in public transportation to make it more comfortable and efficient to be a fast alternative to the car, but in most cases it fails to do so.

PRAGUE POPULATION



PRAGUE AGGLOMERATION POPULATION PRAGUE EAST + WEST DISTRICTS)



REGENERATION FOR SUSTAINABLE

The 40 years of housing estates construction have changed the urban form of Prague in way and speed that none of the time periods before. The amount of housing which was built makes it the most common type of housing in the Prague today. Fortunately, the amount of people moving out of these areas in general is not yet critical and the social heterogeneity remains relatively stable. But the trend in the last 20 years shows, that there is a few critical locations, which have lost more population than others. These places with the slow depopulation could in the future become problematic.

Most of the estates have improved connection to the public transportation system, which makes them more accessible than many suburban developments, but the living environment cannot compete. Even though the large housing estates were built in a location adjacent to large nature areas to provide recreational areas for its inhabitants, but the accessibility of them is very problematic due to a very poor infrastructure and car-domination. Also many of the prefabricated buildings have been improved with additional insulation facades and other technical upgrades, the space around the buildings remains untouched, unpleasant and car-dominated.

The regeneration of the estates, which would make them a fully functional parts of the city, not only sleeping districts as today, could offer an alternative to the ongoing urban sprawl. The potential of existing public transportation must be used as the greatest advantage together with the proximity of nature. The combination of good accessibility of public transportation and nature could make the estates sustainable for the future and establish them as an attractive alternative to living in the urban core or in the suburban dwellings.



SOUTH CITY I. DESIGN SITE CONTEXT

CONTEXT DESCRIPTION

The site is a part of a large housing estate complex South City, which was built during the 1970-19080s to provide dwelling for 80 000 people. It was the largest housing estate project constructed. The initial idea was to create a self-sufficient city with an alternative character to the old historical Prague. The dense neighborhoods were to be situated around a central park. The main link to the city was the newly constructed motorway and the planned subway. In the beginning the City was planned to have two parts, from which the western own was to provide jobs, light industry and commercial areas (South City II.) and the eastern part (South City I.) to be the housing district. The large woods in the vicinity were to provide recreation.

Since the plans changed under the political circumstances of failing economy, the idea of self-sufficient cities with neighborhoods was never realized. The western part of the city was developed as housing with no jobs, or planned industry, as it was more profitable to build housing. The concept of central park and public amenities connected to the subway station remain unrealized until today, leaving the park as a vast open space filled with excavated soil from construction sites. When the subway link was realized it provided a fast connection to the city, establishing the south city as a city dormitory for tens of thousands people commuting to the city every day.

In the last 20 years a few of new public facilities were developed in the area for the inhabitants, but the area still remains underdeveloped with services and especially jobs, which makes it completely dependent on the subway connection to the city. As the subway station is for most people reachable only by bus, the use of the car transportation in the area is prevailing.

The positive aspects of the area can be seen in the opportunity of the existing subway transportation, which is to be supported by a planned tram line. Another asset to the South City is the proximity of large nature areas such as wetland, water reservoir and forests, which surround the area.





KE KATEŘINKÁM

DESIGN SITE

DESIGN SITE DESCRIPTION

The neighborhood Ke Kateřinkám, named after its main street, forms the south-western corner of Southern district of the South City I. It was planned as one of the four micro-districts laid out around centrally placed kindergartens and neighboring a higher educational and commercial facilities located within walking distance. Today, the kindergartens are no longer in use and one of them remains empty, the other has a mix of public functions. Similarly to the whole South City I., the neighborhood is almost purely residential, lacking all the necessary functions except educational. The neighborhood is connected to subway by a bus which is located on the main road. Since the area is located on the edge of the South City, is has a very good connection to the outside natural areas such as wetland ponds or forest. The terrain is sloping south avg. 1-3%.



SITE DATA



SCALE/DENSITY COMPARISON





NOVÉ MĚSTO, PRAGUE 2 - BLOCK STRUCTURE

GARDENING EFFORTS OF THE RESIDENTS ON THE PUBLIC LAND NEIGHBORING THEIR BUILDING



SITE PHOTOS

VIEW OF THE DOMINATING 13-STOREY HOUSING ESTATE



A TYPICAL GROUND FLOOR VIEW





SPOŘILOV, PRAGUE 4 - GARDEN CITY



DESIGN SITE - AERIAL VIEW

HARAM LAL AAAL



PROGRAM & MOBILITY

NEIGHBORHOOD ISSUES

MISSING PROGRAM

The neighborhood was planned as a residential district with all the other necessary function located elsewhere and it remains like this until now. Thus there is a very little life during the day, as everyone has left to work and the dependency on public or private means of commuting is very high.

LOW MARKET VALUE

these things can be improved and therefore increase the current low value.

MISSING PUBLIC SPACES

Housing estates in the area have around 60 percent of their potential value The area was planned to maximize the amount of open public spaces around The area is very strictly divided between public open space and private build-(compared with the new adjacent development. This is due several reasons the buildings, paradoxically no real place which would give the place an such as the building condition, character, comfort of living etc. But majority of identity or sense of belonging was created. The public space today is just an of residents with a shared area. In these conditions social connections and open space without any definition or program.



MOBILITY ISSUES

ACCESSIBILITY

The neighborhood was planned for separated flows of people and cars. Most of the places are served by car with a very poor pedestrian access. The pedestrian infrastructure is very poor and therefore the public transport is less and bridges with many steps up and down remain the legacy of modernistic not enough designated parking places in the area, so all possible space along pedestrian network can not compete with the existing layout of roads. attractive and reachable for people than their own car.



MOVABILITY

The cars were not to be disturbed by slow walking people, so they could go as The amount of cars rapidly increased in the last 20 years. The amount for fast as possible, thus a separated infrastructure for people was built. Tunnels which it was planned is almost three times outnumbered today and there is remains the easiest and fastest way how to get around. The complicated planning in this area.



BARRIERS

the streets is filled with parked cars.



VERY PUBLIC, VERY PRIVATE

interaction remains also only very public and very private.



SAFETY

ings, without any transition space, which would provide a smaller community such as break-ins, car thefts etc. These incidents can be caused by the general anonymity of the residents as well as large amount of open space away and not visible from the apartments.



CAR PRIORITY

There is a very small motivation for walking or biking in the area, as the car

INEFFICIENT PUBLIC TRANSIT

The subway station is accessible by a bus connection, which runs with medium frequency. To become an attractive alternative to car transportation, not only the frequency but also the quality of the environment must improve.







LANDSCAPE & BUILDINGS

OPEN SPACE ISSUES

LOW SPACE OCCUPANCY

Most of the open space is of undefined greenery, with no functions. Therefore there is very few possibilities for any outdoor activity and majority of the people in the public space are just passing by, going from place to place. People occupy the space only when going to other places, not to spend time or spend time in. there.

LANDSCAPE MAINTENANCE

The high amount of greenery is very costly to maintain in a good condition. The increase of the car ownership in the area has a high spatial demands and The open space without function or use has a great value for developing, The local municipality does not have the budget to maintain all the greenery today the parking covers much larger area than the actual maintained parks which if done right can be an asset to the area. Unfortunately the developas it needs to, therefore it is in very poor condition and not attractive to visit and playgrounds.



CARSCAPES



BUILDING ISSUES

CONDITION

maintained since their completion almost 30 years ago. Even though people regularly invest in their privately owned apartments the overall improvement of the building is needed. The repairment is a potential not only to maintain the building condition but address some of the existing neighborhood issues.



CHARACTER

More than half of the buildings in the neighborhood have not been repaired or The sameness and monotonity is a common character of all housing estates. Since all the land around the buildings is public, the ground floor space was Even though the buildings are surrounded by green space there is almost no The residents of all estates wish to change this by painting the facades differently which does not give any true identity to the place and results in the buildings have either storage space in the ground floor or elevated first floor. pology. The standardized window opening and small balconies do not provide not meet current standards and demand of the people looking for housing. same, but colored, monotonity.



UNUSED GROUND FLOOR

not intended for apartments due to lack of privacy. Therefore most of the This completely eliminates any connection with the outdoor space and results a sufficient conditions to fully enjoy the outside. in very poor performance of public space



UNDEVELOPED OPEN SPACE

OWNERSHIP

ment is barely ever done with the intention to provide the current residents with any benefits.



Most of the buildings were privatized in the last 20 years, but all of the land remains owned by the city. Even the very adjacent space around the building does not belong to it and therefore it makes any effort of the residents to improve their environment complicated.



OUTSIDE CONNECTION

APARTMENT VARIATION

All of the apartments in the area, which is almost 1200, have been designed connection between the inside and outside in the existing housing estate ty-





OWNERSHIP FROM ONE TO COUNTLESS STAKEHOLDERS

PRIVATIZATION

The centrally planned development of housing estates was completely in hands of the government. The building were built at once on a stately owned land and centrally rented through state housing agencies to people. In the last 20 years ownership structure has changed from state ownership to housing cooperatives and majority of the buildings became privatized by individual owners. The area which was planned with one owner is now shuttered among countless private owners without any cooperation. This has became an issue as most of the land has yet remain in the ownership of the city and it is undecided which parts should be developed and which not. The countless number of owners makes any large scale decision making as well as small initiatives in the area very complicated. For any future decision making the residents of the area will have to be an active and respected partner to the city and future developers.



BUILDING OWNERSHIP IN THE AREA





LAND OWNERSHIP OF THE AREA







DEMOGRAPHICS

20 YEARS OF CHANGING LIFESTYLE AND POPULATION

1990: WHO WAS IT BUILT FOR?

The housing estates were built with a focus on providing housing for families with one or two kids. These standardized family units were the main subject of the planning and resulted in a very homogeneous social structure. AVG. LIVING AREA.

HOUSEHOLD SIZE



PEOPLE PER HOUSEHOLD



NUMBER OF CARS PER 10 PEOPLE



AGE DISTRIBUTION



* DATA BASED ON POPULATION AND HOUSING CENSUS AND POPULATION PROJECTION 2050 (www.czso.cz)

2001: WHO LIVED HERE?

During the one decade after 1990 the households became
smaller with the double occupancy being the most common.There is an ongoing decline of children in the area and
reduction of household sizes and occupancy. Over 60% is
single or double occupancy. The amount of people in their
30's significantly increased as well as the number of resi-
dents older than 60 years of age.









2011: WHO LIVES HERE NOW?







2050: WHO WILL LIVE HERE?

The population prognosis for the city of Prague states that in the next 35 years the majority of population increase will be due to a migration to the city rather than increase in the birth rate. As for the age structure there will be a significant increase in population aged over 60 as well as overall leveling in the age structure. Since this prognosis can be generally applied also onto the housing estate site, we can expect it will project in the future residents of the area.

The high car ownership in the area, which has more than tripled in the last 20 years, has already reached the spatial and traffic limits. An alternative to current individual transportation needs to be implemented to secure a sustainable future of the site and healthy environment for its current and future residents.







VISION THE FUTURE OF THE HOUSING ESTATE



GOALS **KEY ASPECTS OF THE PROJECT**

ACCESSIBLE , ATTRACTIVE AND DIVERSE PUBLIC SPACE

PUBLIC SPACE AS AN IDENTITY

SOFT PUBLIC-PRIVATE TRANSITION SPACES PROVIDING DIFFERENT LEVELS OF **SOCIAL INTERACTION**

The goal is to create a neighborhood with a wide range of public space typology, from smaller community places to larger open spaces for diverse activities and use. The public spaces need to promote urban activities for the expected age structure so all of the future residents can fully enjoy the outdoor spaces. The open space adjacent to the residential buildings can be used for creating a semi-public or semi-private space for its residents, which would not only bring added value to their living but also improve the connections with the surrounding spaces. Through the change of the public space a new identity and character can the environment but also contributes to the health of the residents. be given to the neighborhood.

PUBLIC TRANSPORTATION AS THE MOST EFFICIENT AND ACCESSIBLE WAY OF

PEDESTRIAN AND CYCLING FRIENDLY NEIGHBORHOOD

Public transportation integration and promotion is one of the main goal of the The proximity of nature is one of the major benefit of the housing estate, therewhole project. The area needs to take a full advantage of its location close to the fore its integration within the urban structure plays a main part in the project. subway system and the future integration of the tram line which will make it The urban environment and built structures should both contribute to the natural even more accessible. The tram stops as well as other means of public transportasystems and ensure its healthy conditions as well as the nature contributes to the tion needs to be directly connected with pedestrian and bike network to allow health of the residents. To goal is to integrate various types of urban landscapes easy access as well as appropriate building functions placed in its vicinity. Urban with range of recreational, ecological and esthetical functions and benefit from environment promoting walking and biking not only reduces the car impact of the use of ecosystem services.

LIVING CLOSE **TO THE NATURE**

COMMUTING

CLEAN, SAFE AND HEALTHY LIVING ENVIRONMENT URBAN LANDSCAPE OF RECREATIONAL AND ECOLOGICAL VALUES

RAINWATER AS A PART OF THE URBAN ECOSYSTEM

CONCEPT

EXISTING SITUATION

CHANGING THE ROAD TO STREET WITH TRAM

ACCESSIBLE CONNECTION TO THE TRAM LINE





The existing urban structure of the area is formed by a ring neighborhood street connected to the main road. The building are placed along this street in an orthogonal grid without any clear hierarchy or system. A large open space and a parking lot divides the neighborhood from the main district road in the north.

The future tram line will be placed in the main district street. In the proposal the existing road, which is directly connected to the highway, is straighten to break this direct connection to the large automobile infrastructure and becomes an street which can be used for future development.

Almost the whole neighborhood is placed within the 400m walking distance from the future tram stop. This diagram presents a prognosis of the main pedestrian flows to the future tram stop in the most efficient way. To promote the use and urban street with tram. This move also provides a larger space in the south of the accessibility of the new tram, this is a key diagram which helps the organize the transformation of the urban structure.

PROJECTED PEDESTRIAN FLOW



LINKED PUBLIC SPACE

EXISTING BUILDINGS: ADJACENT SPACE PRIVATIZATION NEW DEVELOPMENT



A few existing structures are taken down to allow a continuous public space to connect the future tram stop with the rest of the neighborhood. The linked public spaces are divided into several parts, each of them having a different character and use based on its location and surrounding building program.



The existing residential buildings are currently placed in the open public space. The key aspect of the project is the transformation of the existing slab typology to blocks by defining an adjacent space around the building which will belong to it and can be utilized by the residents. This privatization of the land will bring added value to the living as well as the better definition and hierarchy of urban spaces around.

After the new linked public space and existing building lots are defined a new development is proposed on the remaining land. Most of the development is located along the main street with tram, only a small part of the new development is proposed within the existing urban form. The development blocks are defined to allow easy accessibility of the tram as well as ensure a comfortable semi-private spaces for its residents. With the new development an extension of the existing buffer greenery is proposed, to reduce the impacts of the neighboring highway on the urban development.

THE PROPOSAL

DESCRIPTION

The proposal aim to benefit the existing neighborhood by bringing range of work and retail opportunities as well as public services, which are missing today. The mixed use development is directly connected to the tram stop, being not only accessible by the local residents but also by people from different parts of the area. Most of the existing open spaces between the existing buildings is part of the linked public space to be as accessible to the residents as possible. The proposal development can be divided into five connected parts, each of them having a different typology and building program.

OVERVIEW

LOCATION	ATION: KE KATEŘINKÁM, OPATOV PRAHA 11		
GPS:	50.0232369N, 14.5149819E		
AREA:	211 481m ² (21ha)		
POPULATION: 2600 (CURRENT) + 600 (NEW)			
DENSITY			
	NET:	802/ha (BUILT AREA ONL)	
	GROSS:	150/ha	
TOTAL AP	ARTMENTS :	1200 + 270 (NEW)	
TOTAL WO	ORKPLACES :	20 + 560 (NEW)	

PROPOSAL DATA



PART A MIXED USE DEVELOPMENT

PROGRAM





PART B MEDIUM RISE COURTYARD HOUSING





PART C NEIGHBORHOOD CENTRAL SQUARE











PART E TRANSFORMED EXISTING BUILDINGS





* REFERENCE PICTURES, SEE PAGE 49 FOR SOURCES



SPACE ORGANIZATION

MOBILITY

BUILDING PROGRAM

URBAN FLOW





of the neighborhood. The area is served by two residential streets which connect to the main streets in the north and east and shared spaces connecting from the residential streets to the buildings. There is no through-going traffic within the neighborhood, the main parking houses are placed on the edges of the area to avoid inside-going traffic. The bike network connects to the parking houses as well as to the tram station to allow easy transfer not only for people in this area, but also from the surrounding locations.

The public transport and bike/pedestrian network are the main mobility systems The new development along the tram line combines residential, public, retail and work functions in different ratios according to their location. Overall program provides balanced mix between residential and other functions, with a slightly higher percentage of work and retail spaces which is currently missing in the area. The balanced ratio ensures the accessibility and economical stability of the area as well as smaller dependance on the commuting outside the neighborhood. hood.

The main public space link was designed to provide a comfortable and attractive environment while accessing the public transportation, public services, parks and other places of urban recreation. On a daily basis, the linked public space provides the most efficient way of walking throughout the neighborhood - whether it is to tram, school, parking house or natural areas within or outside the neighbor-

SCHOOL, KINDERGARTEN PARKING

COMMUNITY HIERARCHY

SPACE HIERARCHY



The proposal defines and creates public, semi-public and semi-private spaces which would give the residents a sense of belonging to the community. By proposing various spaces of importance and use in the urban structure a new community hierarchy can be achieved. From the large neighborhood feeling defined by the central public square to a sense of a location-within the new (north) development or south (existing) and clusters of building creating a street or block community. These spaces contribute to the overall social interaction as well as safety of the area.



BLUE-GREEN NETWORK



A system of green network is integrated within the neighborhood, providing various recreational and ecological functions. This green system is supported by an urban stormwater management, which collects, filters and retains the stormwater. The stormwater system is a part of the public space link, having not only ecological benefits but also creating an attractive living environment for the residents.

hierarchy of spaces itself. Each private building has adjacent semi-private space in the front towards the street and also in the back, providing more enclosed and private feeling for its residents. Some of the new development has a semi-public buildings and services in the area connected to the main public space.

SITE SECTION





MAIN STREET SECTION

SCALE 1:125



NEIGHBORHOOD EDGE SECTION



RESIDENTIAL STREET SECTION

SCALE 1:125

The residential street is a dead-end street for the local residents and necessary servicing of the area. There is no throughgoing traffic, the permeable parking area along the streets is used for temporary and visitors parking, as the residents use the parking garages nearby. The 30kmh limit ensures a safe and calm environment for the residents.





SHARED SPACE SECTION

SCALE 1:125

Shared space connects the building with the residential street. It has a limited car access only allowed in special cases (emergencies, fire department brigade, handicapped access, moving) with no parking allowed at any time.











BUILDING TRANSFORMATION

FROM SLAB HOUSING TO BLOCK

CURRENT CONDITION

There are four building typologies in the area today, which all share the common issues. The most notable is unused or elevated ground floor with no contact to the outside, which significantly decreases the quality of the pubic space for people walking around and supports the anonymity feeling of the area.

PRIVATIZATION OF THE BUILDING LOT

To allow transformation of the buildings itself and improvement of the living comfort as well as improvement of the surrounding space an area around the building space such as semi public entrance areas with benches, private front yards for and improvement of the inside/outside connections.

CREATING THE FRONT

is defined to be used by the building residents. This will allow the transformation the ground floor apartments or even creation of the new apartments in place of the existing storage spaces. A small retail or work spaces with connection to the outside can be placed there too.



CREATING THE BACK

The building design today allow people to enter from both side since there is public space all around. By making the back space of the building semiprivate forming the common garden, or private garden for the ground floor apartments it can be the more intimate and communal side of the building compared to the front, which faces the street.

APARTMENT TRANSFORMATION

The variability and living standard of the apartments can be transformed within the inside space by merging and remodelling the spaces, which people have been already doing when they privatize the building. But even medium additions to the facades or larger building transformations are possible. These transformations can bring the living standard to the same level as the contemporary developments.



UTILIZING THE ROOFSCAPE

The roofs of the existing buildings hold the same potential for transformation as the apartments and surrounding space. The space can be used for additional living space with a new typology, or also developed as an investment by current owners who can finance the building transformation from selling it. Green roofs or PV panels can be easily added to reduce the energy consumption of the existing structures.



TRANSFORMATION EXAMPLES

REPRESENTATION OF A POSSIBLE TRANSFORMATION OF THE EXISTING TYPOLOGY ON THE SITE

Each building on the site can be transformed in a different way depending on the possibilities and demands of their residents and owners. The images below are just representations of the possibilities these transformation provide.

BUILDING TYPOLOGY 01

This building type is the smallest in the area with only four storeys and two apartments per floor. It has an elevated ground floor. Its small scale holds a possibility of redesigning into a residential villa apartment house with all apartments private use or common garden. This can also be done in the front. Additional balbeing close to the outside nature.

MEDIUM TRANSFORMATION

The terrain around the building can be risen to the level of the apartments (app 0.75-1.25m) to allow direct connection to the outside from the apartments for conies or loggias increase the living standard of the existing apartments.

LARGE TRANSFORMATION

The low structure of the existing building can be an asset when planning a rooftop extensions. The whole roofscape can provide a space for new apartments and terraces. With additional structures built, the existing apartments can increase their living spaces and comfort.





TMENT VARIATION	
ROUND FLOOR USE	
AL PERFORMANCE	
OOR CONNECTION	
PARTMENT VALUE	

BUILDING TYPOLOGY 02

This typology has an elevated first floor and a ground floor used for storage and only accessible from the back (due to the sloping terrain).

MEDIUM TRANSFORMATION

Making the entrance accessible by ramp should be the first transformation. The ground floor space can be easily converted into additional living space with the benefits of having a private gardens in the back.



* EVALUATION BASED ON PERSONAL OBSERVATION AND ESTIMATION

LARGE TRANSFORMATION

Building additional structures such as loggias or terraces becomes more challenging due to the size of the building, but it is possible to implement them.





THE LINK THE LINKED PUBLIC SPACES OF THE NEIGHBORHOOD

TRAM STOP AND LINEAR SQUARE

The tram stop is mostly surrounded by work and retail functions, therefore the public space connects to the active ground floors and vice versa. The hardscape area adjacent to the main street gently transforms into a small park with playground between the second line of buildings which have a higher percentage of housing.





The active park is located between the existing buildings in a place of an existing unmaintained green space. It combines active landscapes for various recreational activities and sports as well as community gardening in the northern part which gets the most sunlight.







* REFERENCE PICTURES, SEE PAGE 49 FOR SOURCES

PASSIVE PARK

The wetland park lies in the lowest point of the site. Its main feature is the retention pond to which most of the runoff water from the site is collected. Its covered mostly by passive landscape, with small playgrounds along the edges of the park neighboring the residential buildings. It provides calm spaces for passive recreation and relaxation.



NEIGHBORHOOD SQUARE

The central square of the neighborhood is surrounded by mostly retail, work and public functions dominated by a community center in its central part. The open space of the hardscape square can be used for various events such as markets, small concerts or other community gatherings. Its direct connection to the bus stop makes the square easily accessible and reachable even from outside the neighborhood.







MOBILITY IMPLEMENTING SUSTAINABLE TRANSPORTATION

SUSTAINABLE MOBILITY STRATEGY





The pedestrian accessibility The implementation of the Cycling network is not only of different neighborhood functions and good walking hood has a great possibility uses in the area, but with environment are the key aspects of the proposal. The idents commute from and recreation, public transportation, retail and public services all located within the five-minute walking distance makes it easy for people to choose walking as and bus stops connected to way of commuting for methe main way of commuting the public spaces and main dium range distances. The over a car.

PUBLIC TRANSPORTATION

tram line into the neighbor- designed for recreational of changing the way the res- its connections and parking to the neighborhood. The accessibility of the subway and therefore the whole Prague will be improved. The placement of the tram pedestrian flows also have network connects to the economical potential for the outside of the site benefit-

transportation more effective WORK, RETAIL, SERVICES: UNDERGROUND PARKING

INTEGRATED BIKE NETWORK



facilities provided close to the public transportation, parking garages and other important neighborhood nodes, it can become a very effective and sustainable surrounding businesses. ing the surroundings.



MOBILITY OVERVIEW



44

and accessible than the car.

물을 400

SOLAR ACCESS



SUMMER

DAILY AVERAGE FOR THE MONTH OF JUNE



CASE STUDIES EXAMPLES OF HOUSING ESTATES TRANSFORMATIONS

BIJLMERMEER RENEWAL



Location: Amsterdam (NL) Year: 1992-now

The urban renewal has been going on since 1992, it is one of the largest scale renewal projects of housing estates in Europe. The overall area has been densified with low-rise high-dense housing and new public infrastructure.

TRANSFORMATION & ADDITION

Location: Saint-Nazaire (FR) Design: A. Lacaton & J.P.Vassal (lacatonvassal.com) Year: 2013

An extensive transformation which does not affect the public space around much but shows an example of very successful increase of living conditions.

PANEL HOUSE REGENERATION



Location: Prague (CZ) Design: A Plus spol (apluscz.eu) Year: 2010



Year: 2013

PAN, PRE-FAB RECONSTRUCTION



Location: Rimavská Sobota (SK) Design: GutGut (gutgut.sk)

This transformation connects the building with the adjacent garden to create a semi-private space for its inhabitants.

STADTUMBAU - HAUS 1



Location: Leinefelde (DE) Design: Stefan Forster Architekten (stefan-forster-architekten.de) Year: 1999

Not only living conditions in the buildings are improved but also the treatment and addition of front yards adds quality to the public space in front of the building. * REFERENCE PICTURES, SEE PAGE 49 FOR SOURCES

STADTUMBAU - HAUS 5



Location: Leinefelde (DE) Design: Stefan Forster Architekten (stefan-forster-architekten.de) Year: 2006 The transformation of the leftover space into a private garden

in this example, gives the public space very residential character

COMPLEX 50

Location: Amsterdam (NL) Design: Van Schagen architekten (www.vanschagenarchitekten.com) Year: 2004

The building has been added rooftop apartments as well as small ground floor retail spaces and studios. A passage through at the ground level was also created.

ECHTENSTEIN

Location: Amsterdam (NL) Design: Van Schagen architekten (www.vanschagenarchitekten.com) Year: 2006

Large scale regeneration of a modernist slab housing estate in Bijlmermeer. Combination of medical clinic, retail ground floor and housing has been implemented.

CONCLUSION

WHAT HAVE THIS PROJECT ACHIEVED

This project aimed to transform the existing housing estate district into a well-functioning, attractive and sustainable neighborhood which could be possibly an alternative to the suburban sprawl. It incorporates the future tram line as a main urban element and the catalyst of the regeneration. The proposed new development uses the potential of the new tram stop and the economical benefits it can have. Even though the densification was never the main goal, it to some extend became a result of intensification and the tram integration, but the densifying development was done in a way not to affect the existing qualities and character of the open space which is very much valued by the residents. The proposal tried to find a balance between needs for new development, which offers new functions to the neighborhood, and creation and preservation of the public open spaces.

The open space and proximity of nature is a key benefit of the area and also an identity giving element of the existing housing estates, therefore the proposal incorporated a variety of landscapes, which offer attractive environment and recreation for all residents, such as young kids, mid-aged parents as well as elderly generations. At the same time the landscape is not only used as a recreational ground, but with its incorporated stormwwater system contributes to the overall improvement of the living environment.

To address the current building and living issues, the projects presents a strategical guidelines and examples what could be done rather than solving it in detail. The presented strategies mostly focuses on the connection and interaction of the building with the outside space and surrounding public spaces as the main goal was to improve the whole living environment rather than the individual apartments.

The neighborhood, which today has no identity, public spaces or community spaces, nor any work places is transformed into a place with a strong character given by its proposed public space link and sufficient amount of work places, retail and services.

AUTHOR'S COMMENTS

This project is my vision, done with the best intentions in mind, however due to the very complicated situation of the housing estates today – which do not share any common goals, nor have any long term strategical plan for development – it was carried out without any real demand of the current residents of the area or the task guidelines provided by the municipality. The project of such scale in an area of that many stakeholders would require a very long-term cooperation and planning to be able to form the task what is really needed and wanted by the residents in the area. Since there is not yet such thing, in my project I tried to formulate the task and carry out the proposal according to it by myself. The proposal should be look at as a represented vision exploring the possibilities of the area, and is meant to inspire and contribute to the general discussions about the future of housing estates.

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DIPLOMA THESIS PORTFOLIO

LIVING CLOSER - TOWARD A SUSTAINABLE FUTURE OF THE HOUSING ESTATE

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