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“Social Sustainability and Transit: designs for two neighborhoods in Stockholm”

**Patricia Isabel Valbuena
Master of Science in Urban Design**

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**The University of Texas at Austin
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“Social Sustainability and Transit: designs for two neighborhoods in Stockholm”

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Smaller cities are the future metropolis of tomorrow, it is in them that we should plan and improve the quality of life now for the years to come. It is with this in mind that Stockholm, with 2,125,000 inhabitants and 9 different modes of transportation, was selected after an extensive research of over 500 cities around the world. Through their ‘Vision 2030: The Walkable City’, Stockholm puts their attention into a long-term sustainability with several key projects, which include Hagastaden and Albano. Already in advanced stages, these proposals do not live up to the standard already demonstrated by previous projects in the city in terms of sustainability and quality of life. Their close location to each other, surrounded by three major universities and untouched nature, provides the opportunity to connect back to the landscape through a series of ‘green networks’ that condition the new urban form. As well, three strategies are implemented: social, transportation and sustainability strategies. The creation of a vibrant neighborhood can be achieved through a strong community with a particular focus in children, safety, mixture of uses, access to sunlight and flexible spaces. Being placed in proximity to at least five different modes of transportation provides the residents and workers the relief of car ownership; strengthened by shared vehicles located in underground parking facilities accessed via public spaces. These social and transportation strategies work together under the ‘Hammarby Model’ of sustainability that handles water, waste and energy in an efficient closed loop implemented in Hammarby Sjöstad (1999) and Royal Seaport (2011).

ABSTRACT

INDEPENDENT RESEARCH

05 *MULTI-MODAL TRANSPORTATION SYSTEMS*

STOCKHOLM AS A WORLD CLASS CITY

06 *VISION 2030: THE WALKABLE CITY*

07 *TRANSIT DIVERSITY*

08 *HAGASTADEN AND ALBANO*

09 *URBAN CONTEXT*

PROPOSAL FOR A SUSTAINABLE DISTRICT

10 *GREEN NETWORK*

11 *SOCIAL STRATEGY*

12 *TRANSIT STRATEGY*

13 *SUSTAINABILITY STRATEGY*

14 *MASTERPLAN*

15 *URBAN LIVING*

BRIEF RESUME OF THE AUTHOR

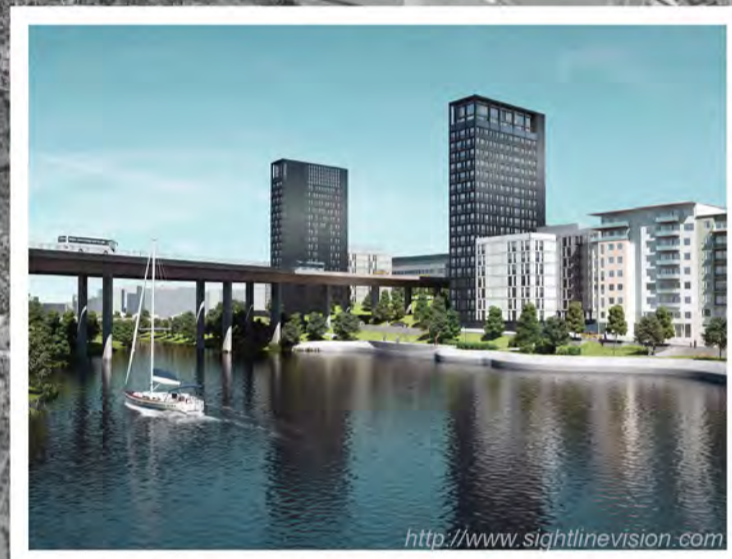
(2) STOCKHOLM - VISION 2030: THE WALKABLE CITY



Solna

HAGASTADEN

At Karolinska-Norra Station, a brand new combined housing-and-workplace city district is being constructed in cooperation with the Stockholm County Council and the City of Solna. When completed, the district will provide the ideal base for world-class research programmes and businesses specialising in the Life Sciences.



NORTH-WEST KUNGSHOLMEN / LINDHAGEN

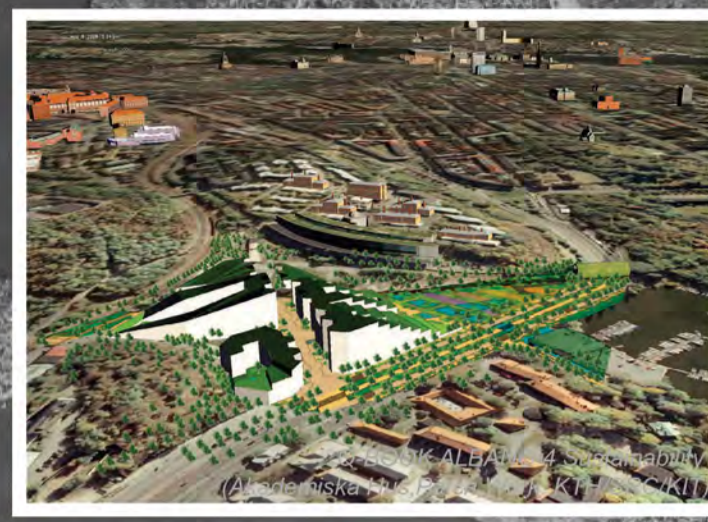
In North-west Kungsholmen, the compact central city sees the addition of 15,000 workplaces, 8,000 new inhabitants and a variety of new shops, cafés and restaurants. The Strandparken park and Lindhagensgatan street have become attractive new zones in this area.



LILJEHOLMEN-ARSTADAL

The current transformation of Liljeholmen Årstadal will take the central zone out across the water southwest of Södermalm. Here, the density and variety of the city centre will be combined with recreation and proximity to nature.

Hägersten-Liljeholmen



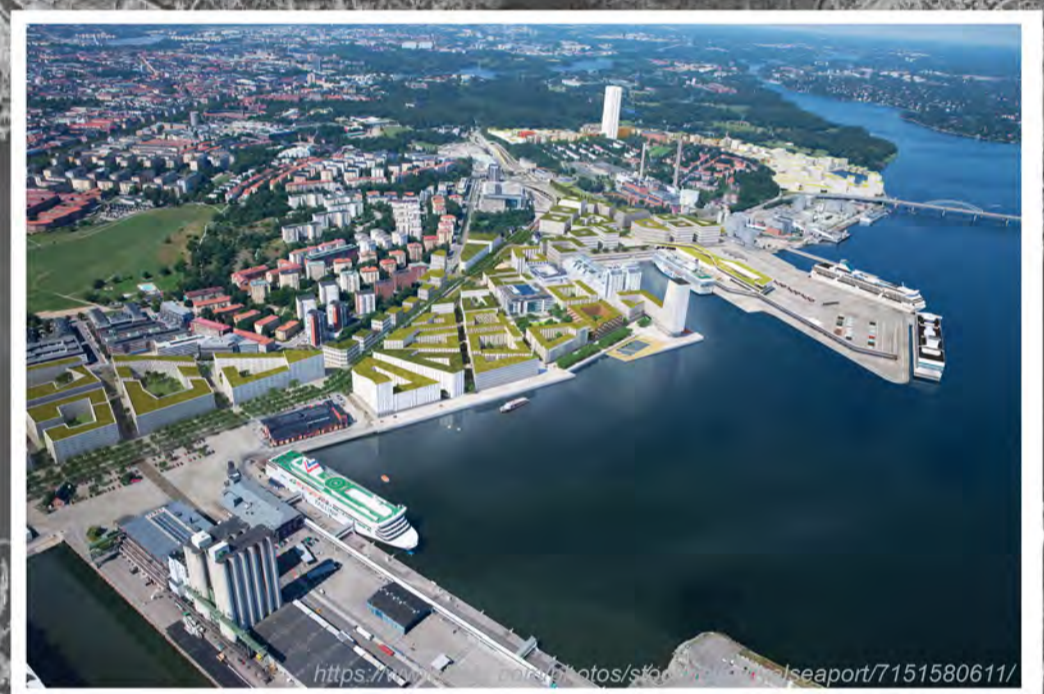
ALBANO

Programming work has been initiated to examine appropriate development structures and how important amenities can be developed and preserved. Particular attention is to be paid to Albano's important function as a hub between Stockholm University, KTH and KI.

Lidingö

ROYAL SEAPORT

With new homes and workplaces being built, the area from Husarviken to Loudden is undergoing exciting change. The Värtan financial centre, a modernised port and a new travel centre will be prominent features of the area.



Stockholm

Eastern Road Link



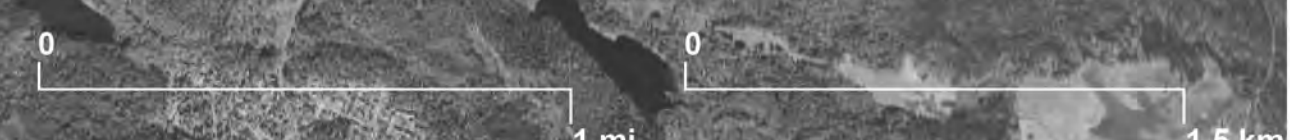
HAMMARBY SJOSTAD

One of Sweden's largest urban development projects. The focus is on water, and the entire area has a strong environmental profile. Hammarby Sjöstad links the central city with the areas around Hammarby Lake and the Municipality of Nacka. Eventually, some 30,000 people will live and work here.

Nacka

strategy for a long-term sustainability:

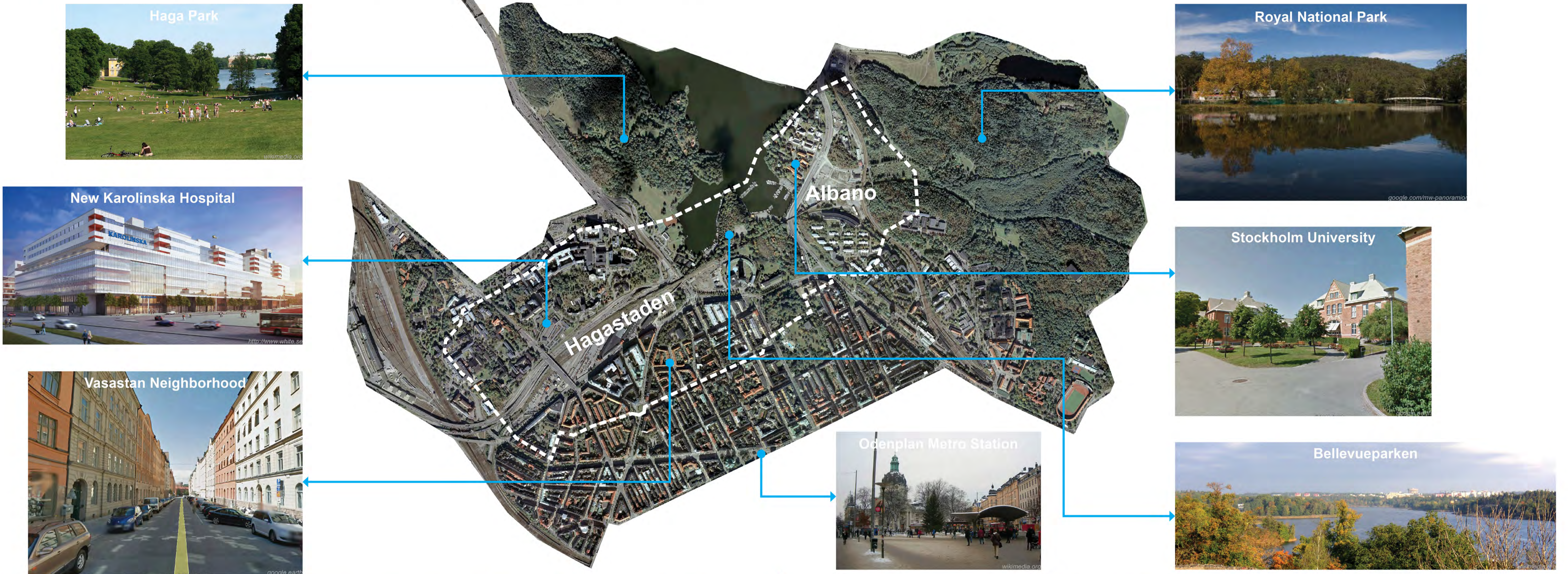
- Continue to strengthen central Stockholm
- Focus on strategic nodes
- Connect city areas
- Create a vibrant urban environment



(3) STOCKHOLM - TRANSIT DIVERSITY



(4) STOCKHOLM - HAGASTADEN AND ALBANO



Hagastaden

Programming work has been initiated to examine appropriate development structures and how important amenities can be developed and preserved. Particular attention is to be paid to Albano's important function as a hub between Stockholm University, KTH and KI.

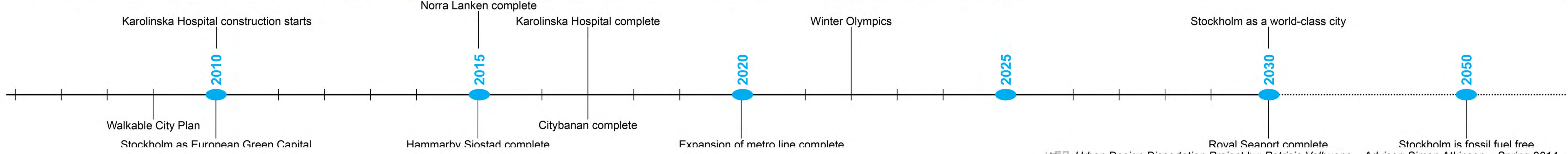
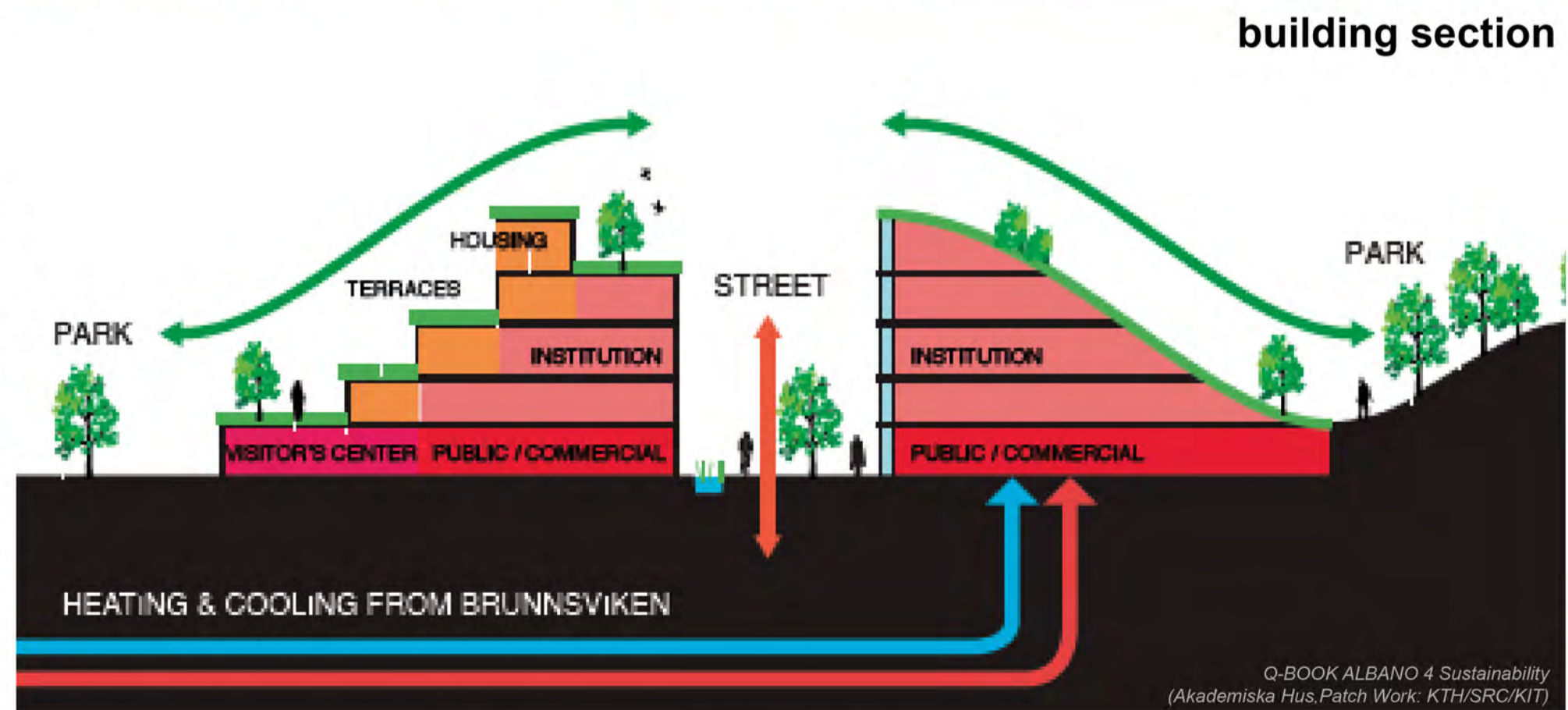
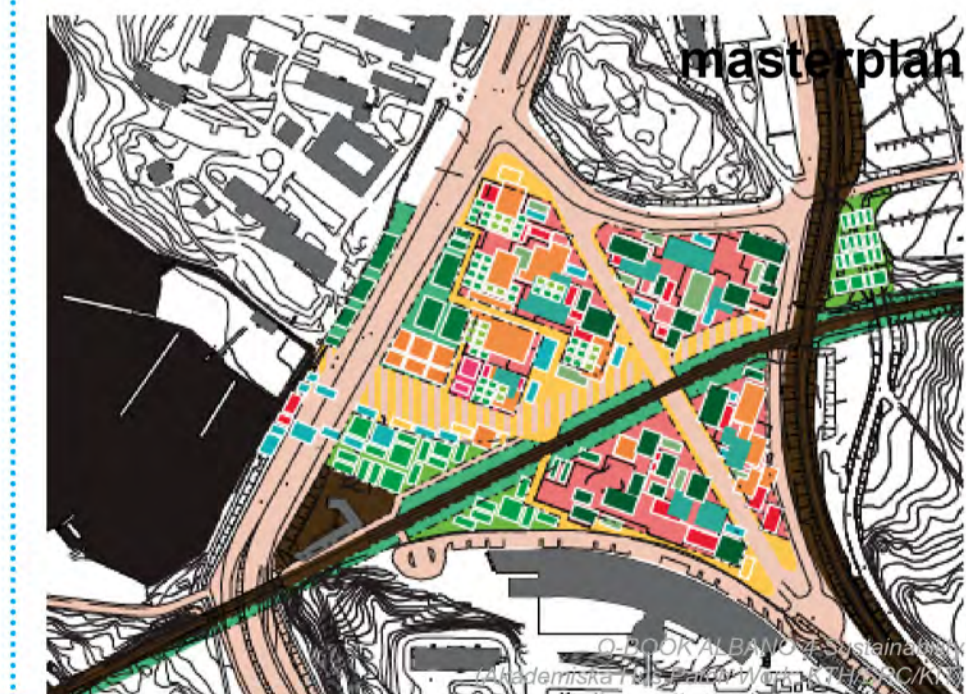
area: 3,000,000 sq. ft.
Healthcare + Research
3,500 homes
14,000 jobs



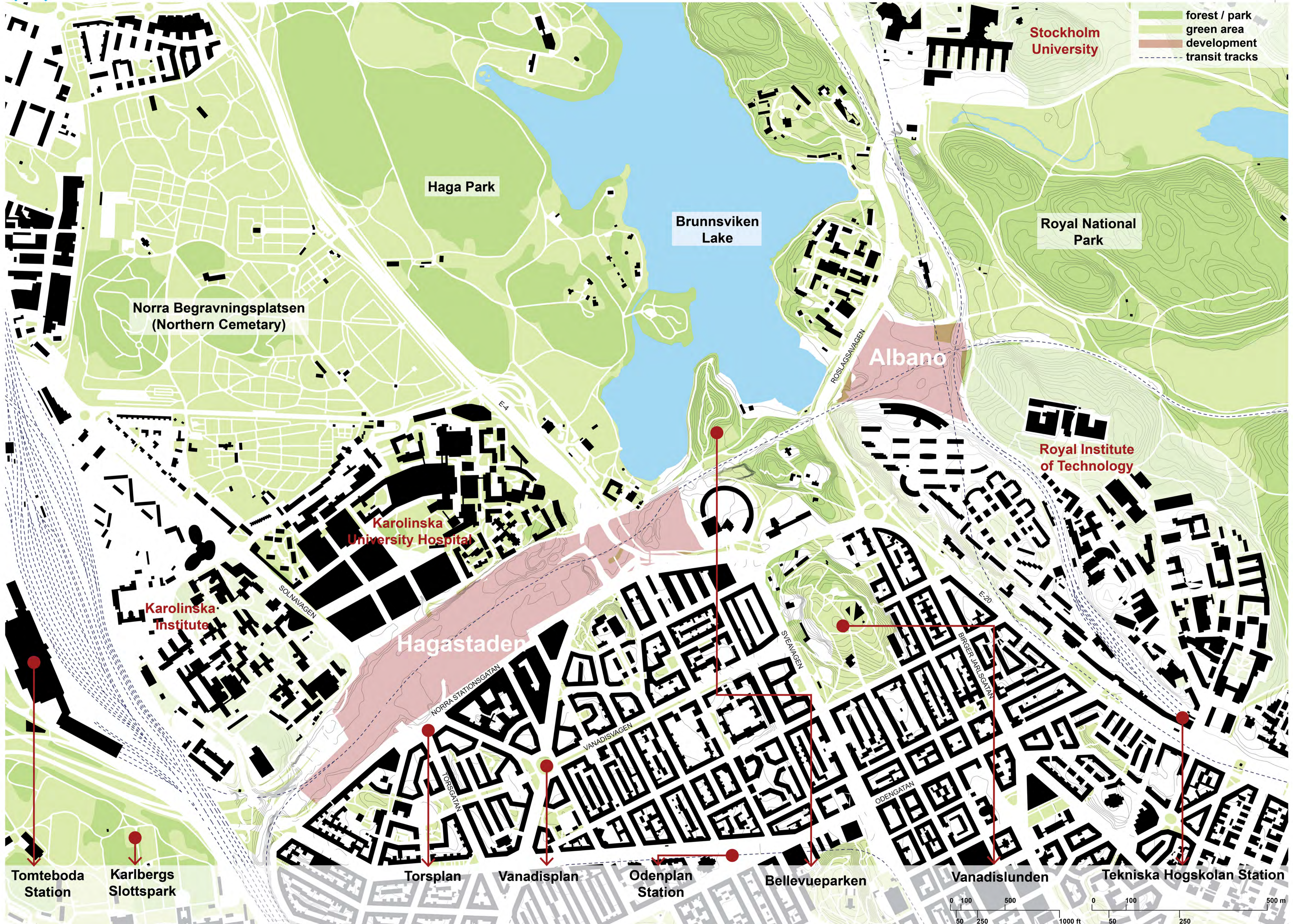
Albano

The aims of Stockholm's and Solna's in-depth comprehensive plans are to be achieved. The shared vision is for the new urban district to 'bring together in a unique environment the amenities of the city with world-leading research, entrepreneurship and housing in Europe's most exciting growth region'. The district will be expanded largely by moving roads and rail lines underground.

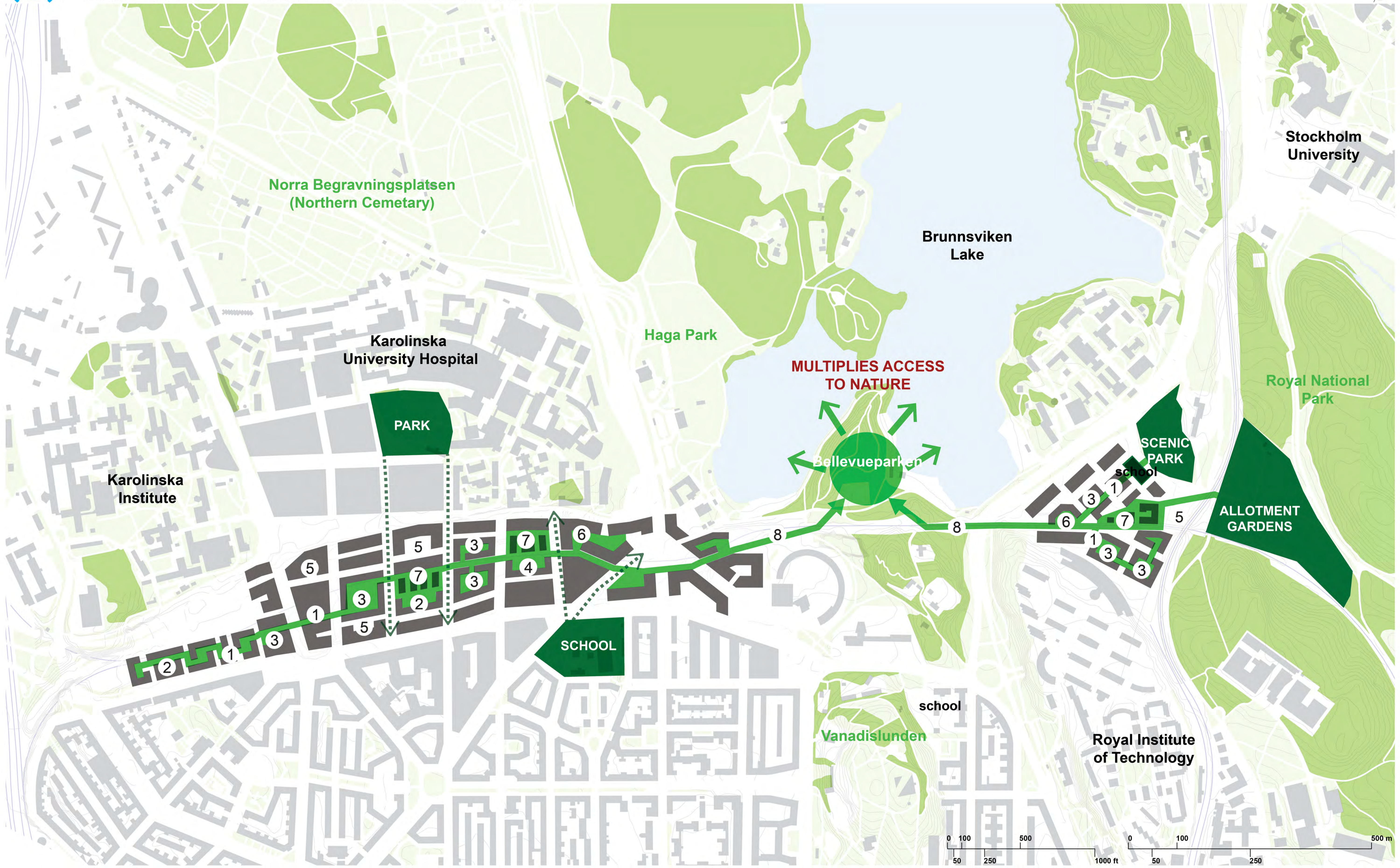
area: 650,000 sq. ft.
Education + Research Facilities



(5) STOCKHOLM - URBAN CONTEXT



(6) PROPOSAL - GREEN NETWORK



ELEMENTS:



1. Green alley



2. Playground



3. Courtyards



4. Community garden



5. Plaza



6. Pocket park



7. Living in green



8. Connection to nature

public / city
 private / community

(7) PROPOSAL - SOCIAL STRATEGY



ACTIVE PLINTH

- retail
- bank
- coffee shop
- grocery store
- gallery
- restaurant
- cleaners
- museum
- bookshop
- convenience store
- flowershop
- library
- main entrance



PASSIVE PLINTH

- parking entrance
- kindergarden
- housing units
- farmer's market
- gym
- daycare



GREEN PLINTH

- community garden
- plaza
- pocket park
- playground



VIBRANT NEIGHBORHOODS

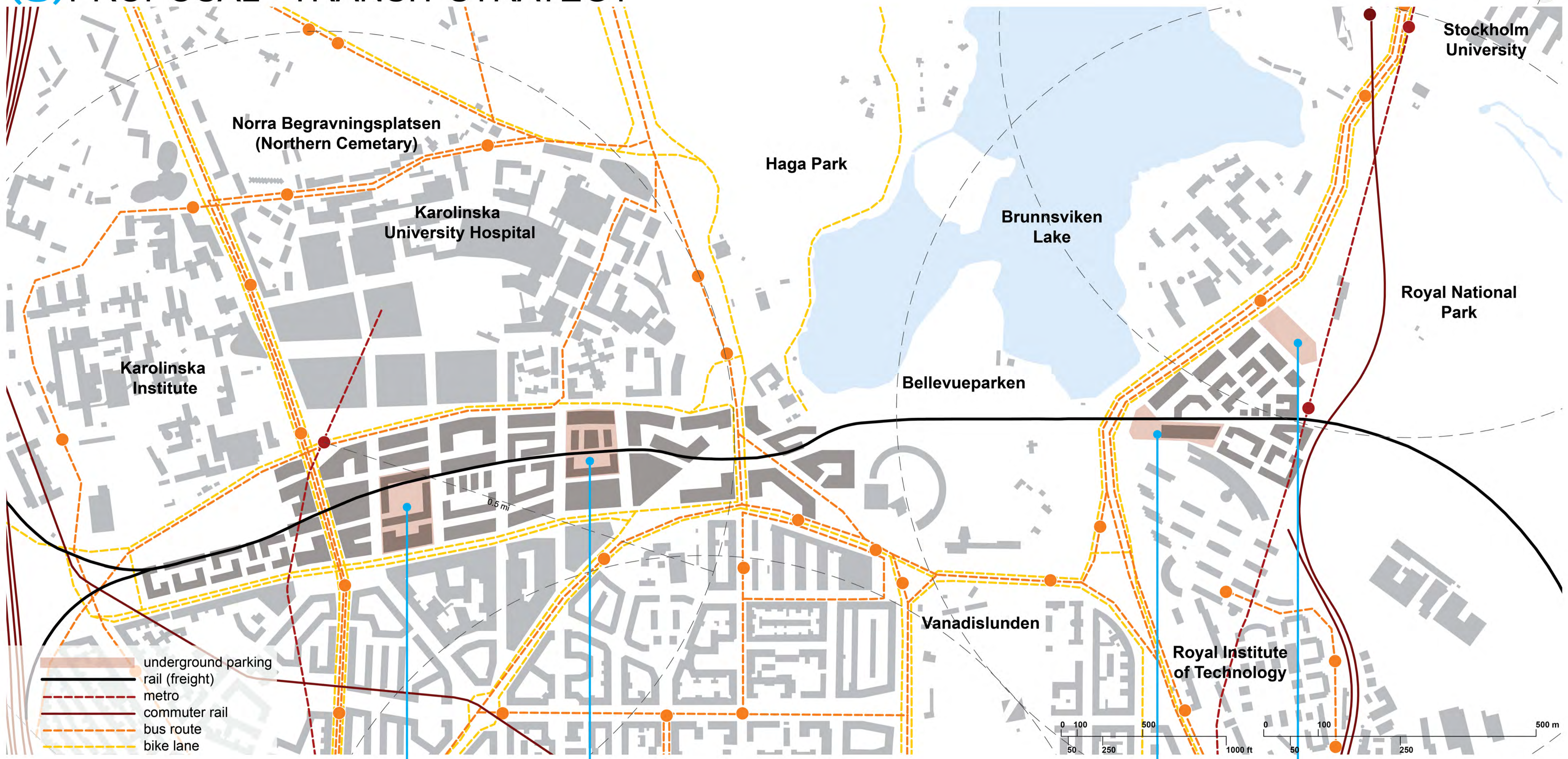
what creates a sense of community?

- small sized units
- transparent facades
- flexibility in height to allow diversity in uses
- movable / diversity in seating areas
- provide affordable prices for ground floor units to promote their usage
- sense of ownership / privacy through design
- activity through the seasons



MAXIMIZE SUN CAPTURE
+
CONTACT WITH GROUND LEVEL

(8) PROPOSAL - TRANSIT STRATEGY



underground parking facility
shared vehicles for rent

underground parking facility
shared vehicles for rent



rail



metro



commuter rail



light rail



ferry



tram



bus

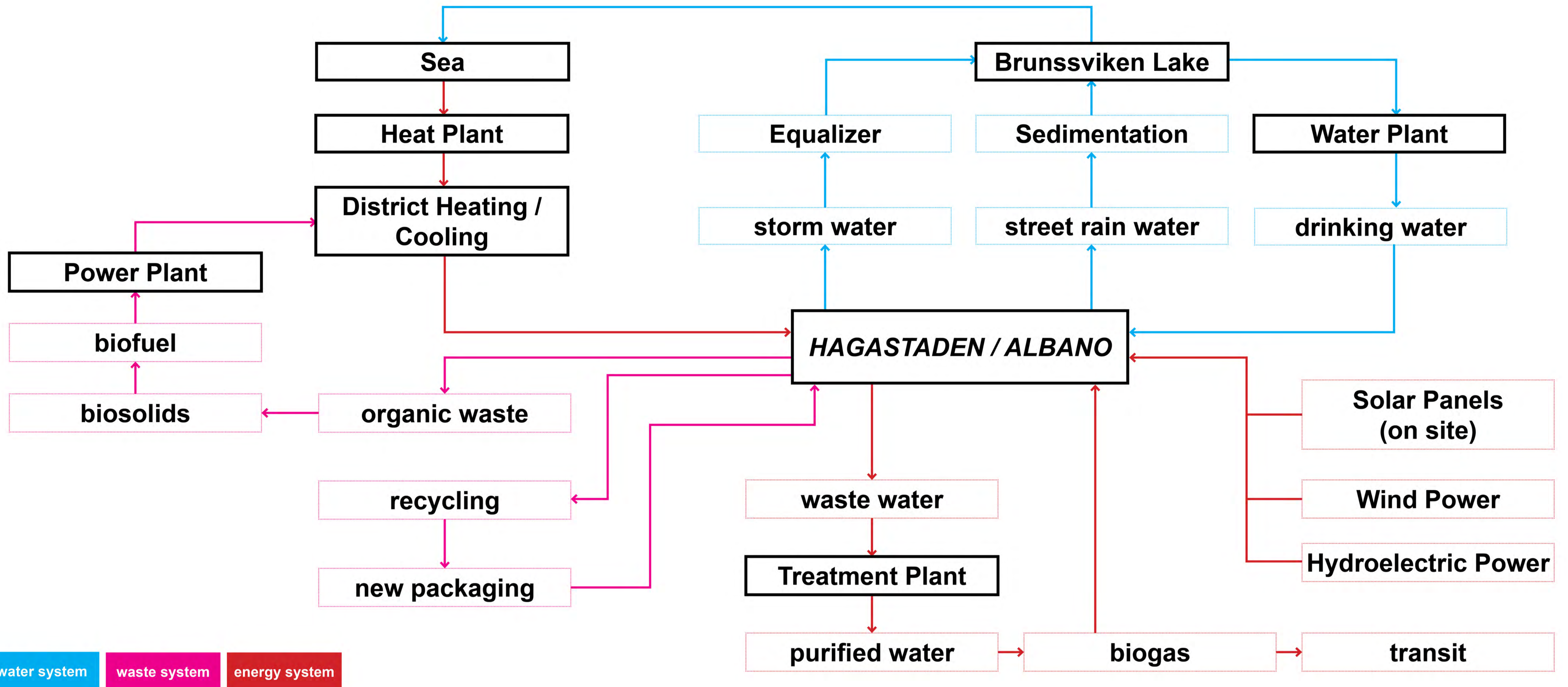


congestion tax



bike

(9) PROPOSAL - SUSTAINABILITY STRATEGY

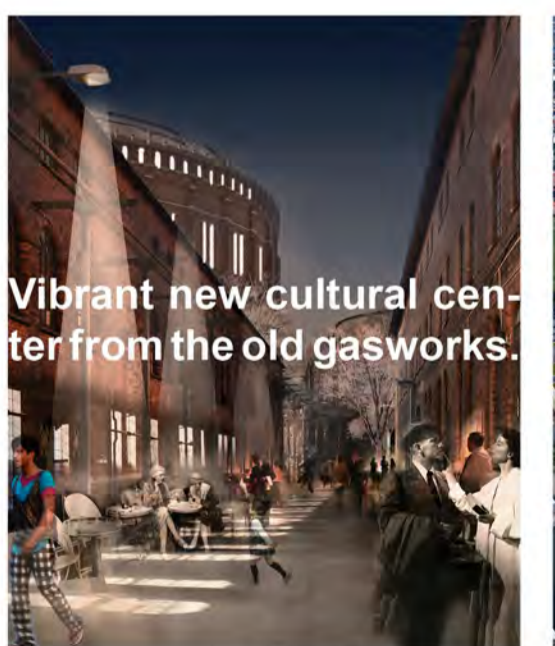


Lessons learned from...

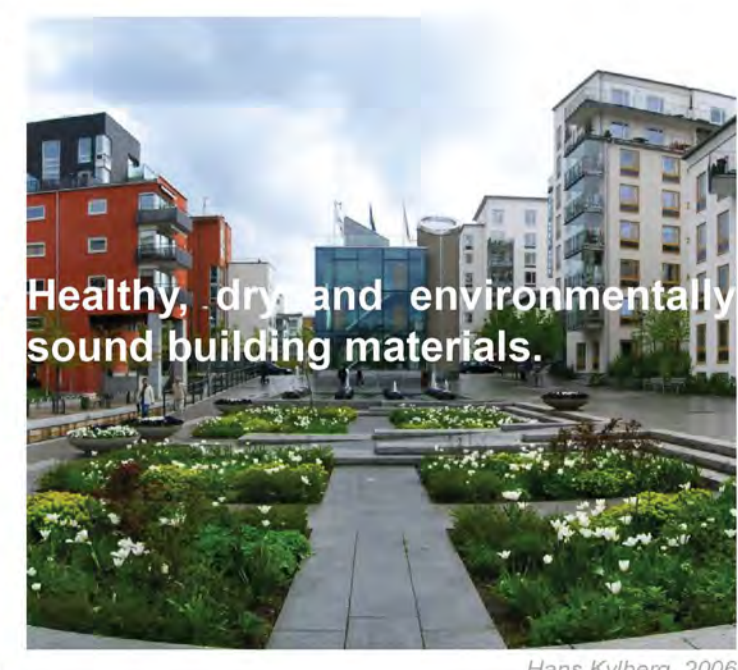
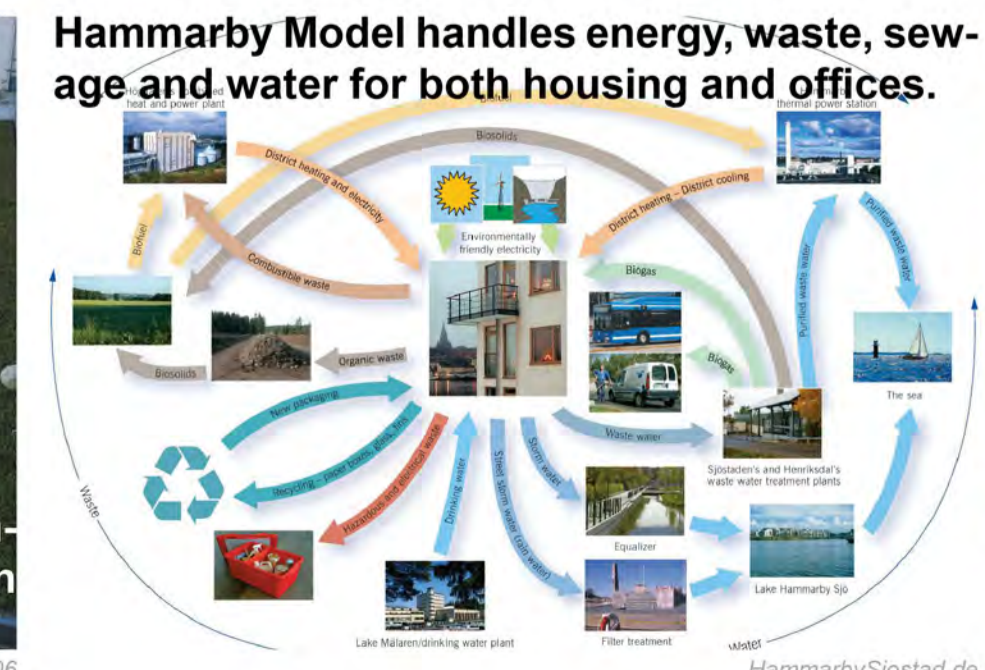
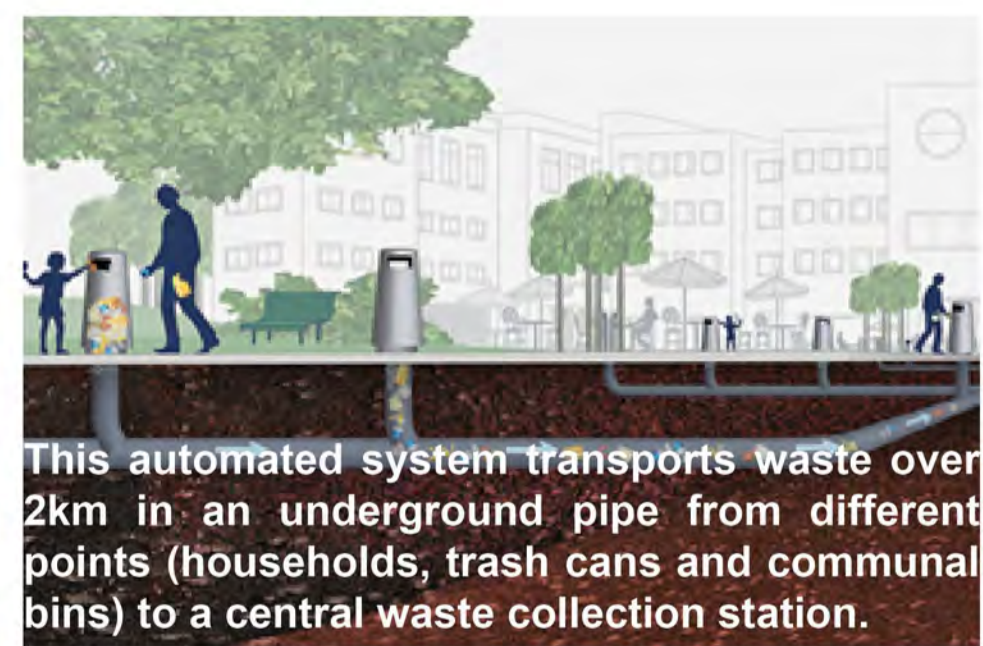


Stockholm Royal Seaport is adapted to future changes in climate, like increased precipitation or changes in the water level.

By 2030, Stockholm Royal Seaport is free of fossil fuels.



By 2020, carbon emissions are lower than 1.5 tons per person, when in Stockholm there are 4.5 tons per person.



(10) PROPOSAL - MASTERPLAN



Norra Begravningsplatsen

Multi-Modal Station

Torsplan

New Karolinska Hospital

Karolinska Hospital and Medical Research

Courtyard

Community Garden

Rödabergsskolan

Haga Park

Bellevueparken

Vanadisluden

Brunnsviken Lake

Johannes skola

Alba Nova University Center

Royal Institute of Technology

Courtyard

New School

Frescati Hage

Scenic Park

SOLNÄVAGEN

NORRA STATIONSGATAN

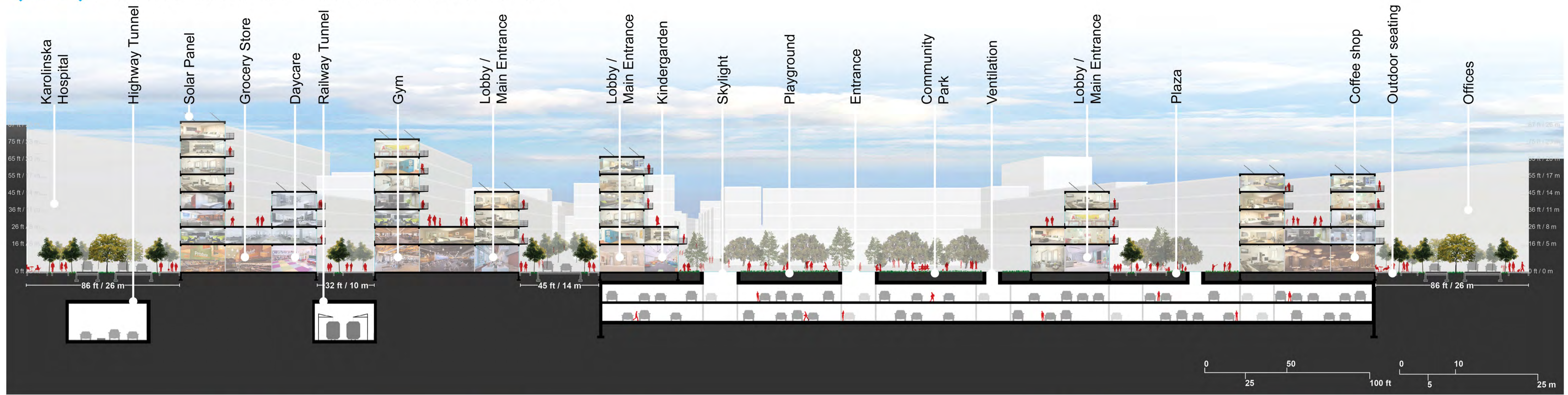
TORSGATAN

SVENAVAGEN

BIRGER JÄRLOGATAN

ROSLAGSÄLVAGEN

(11) PROPOSAL - URBAN LIVING



Number of Housing units (Hagastaden): +380
 Number of Housing units (Albano): +50
 Number of Housing units (Total): +400

Total Square footage (Hagastaden): 1,685,129.52
 Total Square footage (Albano): 255,154.48
 Total Square footage (Total): 1,940,284.00

Total Square meters (Hagastaden): 513,759.00
 Total Square meters (Albano): 77,791.00
 Total Square meters (Total): 591,550.00

Number of inhabitants (Total): +1000
 Parking to resident ratio: 1:3

Underground Parking spaces (avg.): +140
 Above ground Parking spaces (avg.): +240

Patricia Isabel Valbuena (patricia.valbuena@utexas.edu)

EDUCATION

2014 University of Texas at Austin, Master of Science in Urban Design, GPA 3.65.

2011 Universidad del Zulia, Bachelor of Architecture, Maracaibo, Venezuela. GPA 3.60.

WORK EXPERIENCE

2013 - 14 University of Texas at Austin, Graduate Research Assistant, 1 year, part-time (Austin, Texas)

Produced transcription of lectures, editing, design layout and publishing of book based on the Latitudes V Conference 2013, under the supervision of Prof. Barbara Hoidn.

2011 - 12 NMD | Nómadas Taller de Arquitectura y Diseño, Asst. Architect, 1 year, full-time (Maracaibo, Venezuela)

Managed staff (interns, assistant architects, consultants and construction crew). Coordinated international relations with peers in Kastav, Caracas and Bogotá.

Researched materials and suppliers. Calculated metric areas for selected projects. Responsible for meeting deadlines.

2009 - 11 Universidad del Zulia, Teacher Assistant, 2 years, part-time (Maracaibo, Venezuela)

Assisted in the teaching of the "Facilities and Vertical Circulation" course, which explores the subject, training and design of several topics like stairs, elevators, plumbing, cooling and electrical systems.

2010 MA+ Micucci y Asociados, Intern, 3 months, full-time (Caracas, Venezuela)

Calculated metric areas for selected projects. Participated in architectural competitions. Developed interior details for residential projects. Wrote architectural papers for several projects to be submitted for approval by City Hall. Managed, codesigned and programmed a mixed-use project of 12,000 square meters in a 3-week period.

SKILLS

Mac/Windows, Adobe Acrobat Pro, Adobe Suite CS6, Corel Draw X3, Microsoft Word, Power Point, Excel, Esri ArcGIS, Autocad 2013, SketchUp Pro 8, 3D Studio MAX, Revit 2014, Archicad 17, Artlantis.

LANGUAGES

Spanish (native speaker)

English (fluent speaker + daily professional use)

French (fluent speaker)

ORGANIZATIONS, LEADERSHIP, AWARDS

2014 Leader for multi-disciplinary team for the Gerald D. Hines - Urban Design Competition for Nashville, Tennessee.

2014 Finalist for the Texas Energy Research Challenge at the UT Energy Forum, titled "Inter-Modal Transportation Systems: Key component for the creation of a Sustainable Urban District."

2013 - 14 Board member of Women's Transportation Seminar - Student Chapter at University of Texas at Austin.

2013 - 14 Member of Latin American Modern Architecture Research Group at University of Texas at Austin.

2013 Leader for multi-disciplinary team for the Gerald D. Hines - Urban Design Competition for Minneapolis, Minnesota.

2011 Sustainable Award granted for Thesis proposal by ENEA (National Encounter of Architecture Students).

2008 - 10 Member of "Grupo ICAD (Investigación de Computación Aplicada al Diseño)" / ICAD Group (Computer-Aided Design Research Group).

2008 / 2010 Volunteer in the assembly of the 2nd and 3rd Architecture Biennale of Maracaibo.

2008 Honor's Award for Excellency in Grades, Universidad del Zulia, Maracaibo, Venezuela.

2008 Representative of the Universidad del Zulia in the ENEA (National Encounter of Architecture Students).