



safe harbor
a refugee camp alternative

Bradley D. Shiel

Master of Architecture Thesis
Kendall College of Art and Design
of Ferris State University
Spring 2017

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Dedicated to the memory of Larry S. Shiel

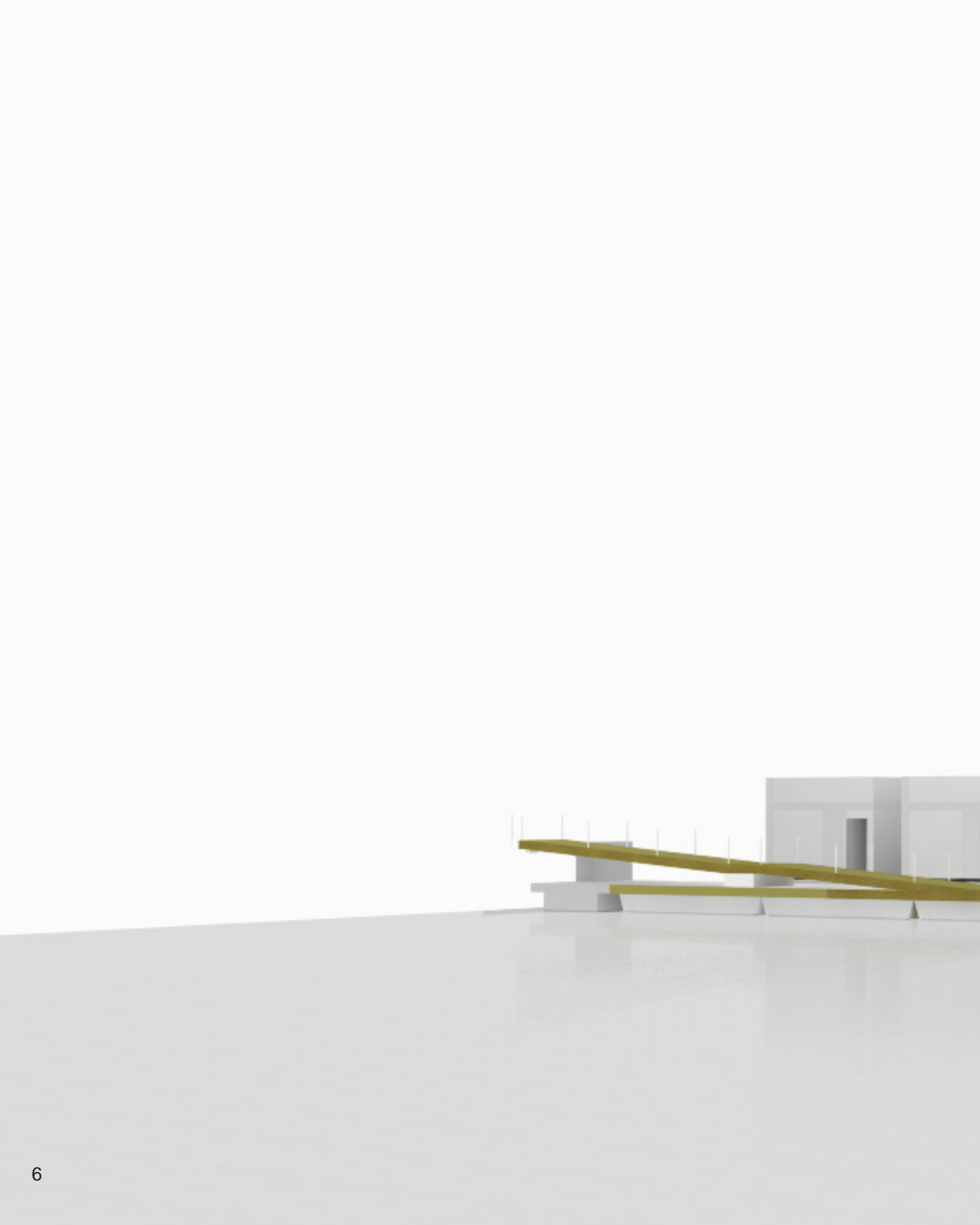
Acknowledgments

This Master of Architecture Thesis could not have been realized without tremendous support from family, friends, faculty and employer. Thank you to all who supported, joined or advised me at various times along this journey including Brian Craig, Juli Brode, my cohorts and many others.

Thank you to my professor, Dr. Michael McCulloch, who always provided the perfect amount of guidance using his versed knowledge of architectural precedence and social history combined with a sharp eye for design sensibilities. His patience with students, open mind and high expectations are an asset to the college and to the profession.

I would like to thank my thesis advisor, Megan Feenstra-Wall, who provided honest, candid and great advice. She was always there when asked for input and equally knew when some space was needed to develop an idea (and to sometimes allow me to fall on my face). I hope that I have the honor to cross paths with her many times in my career.

I owe a personal thanks to my secondary advisor, John Steiner, whose incentive to join him on the study away to Sweden prompted the ideas for this Thesis project. Your Swedish insight, enthusiasm and friendship has made this journey a great one.

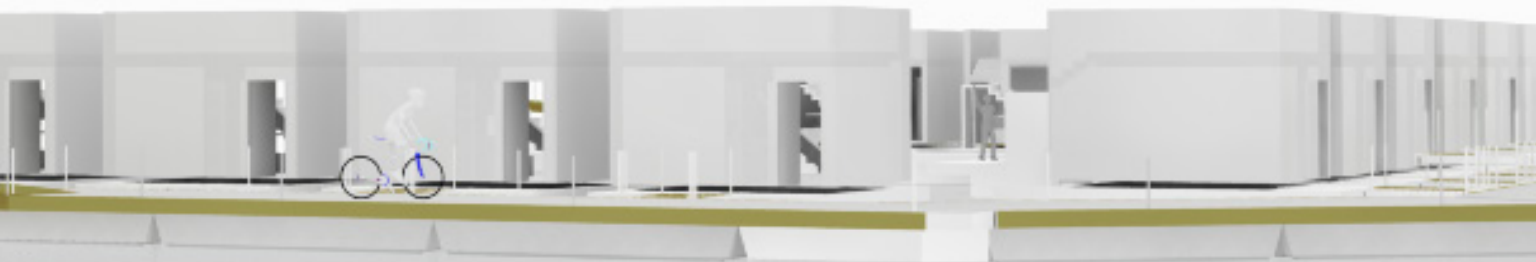


Abstract

This proposal suggests a refugee housing solution that could be distributed globally into existing port cities. Because available land is hard to come by, this proposed concept instead uses available waterways connected to these cities. The goal would be to provide architectural solutions to real or perceived lack of available housing, efficient and mobile solutions offering timely relief to those in need.

Malmö, Sweden is to become host to a prototype for this method of development. Historically, this city's ports were used mainly for shipbuilding. Today, approximately 50% of the existing port system sits vacant, yet has direct connection to the heart of the city. Malmö, known for its innovative approach to design and for a welcoming attitude toward refugees is now hitting a maximum population capacity on its available land. Existing waterways invite alternative means of expansion that can be quickly adopted and easily removed without leaving a trace.

The goal of this proposal would be to offer a home to a growing refugee population, while holding onto forward thinking design, through this safe harbor prototype which can be adopted by numerous port cities throughout the world.

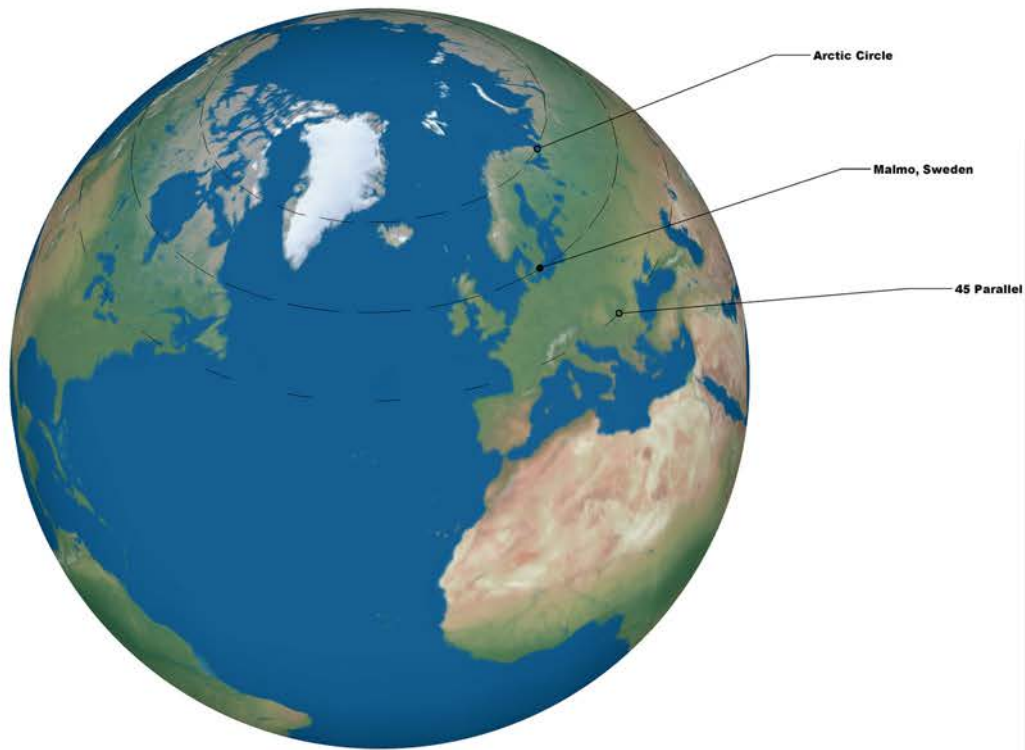


Site Analysis

Malmö, Sweden







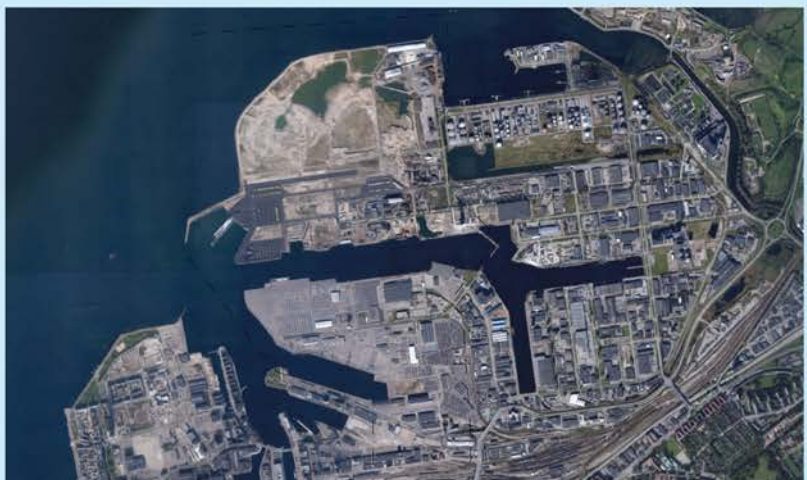
Copenhagen, Denmark



Vicinity Aerial



Oresund Bridge/Tunnel - 1995



Malmö, Sweden



European Refugee Flow, 2017

A great many refugees seek help in northern European states like Sweden, crossing the Oresund Bridge/Tunnel along their way.

Automobile Import
Storage Area/Impervious

Scariaparken

Gästhamn

Skola

Högskola

Hamnparken

Vastra hamnområdet

Skola

Bo 01 Development - 2001 (City of Tomorrow)

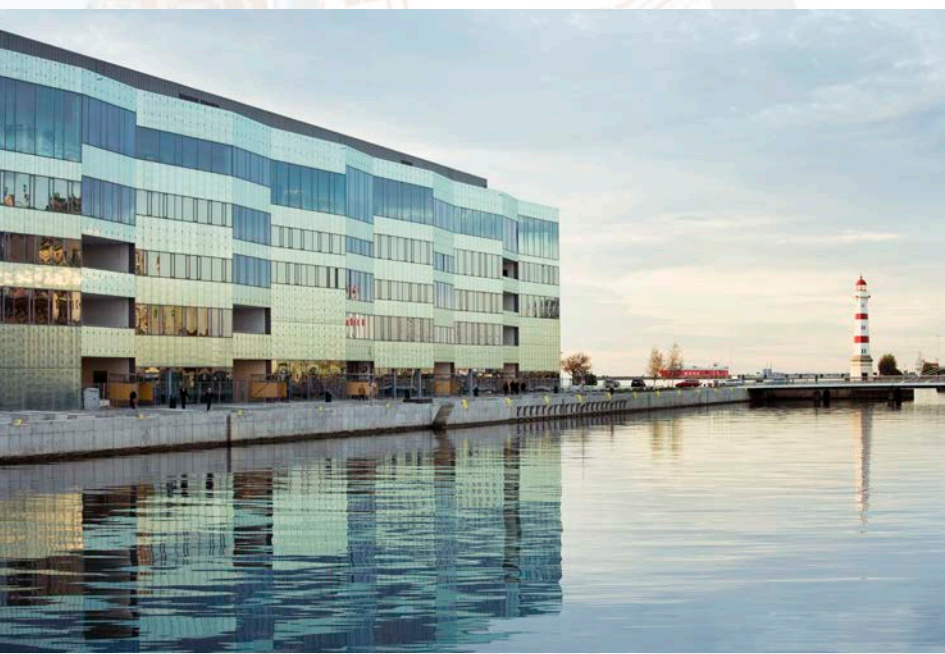
Kontor

Skola

Högskola

Underground Train
to Oresund Bridge

1493
Malmöhus
S



Slottsmollan

Kungsparken

Parkkanalen



Site History

1400 - The Largest Marketplace and Fishery in the Region

1800-1970 - One of the Largest Shipyards in the World

1940's - As a Neutral Country During WWII, Accepts Tens of Thousands of Refugees Fleeing the War

1970 - Recession Occurs - Shipbuilding Slows

1986 - Shipbuilding Ceases

1994 - New Economy Established as Center of Culture and Knowledge

1995 - Oresund Bridge is build Between Copenhagen and Malmö

2001 - Bo01 Architectural "City of Tomorrow" Environmental Focused Expansion in Old Shipyards

2002 - Iconic Kockums Crane is Dismantled and taken to South Korea

2005 - Turning Torso Skyscraper, the Largest in Scandinavia, replaces Kockums Crane as Area Icon

Today, Malmö is:

Capitol of Swedish County Scania

Population: 300,000+

Historically Neutral society and has historically accepted immigrants until recently

Main reason given for stopping immigrant migration: Lack of Space (landlocked cities)

Weather: Despite it's northerly latitude, the ocean tempers the winters (little or no snow)

High Reliance on Bicycle as means of transportation - all year

A "Design Oriented" Society

Nearby Swedish Companies Ikea and Skype

Functionality and Quality First

Clean Simple Lines

Reserved use of color (Architecture, clothing, public conversation...)



Turning Torso
New iconic landmark of Malmo



Kockums Shipbuilding Crane
Past iconic landmark of Malmo

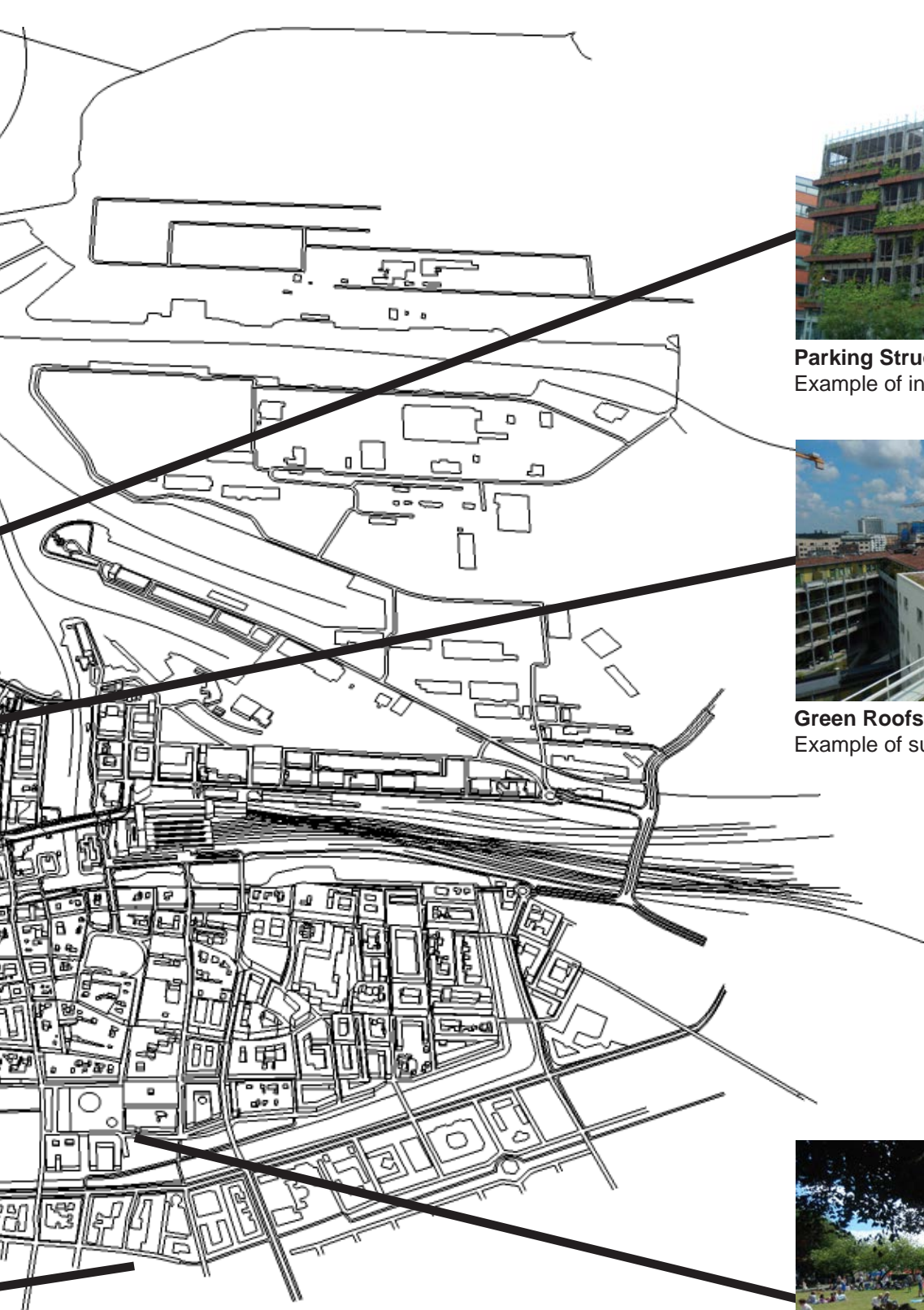


Luxury House Boats
Recently introduced to Malmo



Rosengard
Currently used for refugee housing





Parking Structure
Example of innovative design



Green Roofs
Example of sustainable design



City Parks
Plentiful greenspace throughout city

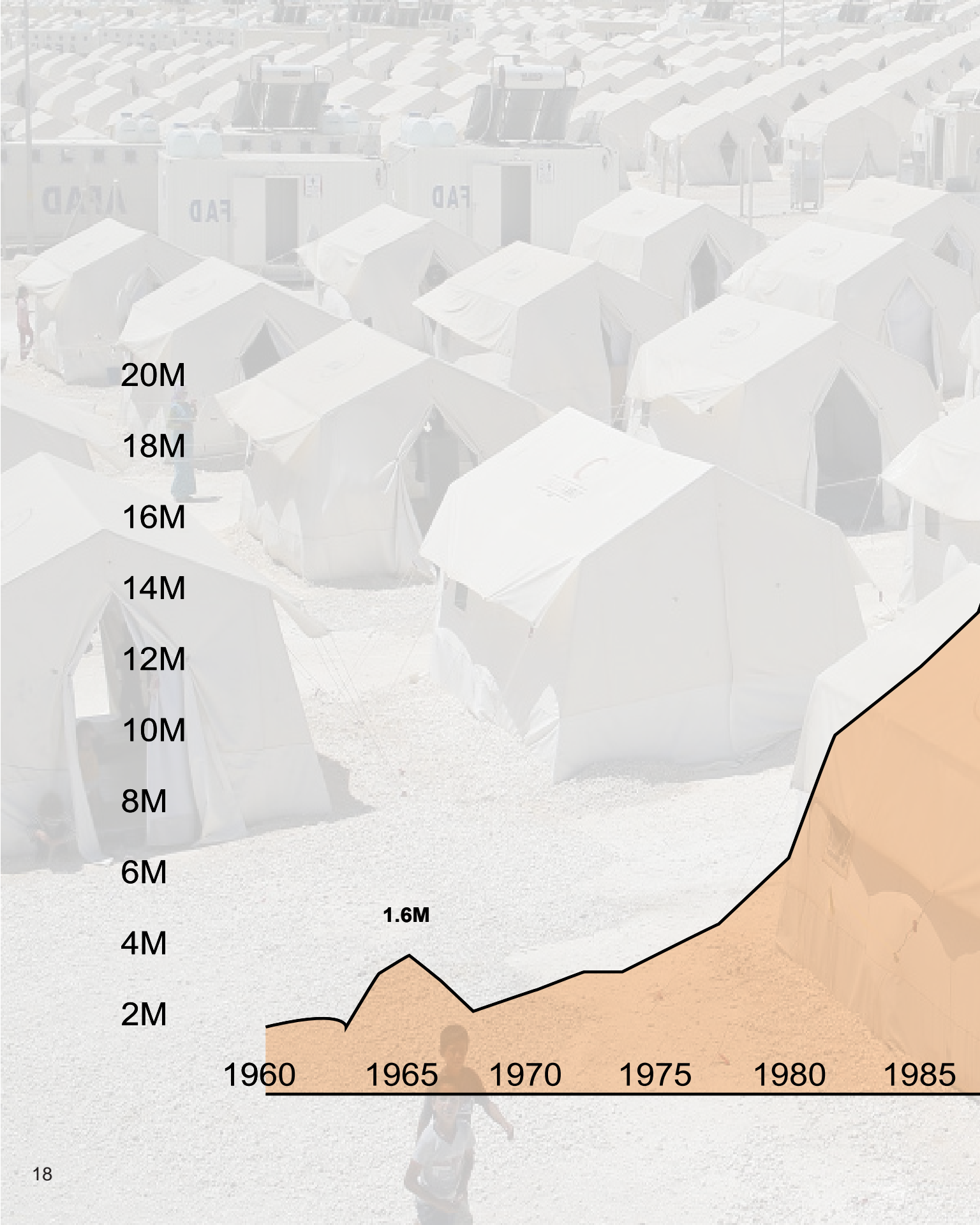
Malmö, Sweden

Program Analysis

This project seeks to provide a rethought infrastructure for those seeking sanctuary from their home country due to conflict, persecution or hunger. The goal of the project will be to create an environment that encourages positive, net-gain (both socially and financially) for all habitants of Malmo.

This project is not about building a better tent or container for habitation, instead it is a total rethinking about refugees as new citizens and host countries as partners, an alternative to standardized refugee camps. Safe harbor will create a seamless integration of urban fabric that encourages mutual benefits for all by using a city's existing infrastructure. The need to respond very quickly to new demands for housing is a top priority.





20M

18M

16M

14M

12M

10M

8M

6M

4M

2M

1.6M

1960

1965

1970

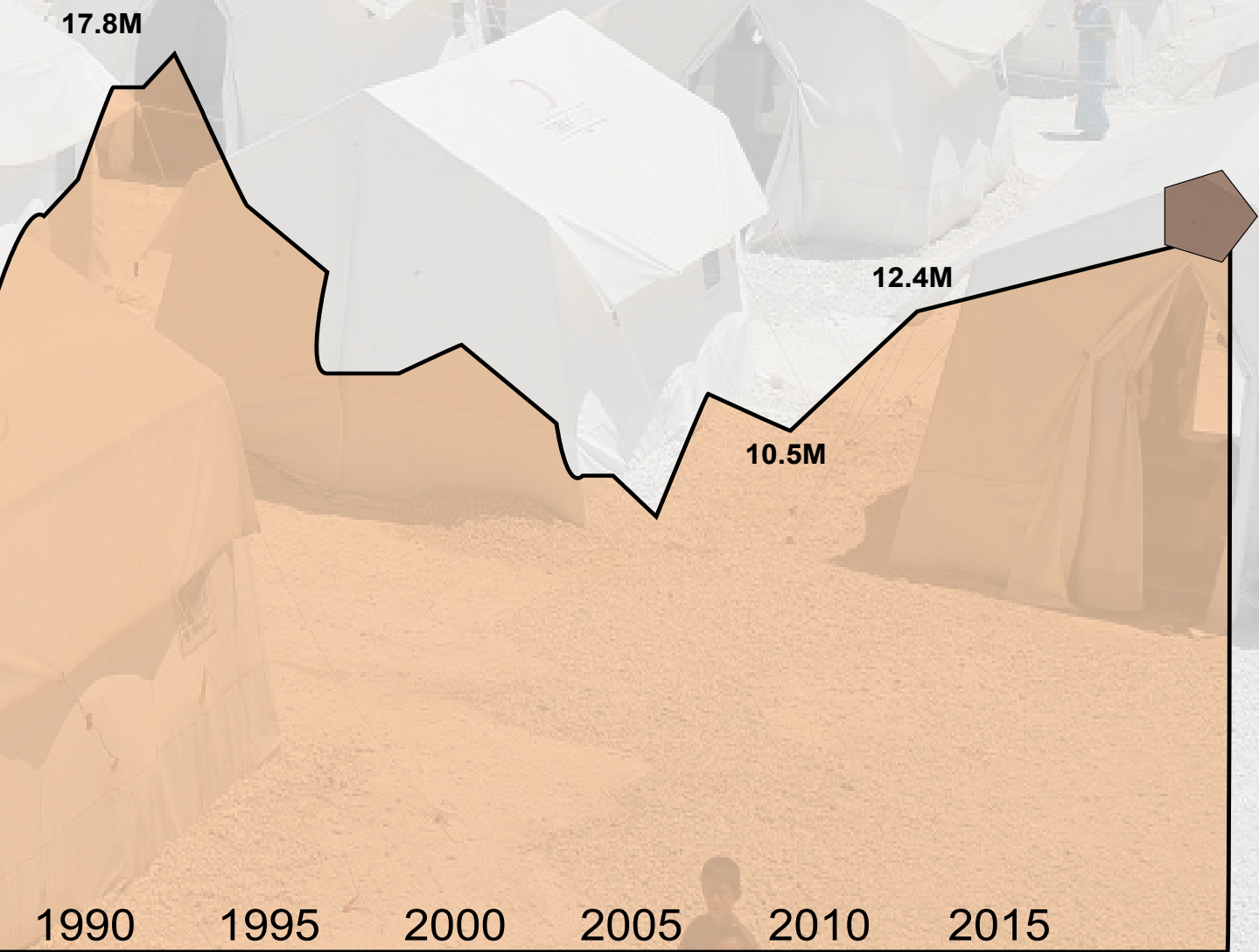
1975

1980

1985

Global Refugee Population: 1960-2015

1 out of every 113 people on earth are currently displaced



Country of Origin

Conflict
Persecution
Hunger

Three choices for Refugees:

1. Reunification
2. Resettlement in original region
3. Third Country resettlement



Re-use of Existing Infrastructure
Rosengard, Malmö Sweden

Temporary Life Modes of Living



Re-use of Existing Objects
Shipping Containers, Germany

Country of Origin

Post - Conflict
Threats Removed
Livelihood Re-Established

Integration into Host Society

As allowed by Government/Society
New districts/enclaves



Manufactured with Purpose
Karmod Premanufactured, Worldwide



Atypical Temporary City
Kilis, Turkey

Non-UN
Run by Turkish Government



Typical Tent City
Nizip, Turkey

New World Destination

Reinvention
New Opportunities

Context Narratives



Discursive



Typical tent city, Nizup, Turkey
Source: UNHCR website



Architectural solutions for displaced people have historically been typically “to expensive, too heavy, too hard to move...(and) take too long”.¹ Slow response times are often a result of inefficient political processes. These often lead to the typical impromptu tent cities and their dreadful results, such as the “Jungle” encampment in Calais, France. Ill guided political responses can also lead to the isolation of displaced people, which intensifies the catastrophe of unplanned temporary settlement. This was recently seen in the refugee program at Australia’s Nauru Island. Architectural solutions in this realm have historically been looked at as isolated structural solutions. Additionally, there is a growing political global mindset that those who are displaced from their homeland are seen only in a negative light, and as a burden on the host country.

Architects have notoriously been guilty of rushing in to the “micro-scale” in their work on refugee settlements: of solving the design, portability and assembly issues of the perfect refugee shelter, but not considering larger social questions. There are many volumes of books dedicated to the design of individual structures. This narrow focus on developing a specific or universal dwelling often misses the bigger point that these dwelling units are not-so-temporary (average length of stay for a refugee in a displaced condition is 17 years).² Further, these designs often overlook questions of community design, such as the larger point of shelter placement in groups, location and interaction with host community. Each of these elements is equally, if not more important, than the singular roof over one’s head.

Some architectural firms, like Ennead out of New York, are beginning to talk about how to re-frame the dialogue around the subject of refugees by avoiding the one-size-fits-all approach to design.³ This approach is also critical for achieving the site-cultural-specificity that seems to be lacking in standardized or one-off designs found in such publications as *Design Like You Give A Damn*.

1 Karrie Jacobs, “Rethinking the Refugee Camp,” *Architect*, January 2017, 84

2 *Ibid*, 81

3 *Ibid*, 81

Ennead is beginning to think about such subjects as direct design involvement with refugees. Instead of reproducing the xenophobic view that is becoming standardized globally, Ennead is also challenging the profession and all citizens alike, to rethink the refugee as a potential partner in a positive light within society.

Other visionary architects and urbanists, such as Laura Vaughan with the University of London, are also seeking a more seamless and symbiotic relationships between displaced people and the societies who provide them refuge. Vaughan calls for a relationship of shared experience and mutually beneficial amenities by creating, through design, common points of social transition to be shared as a common destination for all residents.⁴

This proposal aims to further this dialogue by providing an architectural/urban infrastructure prototype that responds to the massive and unmet need of temporary housing for globally displaced people within the context of underutilized oceanfront space within the host community of Malmo, Sweden. This project seeks to synthesize an adaptable and expandable inclusionary infrastructure, providing desirable public spaces and uses for the host country as well as for guest immigrants.



4 Laura Vaughan, "The Ethnic Marketplace as Point of Transition," London the Promised Land Revisited (New York: Routledge, 2015) 35



Ikea refugee shelter
Source: IKEA website

Social/ Cultural



Bo01 City of Tomorrow
Source: <http://media.lab3.se>



Historically, Sweden has a globally neutral government and an open-border country, with no proof of nationality required to enter. This had led to an overwhelming influx of refugees between 2011 and 2015. In early 2016, when border patrol was implemented, this changed dramatically. Currently, a valid passport is required for entry, thus halting all undocumented refugees from entering the country. Swedish Nationals, people native to the country since prehistoric times, have an inherently introverted society. Currently, these nationals comprise approximately seventy-five percent of the population of Malmö. A publicly silent people does not mean people without opinion. Swedish Nationals have diverse attitudes and politics as in any society, but there is a strong strain of introversion on public matters among Swedes.

The remaining roughly twenty-five percent of the population in Malmö are foreign born and largely congregated into peripheral communities of high-rise housing blocks such as Rosengård. These immigrants are largely living in buildings constructed as part of the original Million Programme in the late sixties and early seventies. This program included the initiative to build one million “quality” homes for Sweden’s citizens, including refugees. These homes are still in relatively good condition.

These condensed areas of refugee populations have certain negative stigmas associated with them from those not living in them, most of them unfounded, such as the impression of high crime rates. Depending upon who you ask, you will get dramatically different viewpoints on the subject of immigration and refugees in Malmö. People tend to impose or see things from their own biased perspectives. For instance, some Swedes believe that these areas are inherently unsafe. However, police in Malmö say that the true crime rate has been actually going down over the last few years, while the fear of crime is going up at the same time.¹

¹ Maddy Savage and Mohamad Madi, “Trump’s wrong, it’s ‘quiet and safe’ in Malmö”, February 24, 2017, <http://www.bbc.com/news/world-europe-39074420>

Malmö has been steering and transitioning the economy from one lead by its shipbuilding industry (boom from approx 1850-1980) to an economy of education, green building infrastructure, energy efficiency and technology. Part of this initiative has led to inherently bias development. Bo01, or “City of Tomorrow” in the old Vastra Hamnen shipbuilding port is an example of this. The port has been transformed in an exclusively higher end district that outprices those with moderate to low incomes.

Sweden, and Malmö in particular, present an opportunity for re-writing the narrative on how refugees are viewed and treated. There is an opportunity to show the world a better way to treat refugees humanly by example. Envisioning the future of refugee resettlement through the redefined lens of Malmö’s historic past, such as: allowing refugees into their country and implementing the Million Programme, Malmö is primed to implement a forward thinking approach to addressing the refugee crisis.





Rosengard
Source: <http://3.bp.blogspot.com>

Historical



Sankt Petri Church (St Peters Church)
Source: Author

Lagom. No English word exists that captures the essence of this word succinctly. It has been likened to the “Goldie Locks” idiom: not too hot, not too cold, but just the right amount of something. It is a historic cultural word in Sweden that is used to describe just that, not too much, not too little, but just the right amount. Everything in moderation. The society has embedded this notion in everything from its outlook on human rights, to neutrality in global politics to architectural design.

There is a sense of layers of history present in the older parts of Malmo, Sweden. The Old Town area in the city is built within an oversized moat which would’ve allowed transportation and protection in earlier centuries. Old town in Malmo is notable for Sankt Petri Church. The oldest parts of the church date back to around 1300, and many carefully planned and executed additions and renovations have happened over time.

Juxtaposed to the old town, Bo01, or Vastra Hamnen (and sometimes referred to as the Western Harbor) is a revitalized north Malmo district of old shipping yards, which had fallen victim to decay in the post-industrialized era with the outsourcing of shipbuilding to Asia. This revitalized area is still in transition and was designed by architect and urban designer Klas Tham. It boasts a “new urbanist” type of environment highlighted by the Turning Torso skyscraper designed by Santiago Calatrava. Notable design characteristics of this “new town” include winding streets, interesting niches and alleys and an eye for detail. Full public access to the waterfront is noteworthy. Sustainable design was a major component of the development.

Although upscale in nature, the general feeling still maintains a healthy lagom. Things feel “right” and there is just enough sophistication and attention to detail in order to make the place seem “real” and not just a fabrication of an idea without an overwhelming feeling of glitz and over done-ness. The quality of materials, and thoughtful and usable public design, provide a palpable feeling of authenticity often lacking in American new urbanist towns.

In a relatively small society (9.7 million people, roughly the population of Michigan) that prides itself in having a truly open border and a “neutral” society, Sweden has been put to the test. In early 2016, the country’s very identity of neutrality was being challenged by an influx of refugees that were reaching a point of over-saturation. To what point the housing or heritage was really being threatened is up for debate. What was real or imagined have become one, as the borders have been shut down to stop the flow of refugees. The country had been considered neutral for over 100 years prior to WWII. It was also a refuge for Jewish people being extricated from Norway during the war, however now is limiting access of refugees fleeing such war-torn areas as Syria.

In an attempt to invigorate the economy of the greater region, one of the major initiatives of the Oresund Committee (Established in 1993 as a political collaboration for the greater region) was the Oresund Bridge, which was built in 2000. The Oresund tunnel/bridge had been built as part of the economic spur between Malmo and Copenhagen, but recent border patrol checks now have nearly doubled the commute time. Many residents in Malmo work in Copenhagen and are not pleased that the intent of the 2.6 billion Euro connection is being rendered stagnant by bureaucrats.

The weaving of cultural history, current world events and general human impulses are having a direct impact on the built environment. Lagom is a historic notion in Sweden that translates into everything from border control to architecture. The philosophy of lagom may help guide a balanced solution to the refugee crisis.





Bo01 or Vastra Hamnen
Source: imagebank.sweden.se

Human



Swedish Family welcomes Muslim Family into their Home

Source: UNHCR <http://www.unhcr.org/uk/no-stranger-place.html>



All people have certain biological and psychological necessities regardless of the region from which they originate from. These needs invariably go beyond the basics of food, water, shelter and access to medical care. A sense of control over one's living environment, a sense of purpose such as a job or the ability to go to school are among the highest priorities. Over half of current refugees are children, and with the average time-frame of displacement being about 20 years,¹ this is an issue that must be acknowledged and addressed from the onset of any humanitarian effort.

United Nations (UN) refugee tent camp cities are inefficient, unsustainable, and lead to dependency.² The typical refugee's desire to feel valued as a contributor rather than a taker is well documented.³ Refugees are willing to earn their keep, and they can do so if they are able to settle in an urban environment. Existing established cities contain all of the amenities necessary to sustain a healthy, engaged relationship *within* a community. The size and scope of a refugee housing population and/or integration within an existing city should be analyzed and determined by local governments, not dictated by federal government at a macro-level so that it doesn't evolve into a typical tent camp city.

Opinions vary among different societies and cultures as to how housing should be configured.⁴ This is important in realizing that there should not be a *one-size-fits-all* approach to refugee housing for all regions. Specific refugee populations will have architectural norms that should be blended with the local vernacular to achieve a seamless integration and synthesis of ideals appropriate to each particular situation.

Introducing refugees into an existing society allows for additional opportunities of creating new housing and public spaces that can be shared between the host country and the new residents. Public space



Midsummer, Folkets (Peoples) Park, Malmo 2017 - Informal Interviews with Swedish Nationals and Syrian Refugees
Source: Author Photo

1 "Introduction," UNHCR, 3/2017 <http://www.unhcr.org/en-us/introduction>

2 Alexander Betts et al, "Refugee Economics" Published by the Humanitarian Innovation Project, University of Oxford (6/2014)

3 Betts et al, "Refugee Economics"

4 Karrie Jacobs, "Rethinking the Refugee Camp," Architect (1/2017): 78-86

as a mediator between host country and refugee populations is an intriguing concept which has been studied in depth.¹ Refugees are often proven to be very good at innovating due, at the very least, to their ability to adjust to circumstances out of their control along the journey to their host country.² In addition, these people bring unique skills, knowledge and cultural specialties which can be implemented into the host society. Refugees bring culinary skills and preferences, for example, from their home regions that can be shared with a host society, creating positive cross-cultural interactions.³

Standard UN refugee camps are increasingly difficult to fund and should be the exception and to the extent possible, only a temporary measure.⁴ 60 percent of the world's refugees live in ordinary buildings in ordinary cities.⁵ There is a reason for this. Cities have established population and an infrastructure that is already in place. It is important to utilize these existing amenities at a scale appropriate to support its influx of refugees.

Ultimately, the true success of any refugee settlement is in its ability to address the human requirements that go beyond basic biological survival. The healthy, temporary integration of displaced people into existing cities at a scale determined by local governments is a realistic and feasible concept. This thesis proposes an approach which responds directly to these issues.

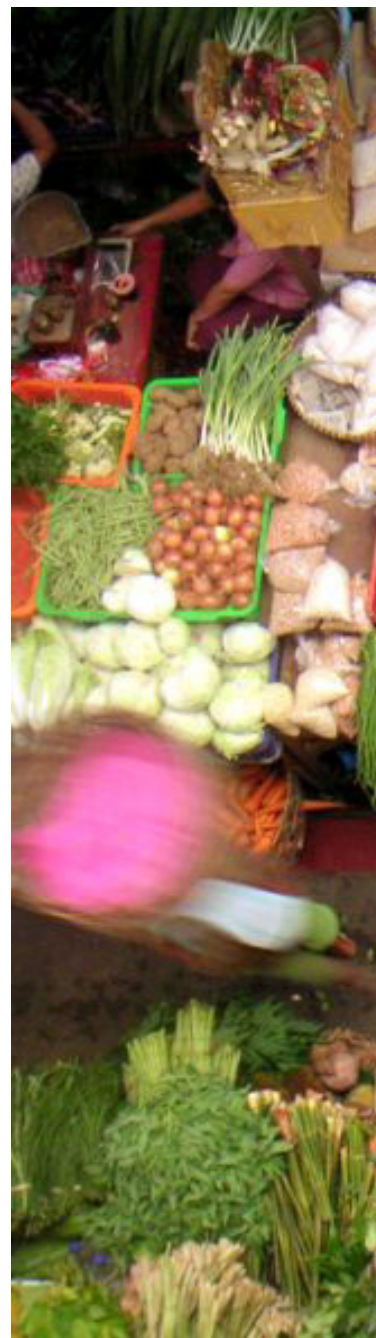
1 Dr Laura Vaughan, "The Spatial Syntax of Urban Segregation": Social Housing and Segregation in Sweden, *Progress in Planning* 67 (2007): 251-263

2 Alexander Betts, Louise Bloom and Nina Weaver, "Refugee Innovation" (6/2015): Published by the Humanitarian Innovation Project: Oxford

3 Dr Laura Vaughan, "The Ethnic Marketplace as Point of Transition" in *London the Promised Land Revisited*, edited by Anne Kershen (New York: Routledge, 2015), 35-54

4 Kristy Siegfried, "Alternatives to refugee Camps," World (10/2014): Published by the Humanitarian Innovation Project: Oxford

5 Jacobs, "Rethinking the Refugee Camp."



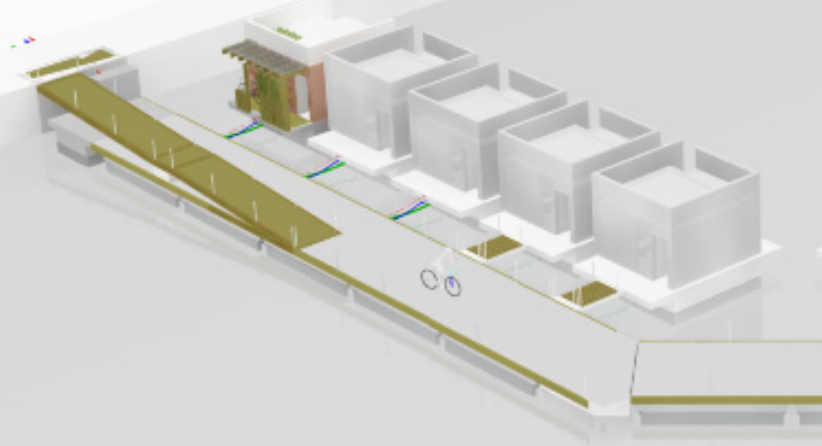


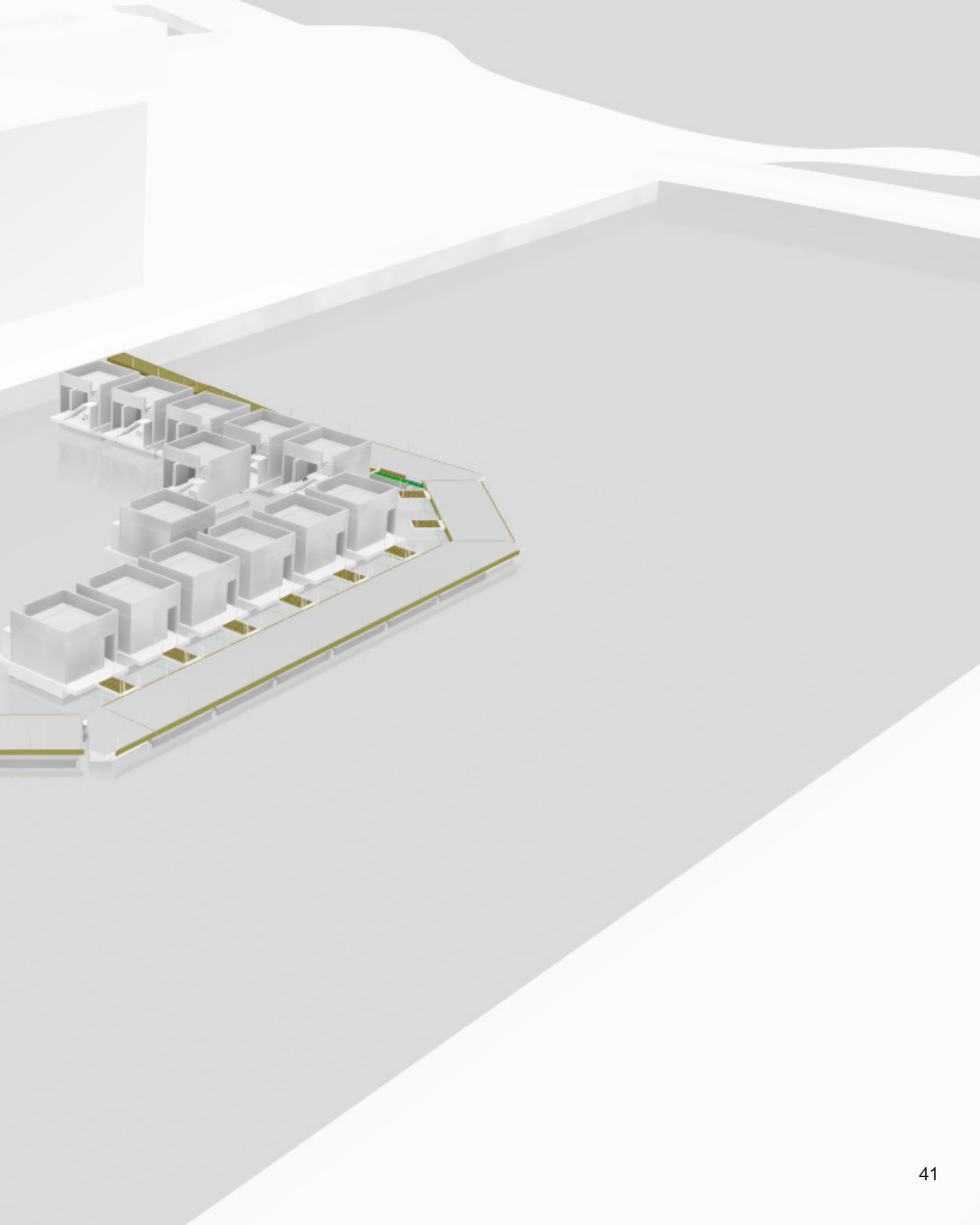
Marketplace

Source: <http://www.flickr.com/photos/67471595@N00/320374440/>

Design Proposition

The goal of this proposal would be to offer a home to a growing refugee population, while holding onto forward thinking design, through this safe harbor prototype which can be adopted by numerous port cities throughout the world.





A Typical UN Refugee Camp Settlement

Standard United Nations Refugee Agency Camp Planning Terminology



4-6 Persons = **1 Family Dwelling Unit**



16 Dwelling Units = 80 Persons = **1 Community**



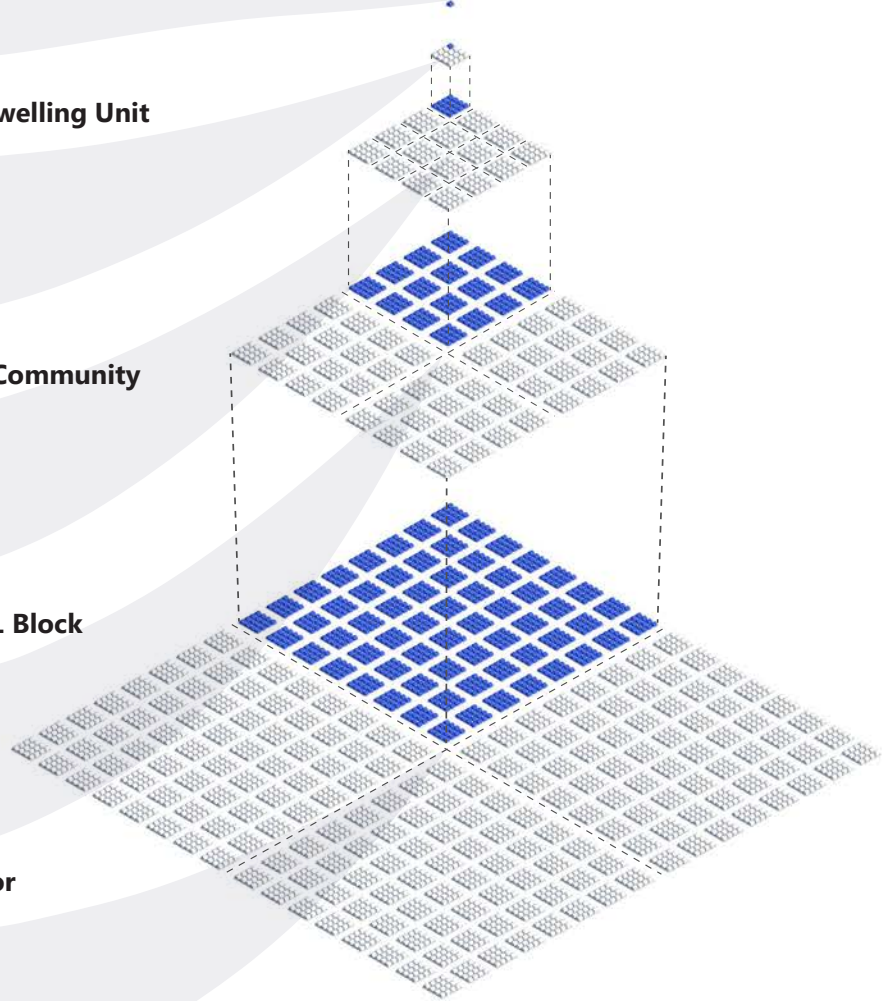
16 Communities = 1,250 Persons = **1 Block**



4 Blocks = 5,000 Persons = **1 Sector**










4 Sectors = 20,000 Persons = **1 Settlement**



There are over 5 million refugees residing in typical camps today.

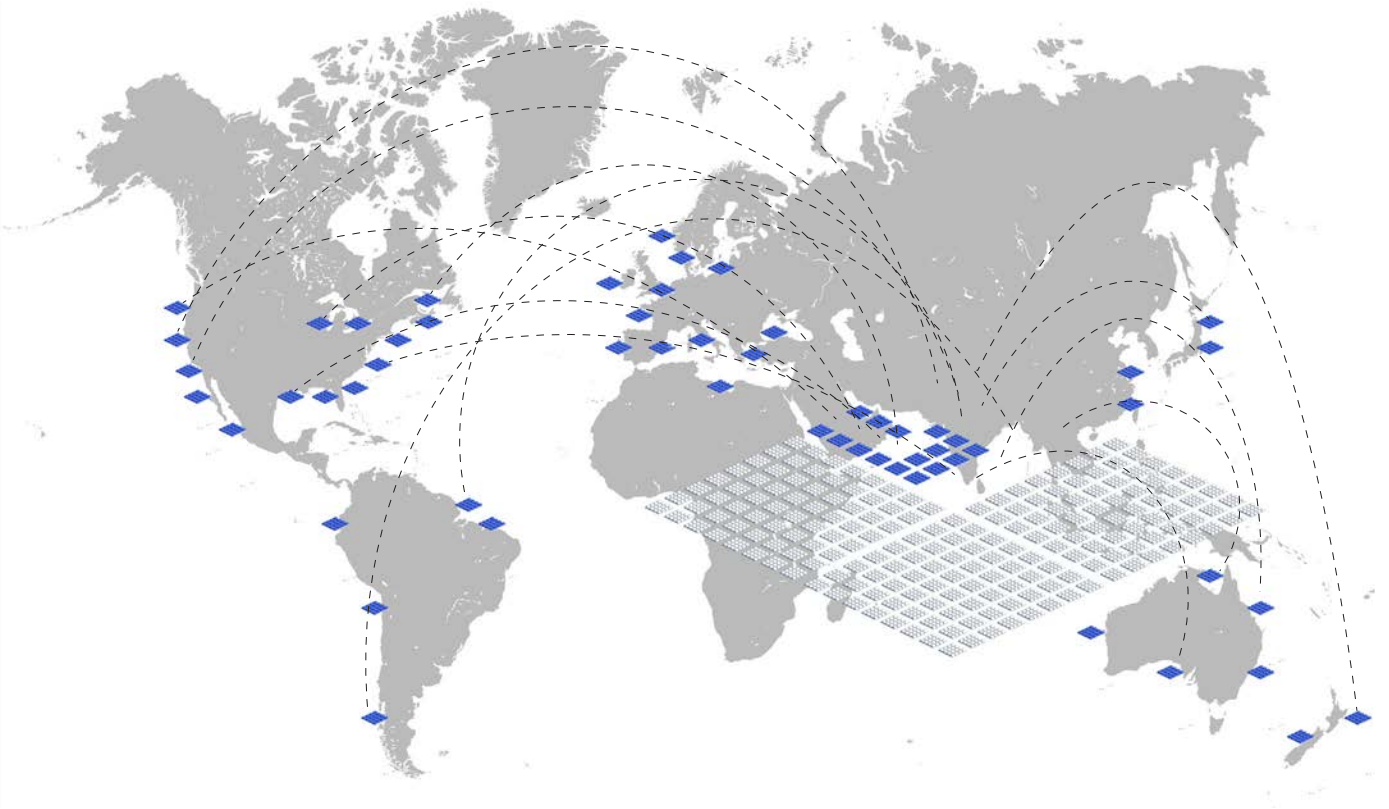
Each settlement requires a complete infrastructure to sustain the inhabitants, including...

- + 
Water and Utilities
- + 
Grocery and Gardens
- + 
Health Care
- + 
Education
- + 
Religious
- + 
Transportation
- + 
Employment

This infrastructure already exists in port cities throughout the world.

Alternative Global Port Communities

Distributed Urban Communities Instead of Isolated Camps



We signed up to help...

145 countries signed the 1951 Geneva Convention promising port development. This responsibility falls on all 145 countries throughout the world. Individual ports, most located in existing urban environments.



**participation in the protection of refugees.
world. These countries represent 4326**

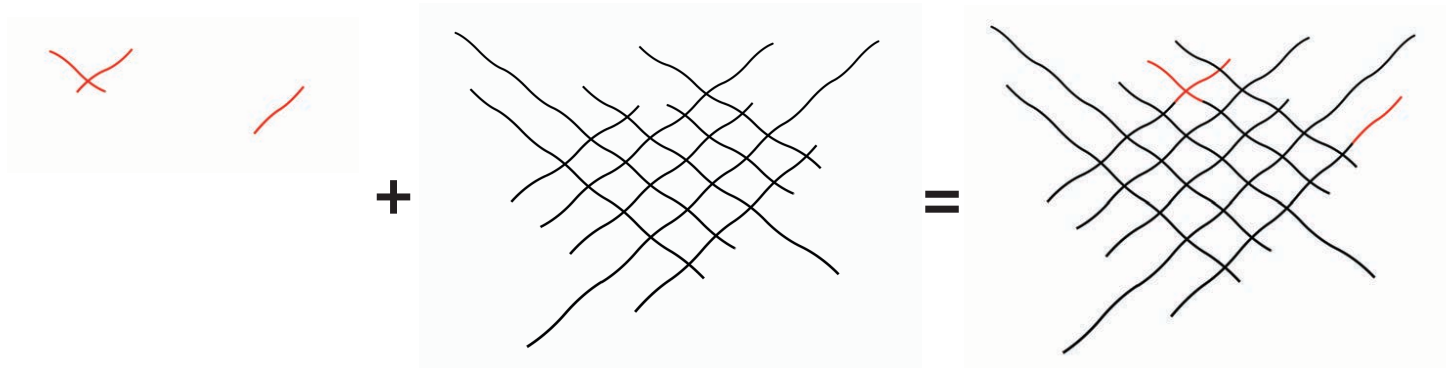




Current path of most refugees into Malmö

Malmö, Sweden

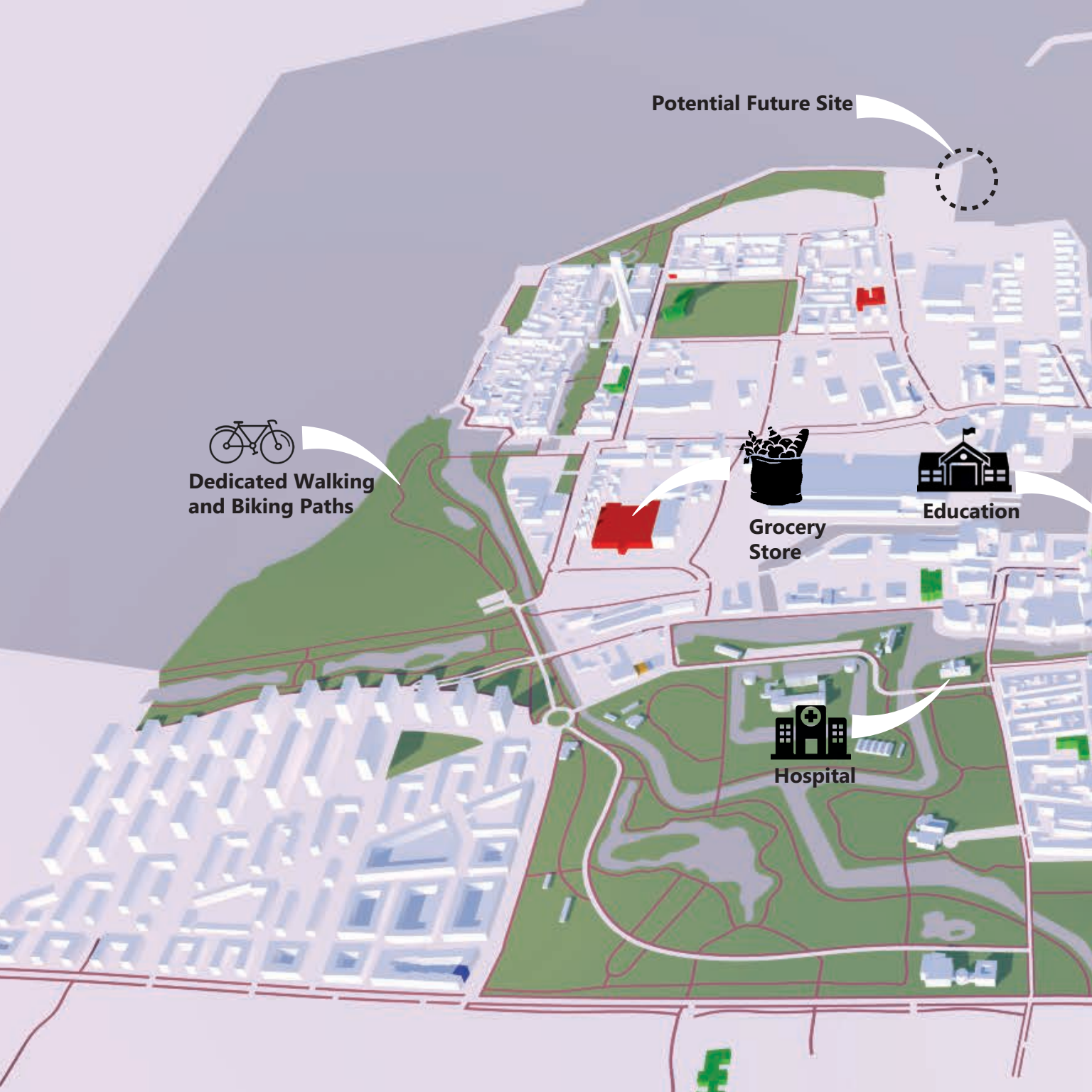
The Safe Harbor Prototype






Isolated
Refugee Camps

Existing Global
Port Cities

Distributed and
Integrated Concept



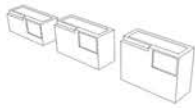
- +  Water and Utilities
- +  Grocery and Gardens
- +  Health Care
- +  Education
- +  Religious
- +  Transportation
- + 
- +  Employment



Urban port sites in Malmo allow access to transit, schools, employment center and public amenities.

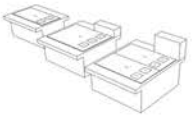
Floating Architecture Concepts

Adaptable Kit of Parts



Land Connectors

These function as the walkway and utility connection to the city's existing infrastructure.



Floating Utility Pods

The utility pods house all necessary utility components and attach the land connectors to the wave attenuator pier.



Walkway Ramps

These ramps serve as a walkway to bring people down to the level of the wave attenuator pier.



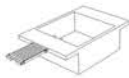
Floating Wave Attenuator Pier

Three standard shapes can be pieced together to form a walkway connecting the city to the development, distributing the utilities, and functioning as a stable wave barrier from rough waters to create a safe harbor.



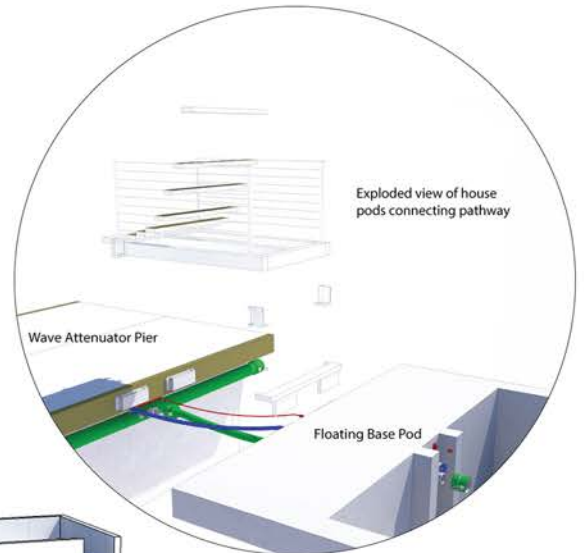
Floating Base Pods

These serve as the universal foundations for the house pods.



Customizable House Pods

These house pods range from 250-400 square feet with optional roof gardens. The units are intended to be locally designed and built to serve the needs of the occupants as well as fit in with the host city's architectural vernacular.



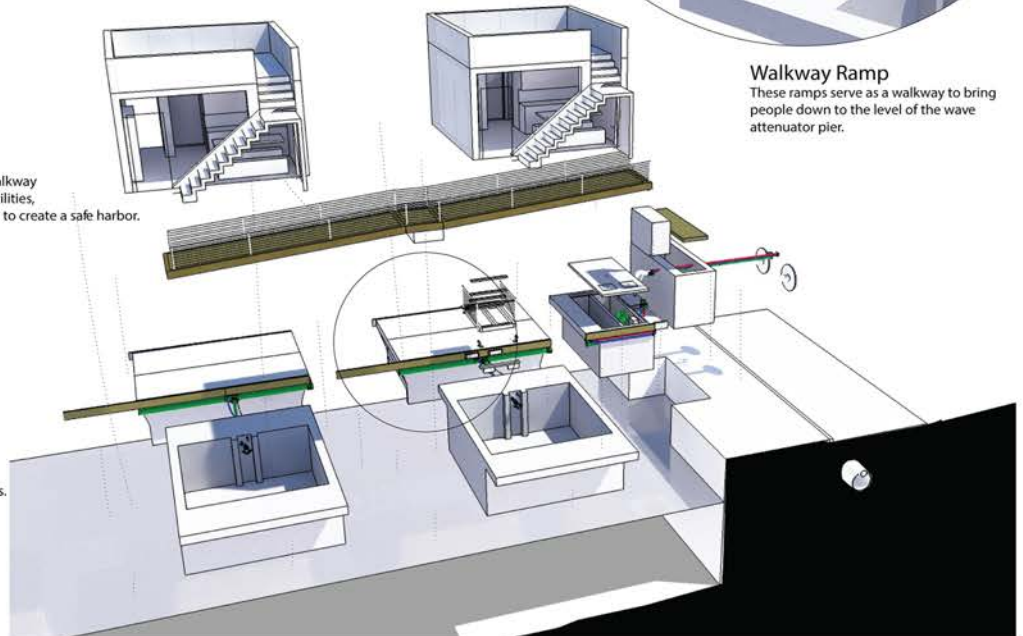
Exploded view of house pods connecting pathway

Wave Attenuator Pier

Floating Base Pod

Walkway Ramp

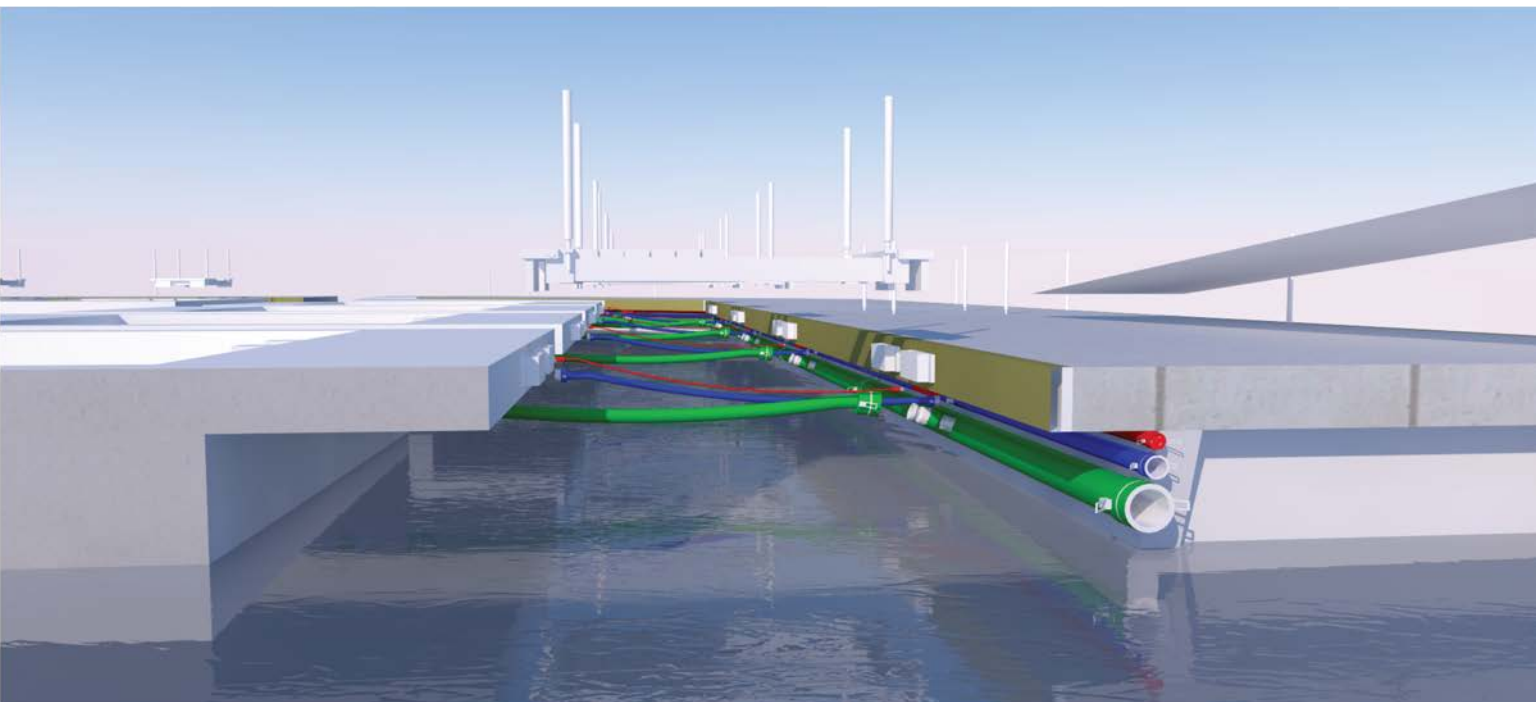
These ramps serve as a walkway to bring people down to the level of the wave attenuator pier.



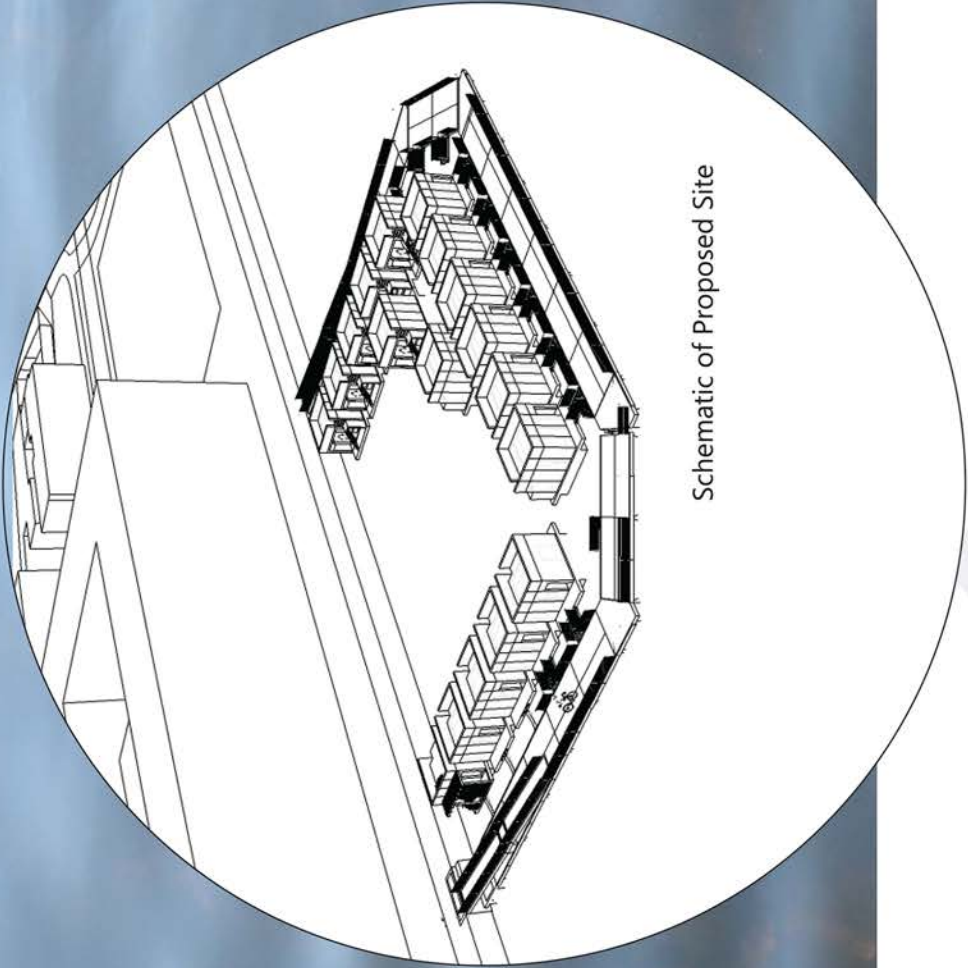
Exploded Diagram of the Kit of Parts



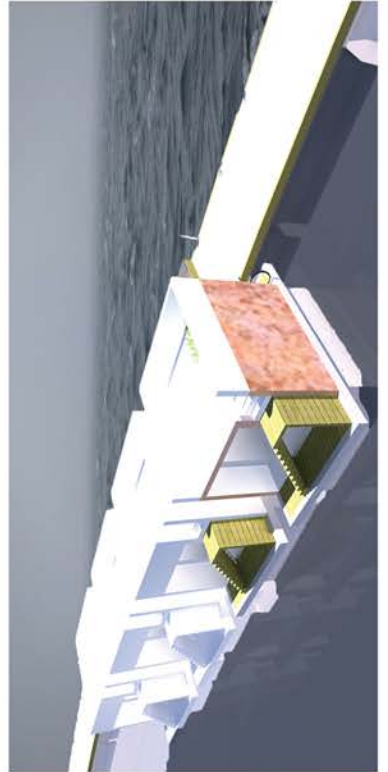
Delivery of house pods utilizing port access



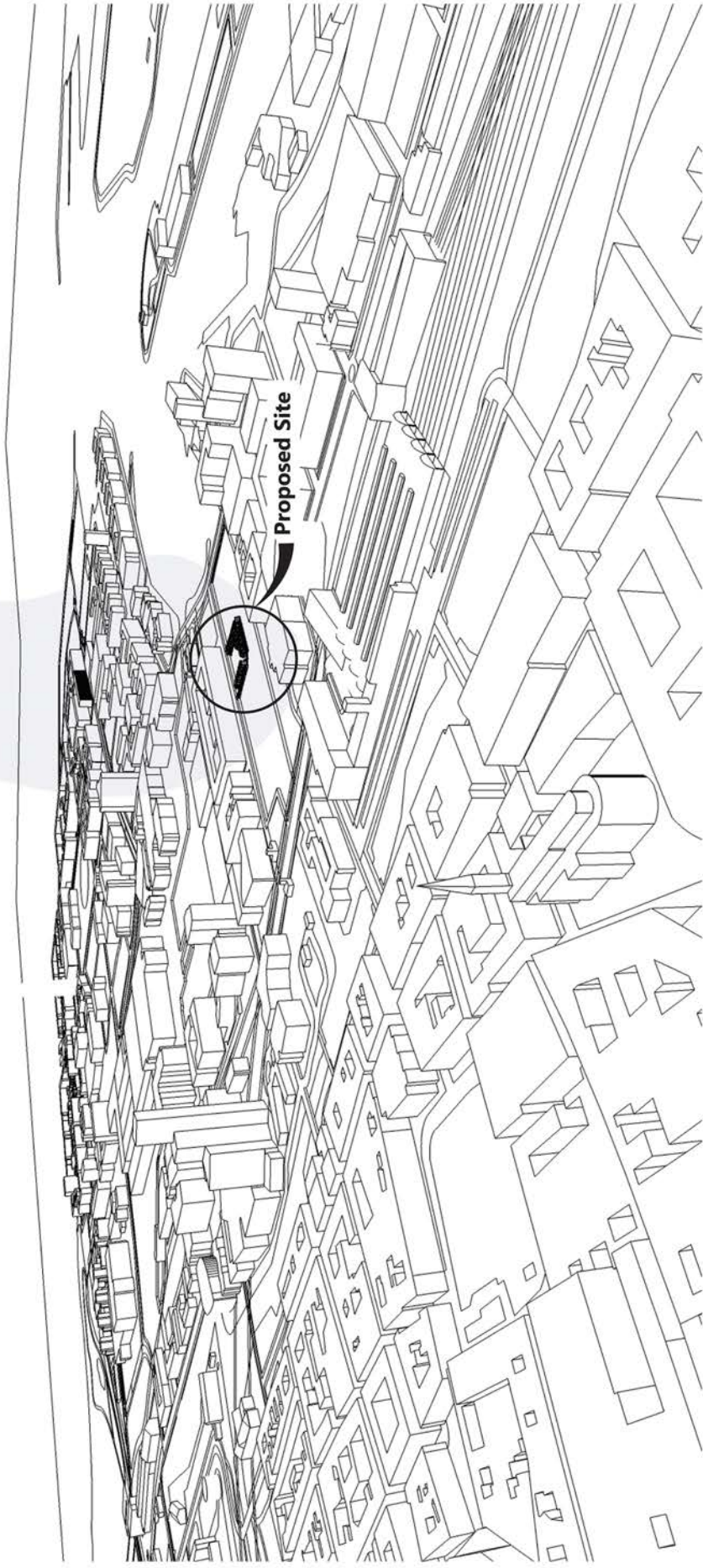
View of utility connections



Schematic of Proposed Site



Rendering of Wave Attenuation

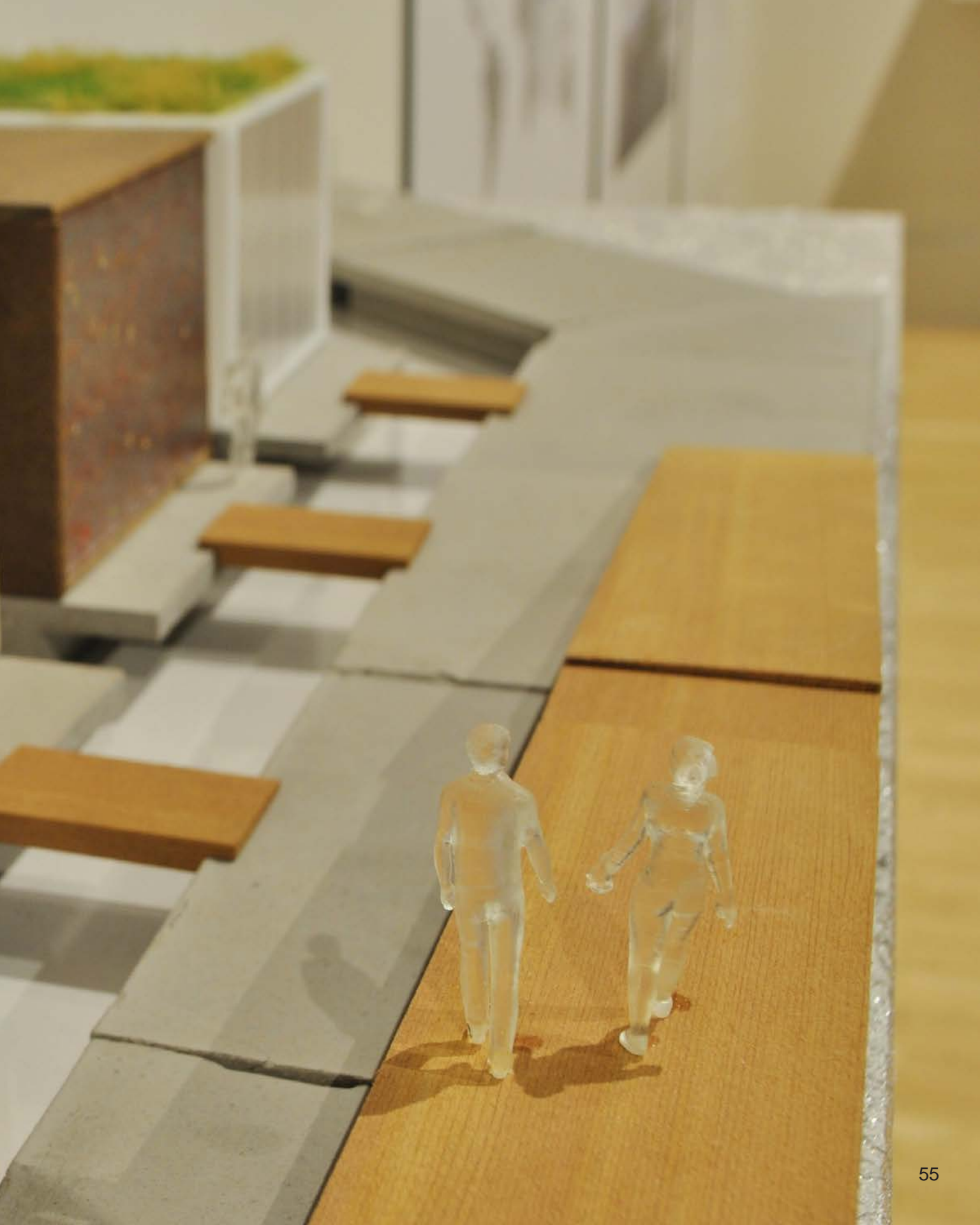


Malmö, Sweden

“This shelter feels more like a house than the tent we lived in the first night. It is much bigger. But I hope that we can move into a real house soon again”

- Billar, 11 years old from Syria on Ikea temporary shelter - UNHCR

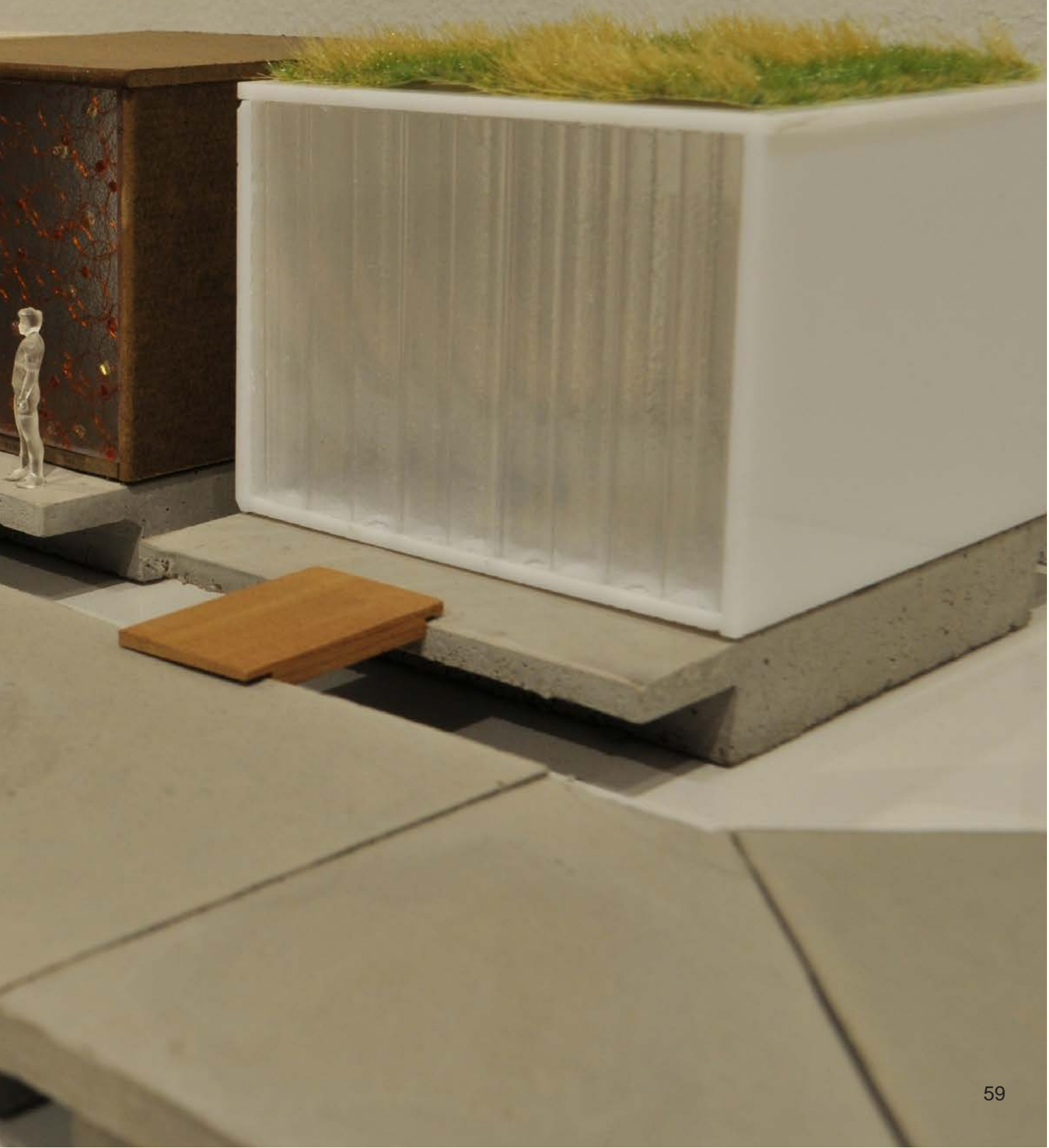












Gallery Show

2017 Masters Thesis Exhibition

The Fed Galleries KCAD

May 2, 2017 – May 18, 2017





This infrastructure already

Alternative Global P...

Instead of the isolated corners of the world, looking at other cities located



...to help...

405 countries signed the 1992 Paris Agreement, which committed them to reducing greenhouse gas emissions. In all, 145 countries have signed the agreement. The agreement is a landmark in the fight against climate change, and it is a step towards a more sustainable future.

Plug & Play

There are many traditional ports in cities around the world. Plug & Play is a new type of port that can be used by your boat or laptop, and it's all in your own living room. It's a great way to stay connected while you're on the water.

safe harbor

A Refugee Camp Alternative

Master of Architecture Thesis
by Bradley Shiel

The proposal outlined here suggests a transitional refugee housing solution intended to be distributed globally into existing port cities. Because available land is hard to come by in any urban environment, this proposed concept instead uses available waterways connected to these cities.

Malmö, Sweden is to become host to a prototype for this method of development. Historically, this city's ports were used mainly for shipbuilding. Today, approximately 50% of the existing port system sits vacant, yet has direct connection to the heart of the city. Malmö, known for its innovative approach to design and for a welcoming attitude toward refugees is now hitting maximum population capacity on its available land. Existing waterways invite alternative means of expansion that can be quickly adopted and easily removed without leaving a trace.

The goal of this proposal would be to offer a home to a growing refugee population, while holding onto forward thinking design, through this safe harbor prototype which can be adopted by numerous port cities throughout the world.



Excellent Beach Conditions

Atlantic Beach, Florida
 Clearwater Beach, Florida
 Destin, Florida
 Gulf Shores, Alabama
 Gulf Breeze, Florida
 Panama City Beach, Florida
 Seaside, Oregon
 South Beach, Florida
 St. Pete Beach, Florida
 The Beaches, Florida
 Virginia Beach, Virginia
 Wildwood, Florida
 Wrightsville Beach, North Carolina

Beaches That Don't Qualify

Jacksonville, Florida
 Miami Beach, Florida
 Naples, Florida
 Ocean City, Florida
 Orange Beach, Alabama
 Pensacola Beach, Florida
 Rehoboth Beach, Delaware
 San Diego, California
 Santa Monica, California
 Surfside, Florida
 Tallahassee, Florida
 Titusville, Florida
 Venice, Florida
 West Palm Beach, Florida

safe harbor

A Safe Harbor Alternative

The following information is provided for informational purposes only. It is not intended to be a substitute for professional advice. Please consult your attorney for more information.

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Port City Plug-N-Play

There are many underutilized ports in cities located around the world. Pick a port city from the maps below and try your hand at laying out a safe harbor of your own using the kit of parts provided.

Please touch

A Typical UN Refugee Camp Settlement

Humanitarian Relief Network's Refugee Rapidly Erected Settlements

1. Shelter
 2. Food
 3. Water
 4. Sanitation
 5. Health
 6. Education
 7. Livelihoods
 8. Safety
 9. Community
 10. Governance

This infrastructure already exists in port cities throughout the world.

Alternative Global Port Communities

Instead of the current camps of tents, all original urban refugees are housed in urban slums or shantytowns.

We signed up to help...

185 countries signed the 1951 Geneva Convention promising participation in the protection of refugees. This responsibility falls on all 185 countries throughout the world. These countries represent 4,328 individual ports, most located in existing urban environments.

Floating Architecture Concepts

Approximate 1/10 of Paris

1. Floating Architecture Concepts
 2. Floating Architecture Concepts
 3. Floating Architecture Concepts
 4. Floating Architecture Concepts
 5. Floating Architecture Concepts
 6. Floating Architecture Concepts
 7. Floating Architecture Concepts
 8. Floating Architecture Concepts
 9. Floating Architecture Concepts
 10. Floating Architecture Concepts

Malmö, Sweden

The Safe Harbor Prototype

The Safe Harbor Prototype is a floating port community that can be deployed in any port city throughout the world. It is a modular, self-sufficient, and scalable solution for housing and supporting urban refugees in existing urban environments.



safe harbor

A Refugee Camp Alternative

Master of Architecture Thesis
by Bradley Shiel

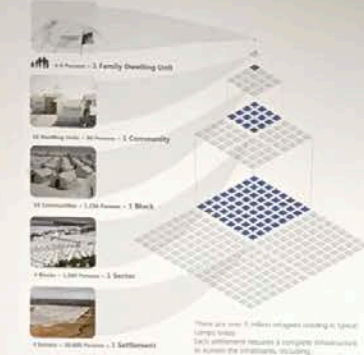
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A Typical UN Refugee Camp Settlement

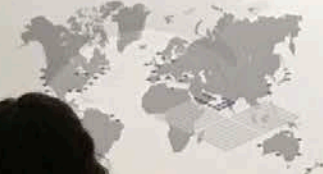
Standard United Nations Refugee Agency Camp Planning Terminology



They exist in port cities throughout the world.

Alternative Global Port Communities

Instead of the current model of today, this proposal would integrate refugees into existing urban infrastructure.



and up to help...



1951 Geneva Convention promotes the protection of refugees. This responsibility is shared by all countries throughout the world. These countries are located in existing urban environments.

Architecture Concepts

Adaptable Kit of Parts



Malmö, Sweden

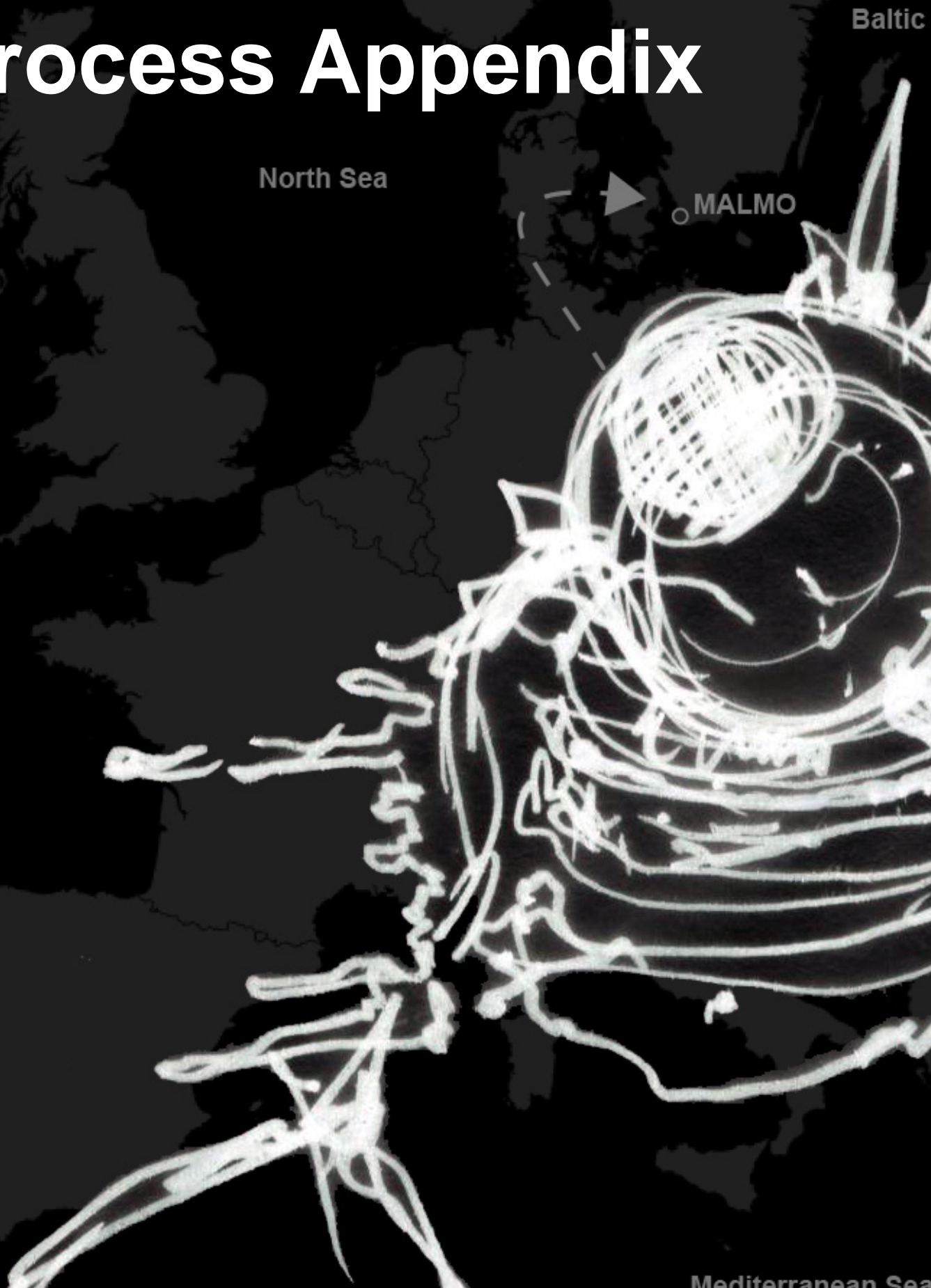
The Safe Harbor Prototype

A large display board for the 'Malmö, Sweden The Safe Harbor Prototype'. It features a map of Europe highlighting Sweden and Malmö, a site plan of the prototype, a circular inset showing a detailed view of a building component, and a perspective view of a building component.

For the Safe Harbor
The prototype is a modular building system that can be adapted to different site conditions and building requirements. It is designed to be a flexible and sustainable solution for urban development in Malmö, Sweden.



Process Appendix





Sea

Black Sea

Turkey

Afganistan



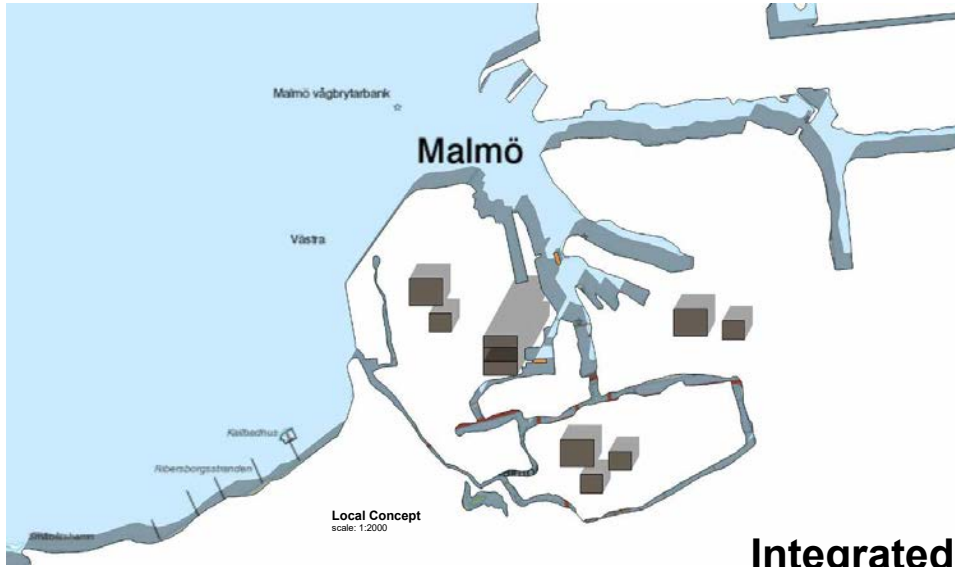
Global Concept



N Europe Concept



Regional
scale: 1:20000



Local Concept
scale: 1:2000

Site Concept
scale: 1:100

Integrated Infill Temp Housing



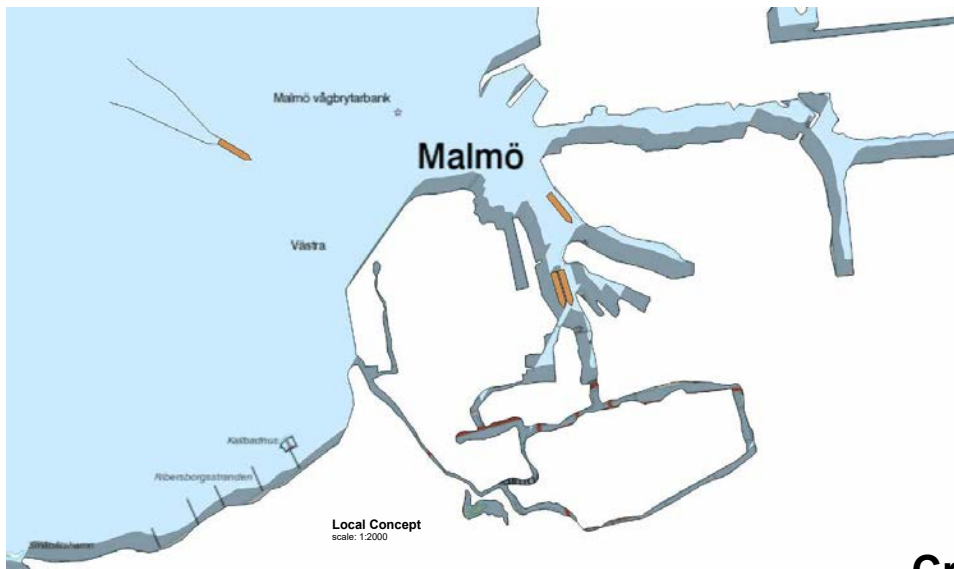
Global Concept



N Europe Concept



Regional
scale: 1:20000

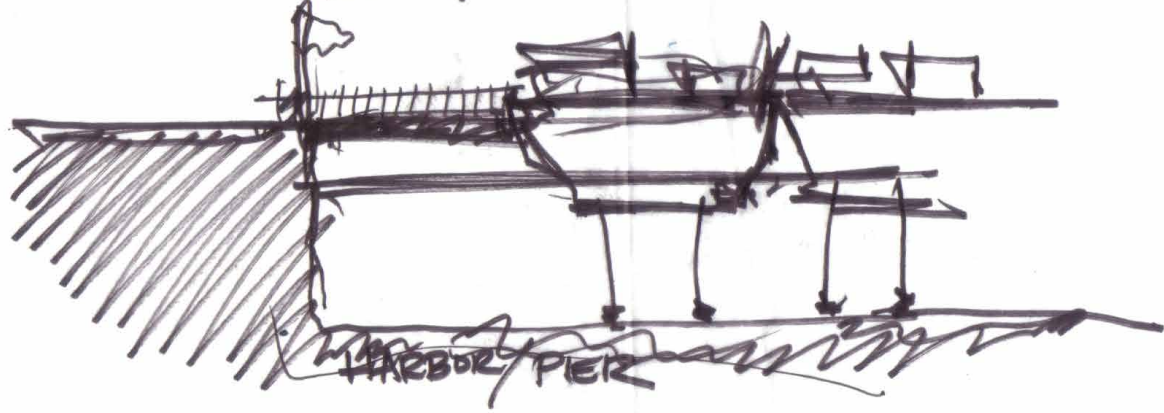
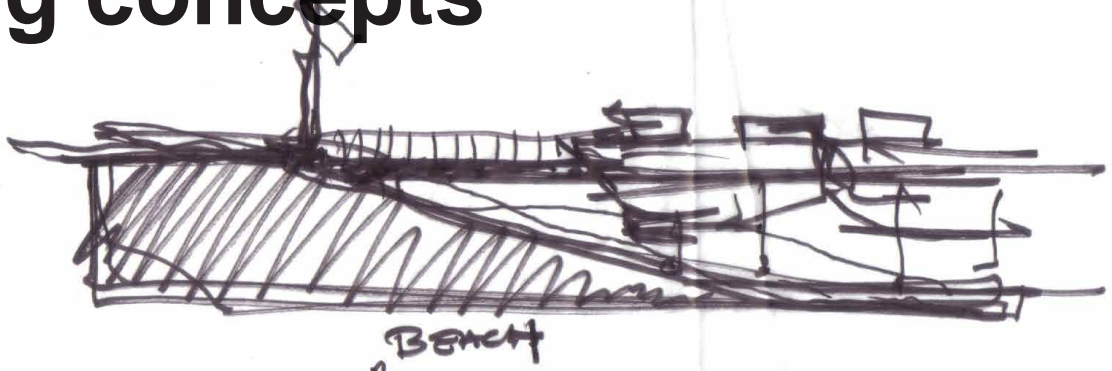


Local Concept
scale: 1:2000

Site Concept
scale: 1:100

Cruise Ship Territory

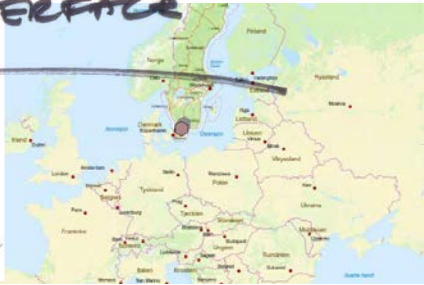
Testing concepts



INTERFACE



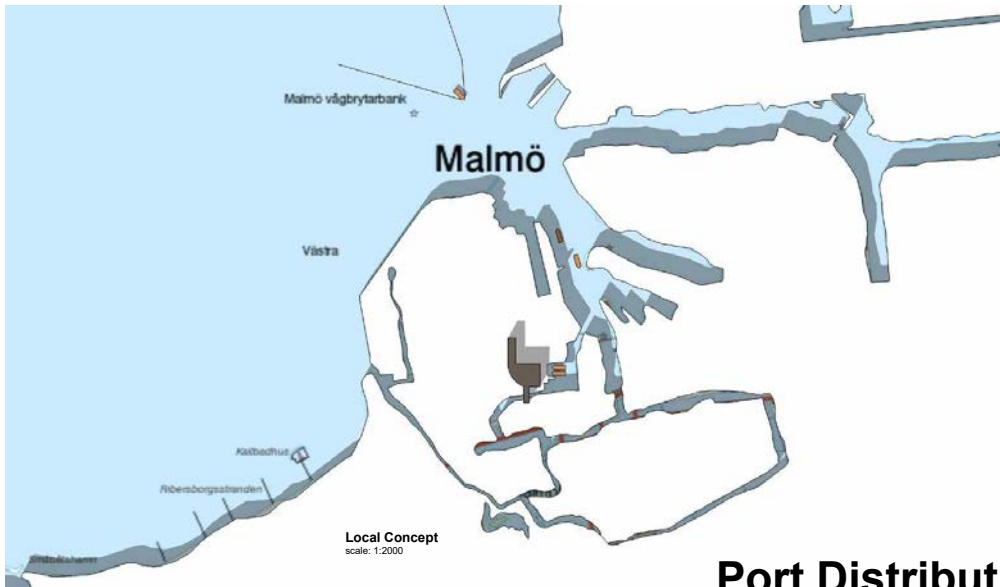
Global Concept



N Europe Concept



Regional
scale: 1:20000



Local Concept
scale: 1:2000

Site Concept
scale: 1:100

Port Distribution Territory

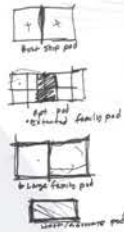
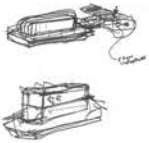


Floating Architecture Concepts

Adaptable Kit of Parts



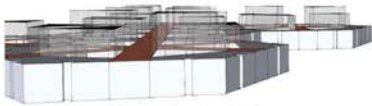
Renewable Energy



Roof Gardens



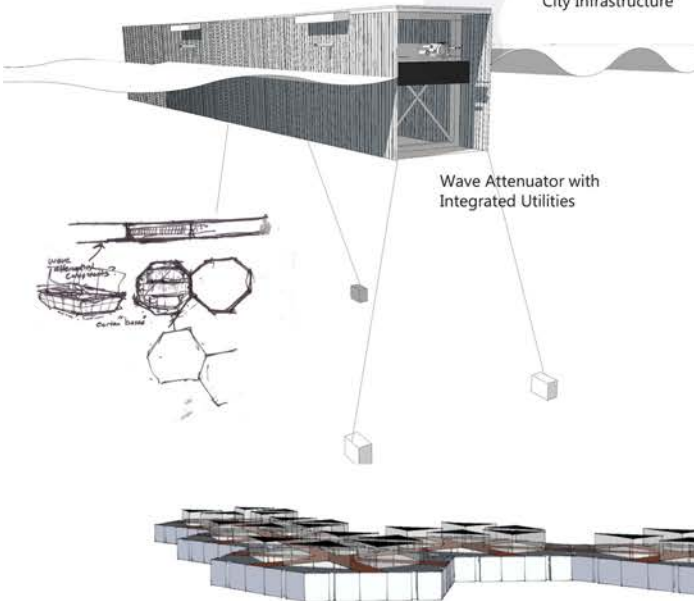
Refugee Housing



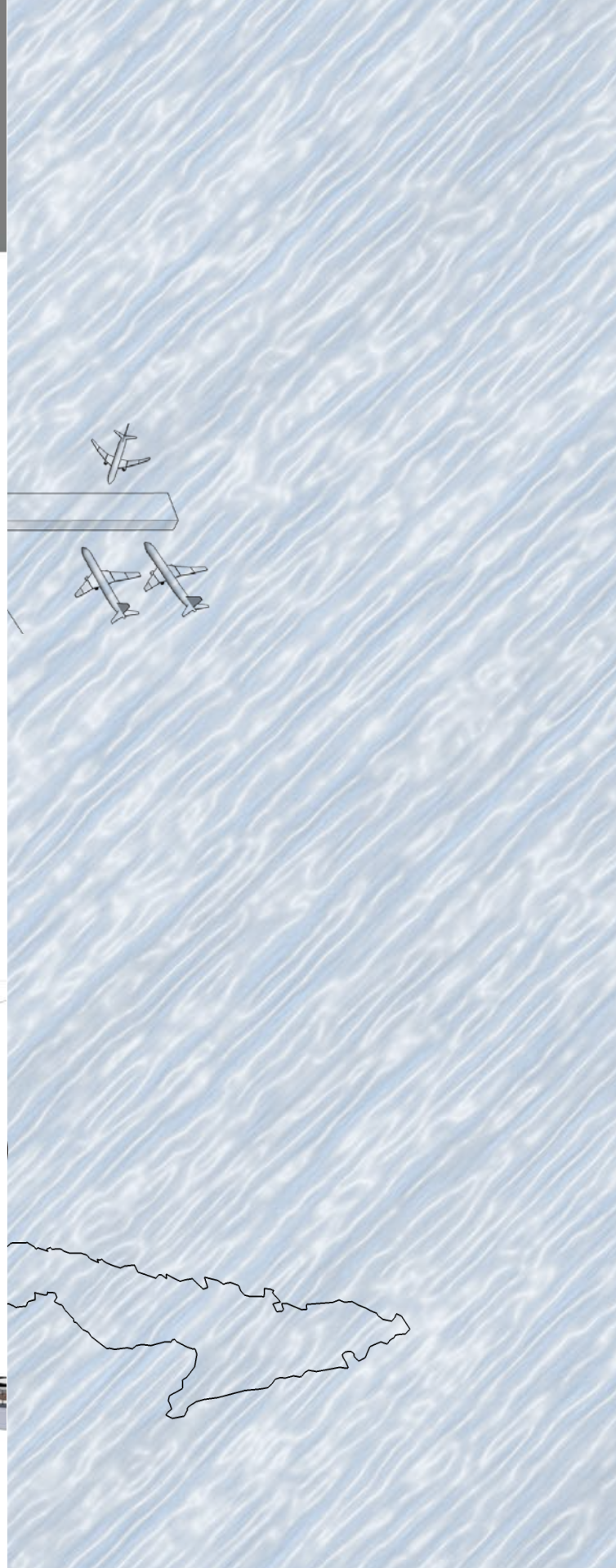
Adaptable Floating Base Units

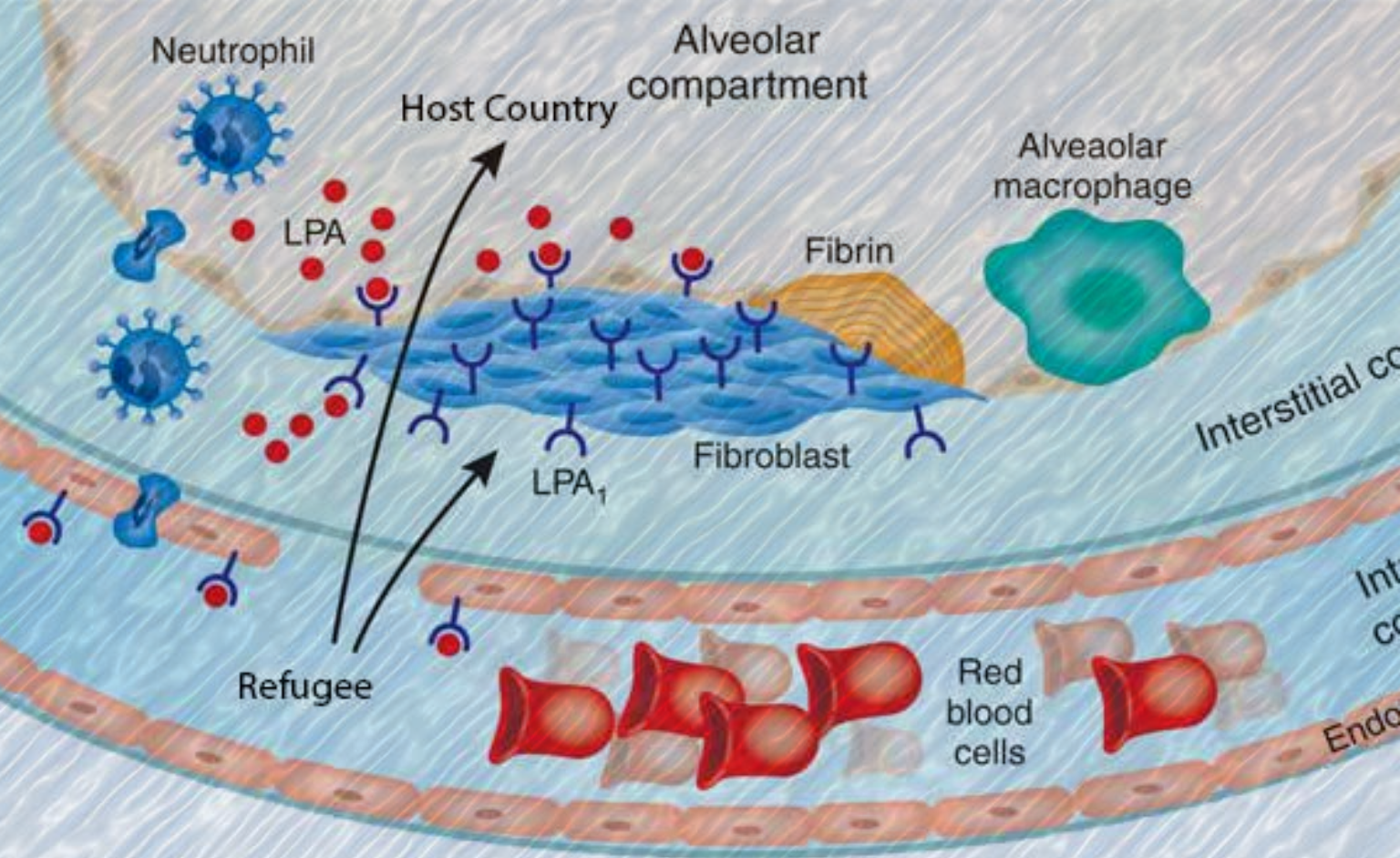


Connects to Existing City Infrastructure



Wave Attenuator with Integrated Utilities





Interstitial Spaces

International Airports

International Waters

Places Between Borders

Airlocks

Territories

...Abandoned shipbuilding locks



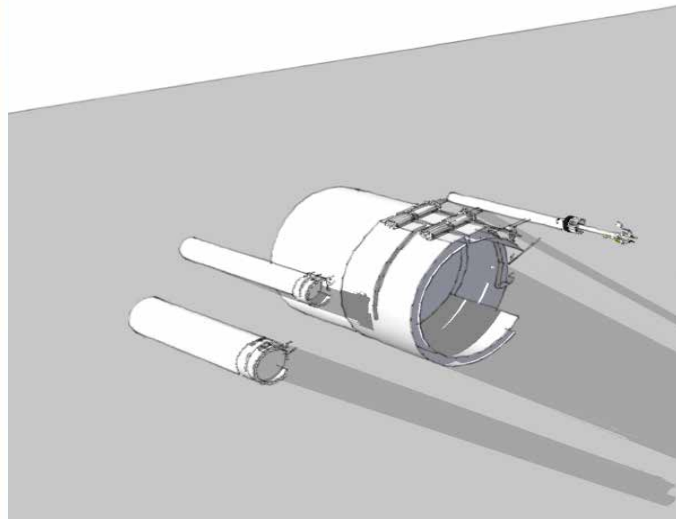
Concept collage using Christo and Jeanne-Claude's Floating Piers



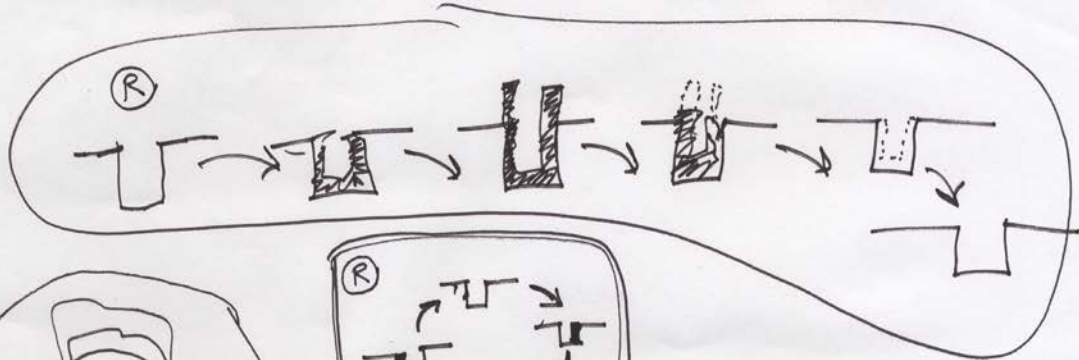
Transporting Pods to new location



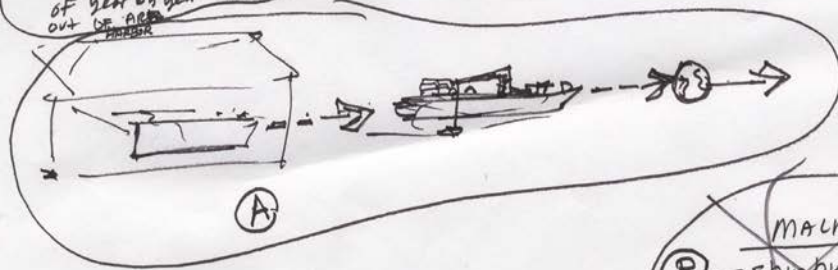
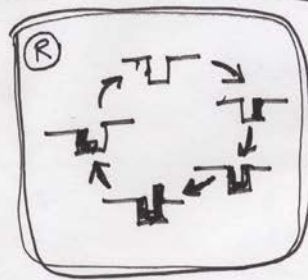
Floating Piers/Pods



Infrastructure connection concept at land

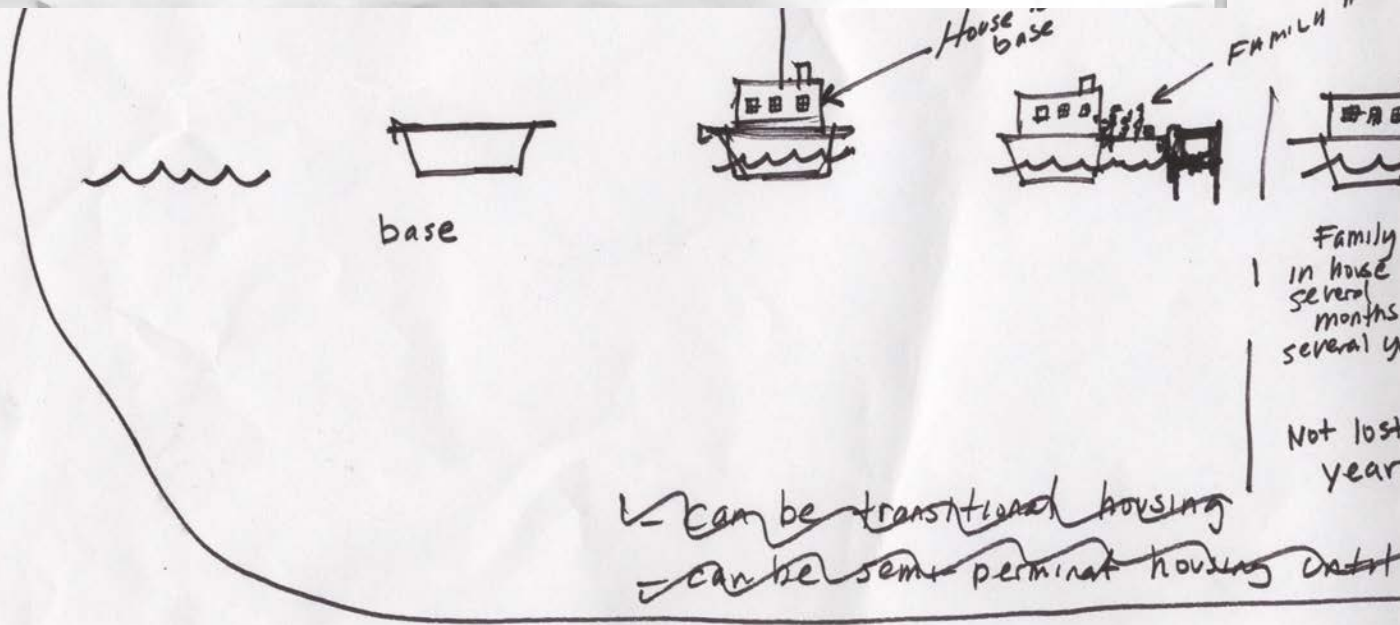


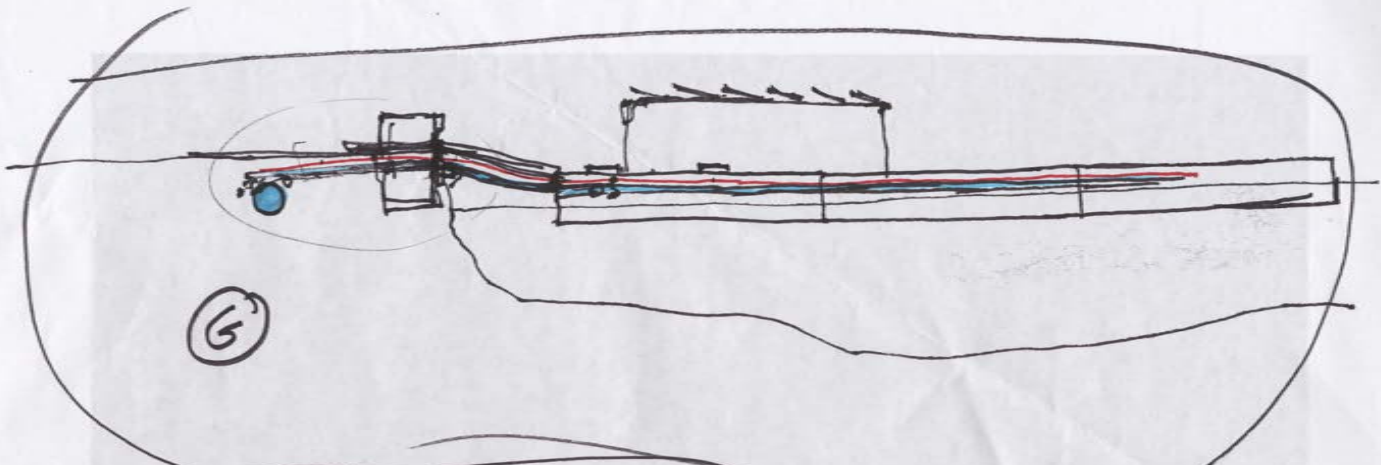
Small infographic of year by year build - out of area



Why floating?
 - QUICK / FAST
 - MINIMAL PREP
 - INTEGRATION INTO CITY

~~MALMO~~
 - SHIP BUILDING ~~AND~~ HISTORY
 - PIER INFRASTRUCTURE
 - UNUSED
 - HEART OF CITY



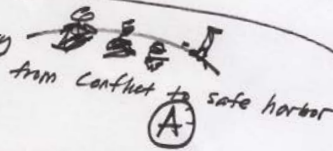


(G)

Show city connections to all 3 CONDITIONS:

- ~~USA 1st~~
- intermediate

thru the eyes of a refugee ~ tell the whole story



from conflict to safe harbor

res IN



ly lives
s to
years
st
ars



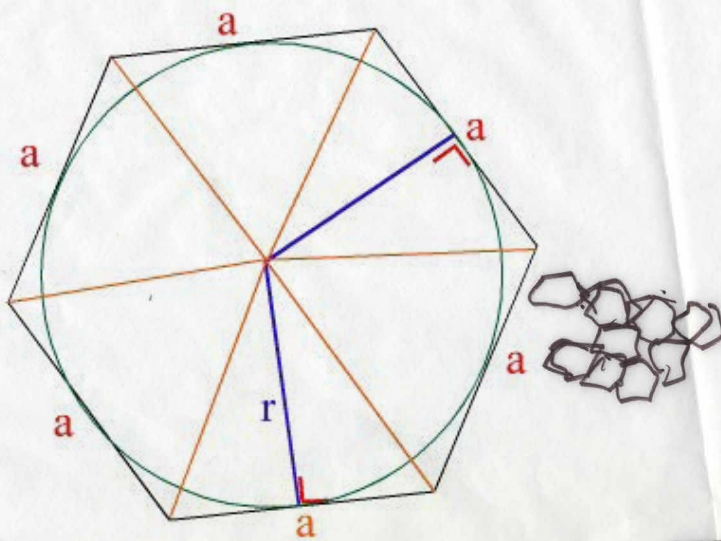
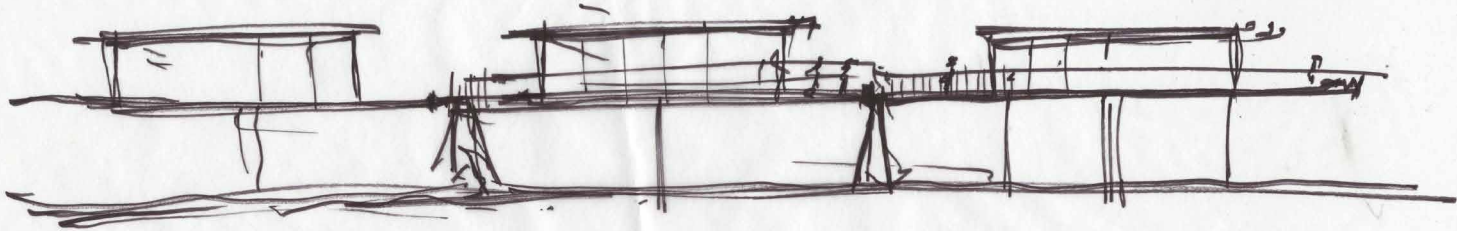
Family leaves
to go back home
or is
re-settled to
somewhere else.



options @ host city discretion:

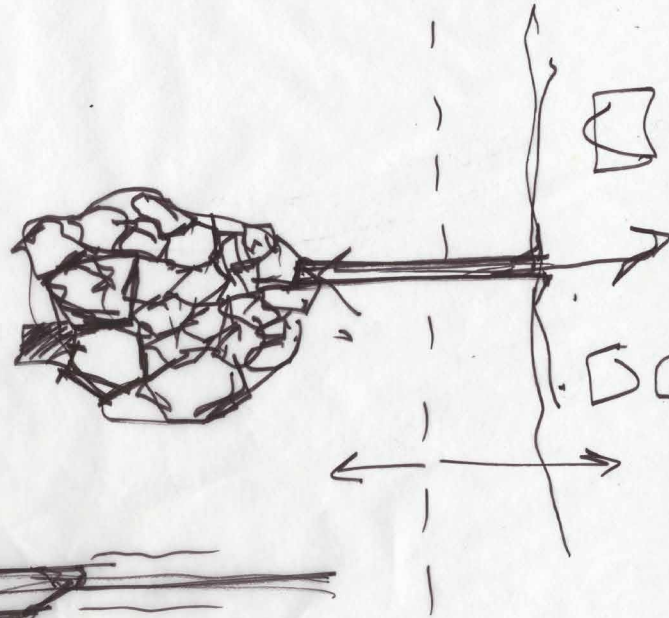
- o re-use w/ new family
- o ^{OR} remove when global displacement has ended
 - ↳ Relocated to different community for re-use or rebuilt/modified

re-settlement or can safely return home



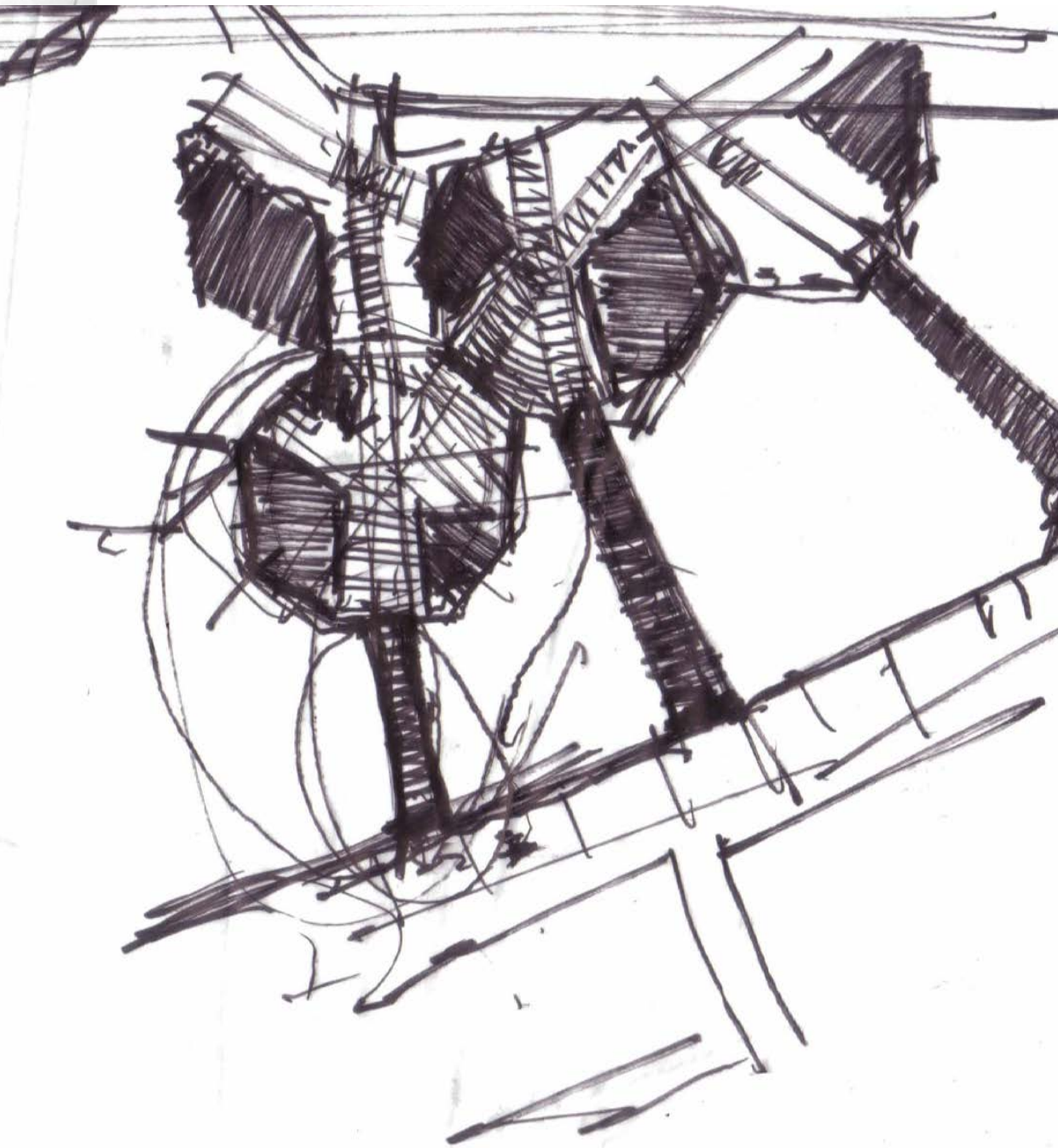
$$\text{Area} = \frac{6 \cdot a \cdot r}{2}$$

$$\text{Perimeter} = 6a$$



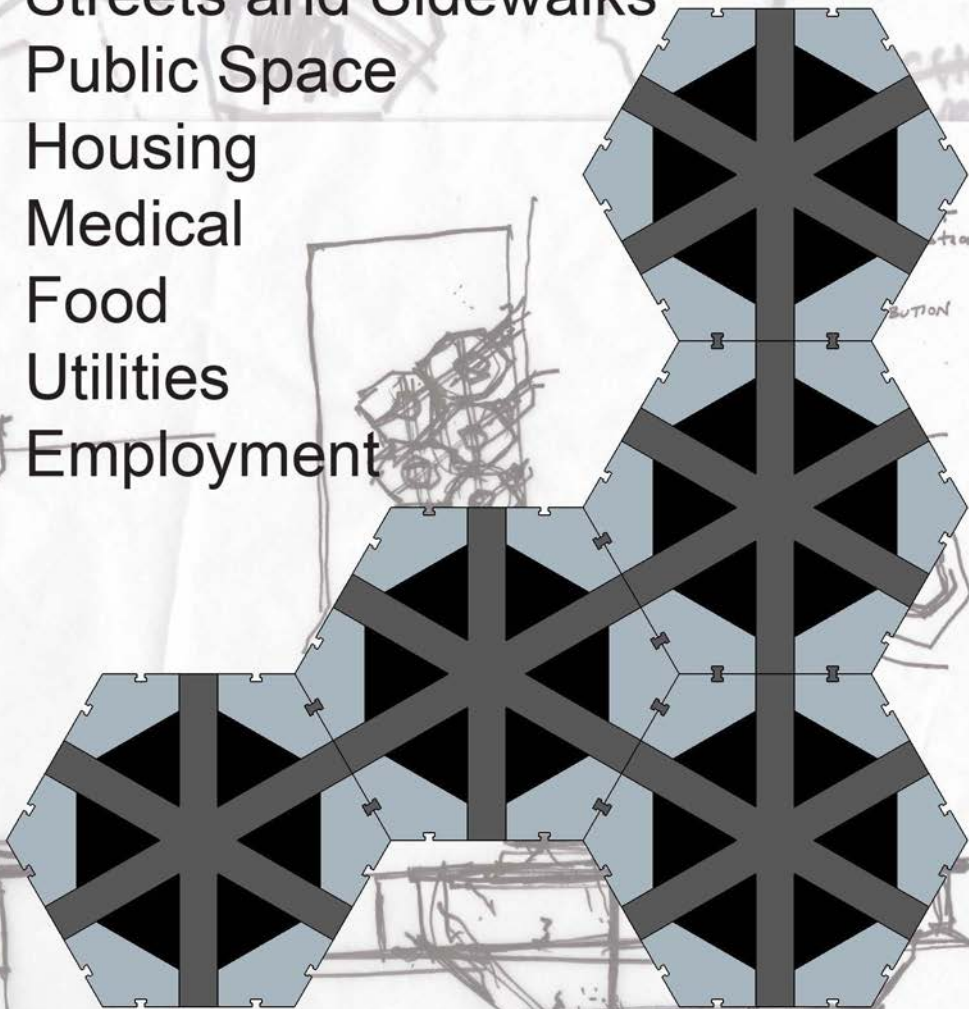
Hexagon Concept

Interlocking
Infinitely Expandable/Retractable

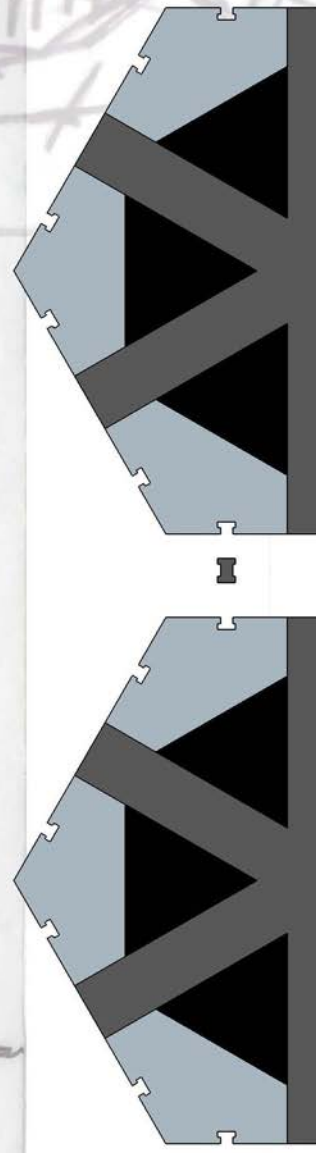


Pods Types {Program development 1a}

- Transportation
- Land Connection
- Streets and Sidewalks
- Public Space
- Housing
- Medical
- Food
- Utilities
- Employment



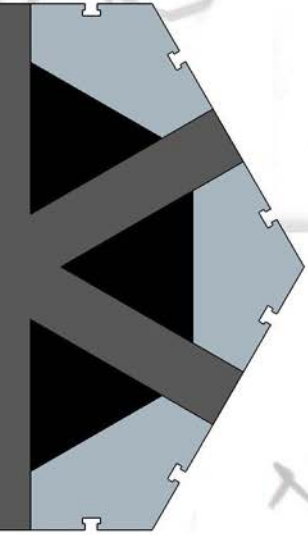
residential pods
scale: 1"=100'



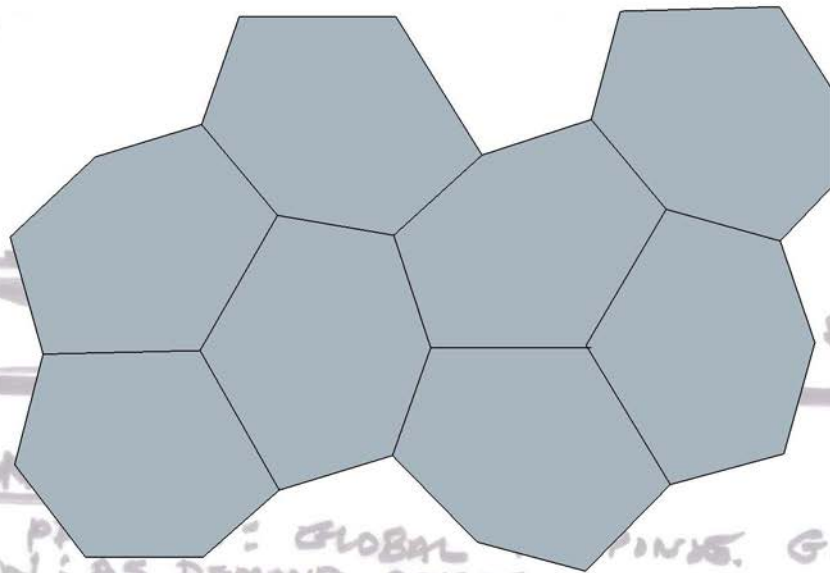
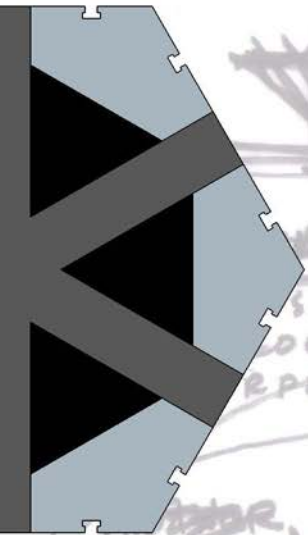
residential pods
scale: 1"=50'

RESPONSIBLE
LOCATION
PURPOSE

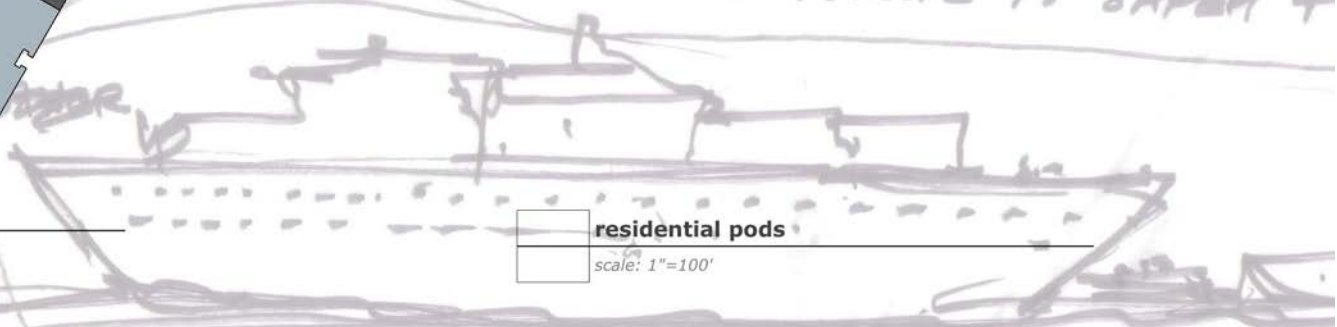
- UTILITY
- G
- E



I



LOCATION: AS DEMAND ARISES
PURPOSE: EVALUATE DISPLACED PERSONS TO SUPER T



residential pods
scale: 1"=100'

RE-PURPOSED CRUISE SHIPS

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"UNHCR Map Portal", http://maps.unhcr.org/en/search#_ga=1.218249433.1779991951.1489182033

