

# **TRINATIONAL UNIVERSITY**

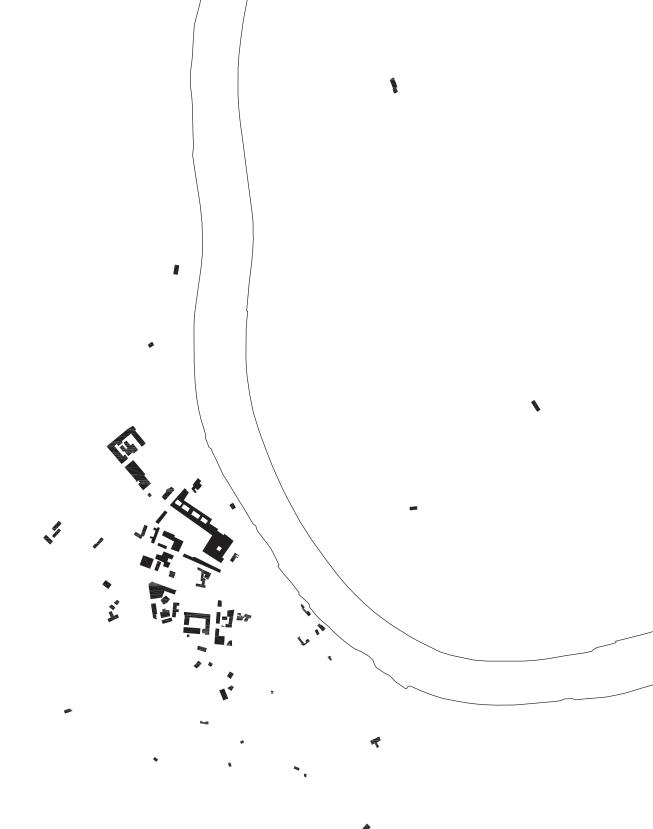
MOTOR FOR URBAN DEVELOPMENT



ETH Studio Basel WS 2006/2007

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# **TRINATIONAL UNIVERSITY**

MOTOR FOR URBAN DEVELOPMENT





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# PREFACE

#### growing university

The University Basel, founded in 1460, is the oldest university of Switzerland. It was located in a single building in the old city at the Rheinsprung. Due to increasing student numbers today's university is spread out over the whole city with its main buildings around Petersplatz. The process of extension to more distant areas keeps up due to lack of space for university buildings in the city center.

#### trinational focus

Currently, the university is trying to shift its focus to a more international one in term of students and education. The vision for MetroBasel 2020 sees the University Basel as a trinational university in the corner of Switzerland, Germany and France.

motor for urban development

The spacial strategy for a further university development has to be seen in context with general city development in Basel and its region. Since student life plays an import role in the city context, the spacial extension of the university could generally act as a motor for successful urban development.





# THE SCATTERED UNIVERSITY

### ANALYSIS

University Basel

In its long history, the University Basel grew continuously and is today spread out over the whole city. An analysis of this scattered city university will show some facts and characteristics about the university within the city and in relation to its surrounding.

Reflections about the today's situation and the future highlight the problems the university will have to deal with.



## ANALYSIS LONG HISTORY



The University Basel was founded in 1460 by Pope Pius II. It was Switzerland's first university. The first university building at the Rheinsprung is today still in use for university purpose. For about 400 years the university was concentrated around the Rheinsprung.



In the 19th century, the university and its student numbers grew enormously due to the upswing of the natural sciences. This lead to new buildings around Petersplatz where in 1939 today's main building, the Kollegienhaus, was errected.



Currently, the university's growing process keeps up. Therefore the university is forced to move to more distant places. The latest example for this process are the law studies which moved from the center into the Jacob-Burckhard-Haus at the Basel main station in 2006.

- 1 old university at the Rheinsprung
- 2 Kollegienhaus Petersplatz
- 3 Jacob-Burckhardt-Haus Basel main station



city center



1 Rheinsprung 1460





# ANALYSIS 75 BUILDINGS -TODAY'S SCATTERED UNIVERSITY









Due to lack of enough space around Petersplatz and Schällemätteli where most of the university buildings are concentrated, the university had to extend to more distant areas. Today's university has many faces and is scattered in whole Basel. 75 buildings are being used by the university.

- 1 physics, chemistry St-Johanns-Ring
- 2 pharmacy Klingelbergstrasse
- 3 environmental sciences Bernoullistrasse
- 4 university library Schönbeinstrasse
- 5 environmental sciences Schönbeinstrasse
- 6 medical microbiology Petersplatz
- 7 Kollegienhaus Petersplatz
- 8 administration Petersgraben
- 9 theology, literature Nadelberg
- 10 oriental studies Rheinsprung
- 11 mathematics Rheinsprung
- 12 law studies Peter-Merian-Weg















Schällemätteli

university hospital

Petersplatz61078911

5



### ANALYSIS A SMALL UNIVERSITY OF GOOD STANDING

The University Basel has quite a small student number compared to other universities in Switzerland and the MetroBasel region. But it was still ranked on a high level in the Shanghai Ranking 2006.

University Basel is Switzerland's 3rd best university after ETH Zurich and University Zurich. The good ranking position is due to University Basel's life science performance where it was rated as number 6 worldwide.

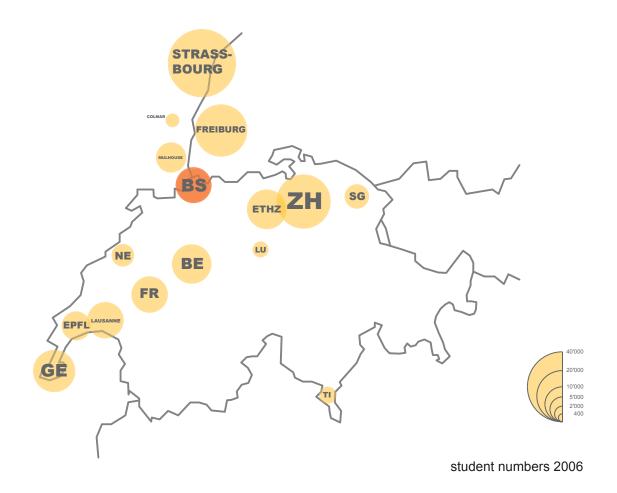
The Shanghai Ranking ranks universities worldwide by several indicators of academic or research performance:

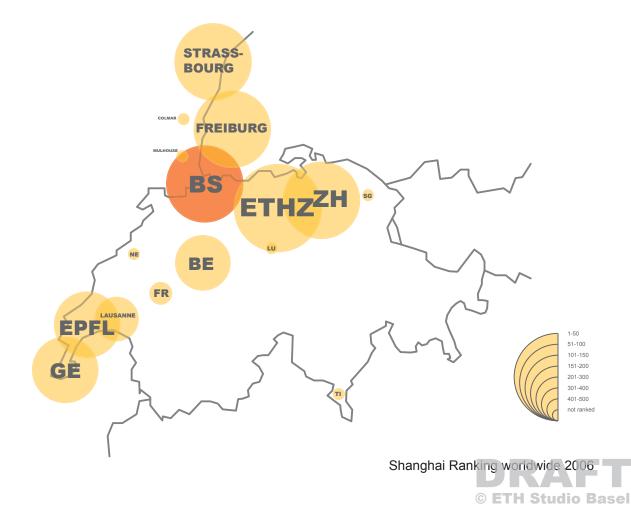
quality of education quality of faculty research output size of institution

The top 5 universities worldwide are:

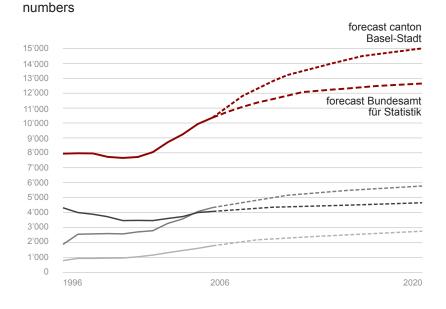
- 1. Harvard University USA
- 2. University Cambridge GB
- 3. Stanford University USA
- 4. University California-Berkely USA
- 5. Massachusetts Institute of Technology (MIT) USA







# ANALYSIS LACK OF SPACE



total student number students from BS and BL students from other cantons foreign students The student numbers of University Basel increased within the last few years on a high level. Especially students from other cantons than Basel-Stadt or Basel-Land and students from other countries decided to study in Basel.

The University Basel gained attractivity, for example by introducing the new faculty of psychology in 2003. The university wants to keep up the growing process for the future.

main usable floor spaces University Basel (m2)

development of student

today: 100'000 / 35'000

future: 155'000 / 20'000

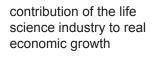
own property leased property need for growth Due to the increasing student numbers within the last few years, the university had to lease addition space in buildings which do not belong to the University Basel.

Since the leasing costs are to high, the university's aim is to substitute these leased spaces by own buildings as soon as possible and to build enough space that the university can deal with the increasing student numbers in the future.

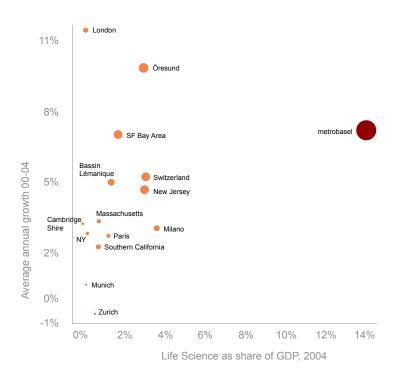




### ANALYSIS USING BASEL'S LIFE SCIENCE POTENTIAL







Nowhere else in the world is the life science industry as important to the local economy as in the Metro-Basel region.

Especially the leading life science companies Roche and Novartis make this region to a real life science cluster.

main usable floor spaces separated by faculties (m2) for University Basel and ETHZ

future: 115'000 / 40'000 / 10'000 / 5'000

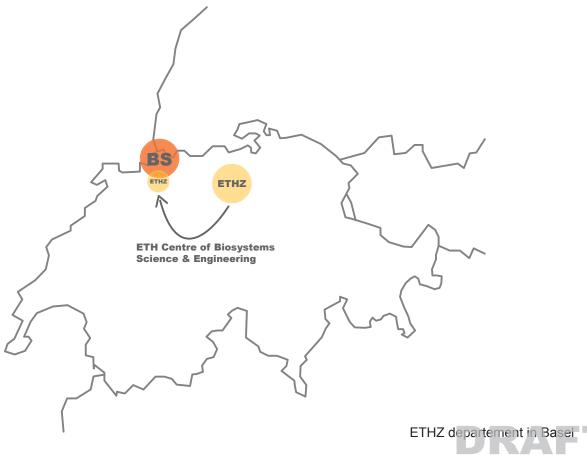
general buildings, humanities, applied sciences, medicine (UniBas)
life science (UniBas)
biosystems science and engineering (ETHZ)
reserve

A departement of the ETH Zurich - the ETH Centre of Biosystems Science & Engineering (C-BSSE) - will be situated in Basel where it can do common scientific research in life science with the University Basel. The ETH wants to use the advantage of Basel being an important place for life science.

Therefore the needed space for additional education buildings increases.





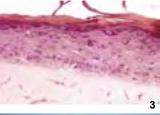


© ETH Studio Basel

# ANALYSIS LIFE SCIENCE AS THE MOST PROMISING FACULTY







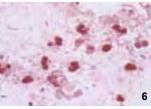


The University Basel wants to create a life science network together with the ETHZ departement.

The new life science network will include:

- 1 biology (UniBas)
- 2 physics (UniBas)
- 3 biosystems science and engineering (ETHZ)
- 4 pharmacy (UniBas)
- 5 organical and anorganical chemistry (UniBas)
- 6 medical microbiology (UniBas)
- 7 biomedicine (UniBas)







# general university buildings

main building Kollegienhaus, university library, administration building

#### humanities

faculties of humanities, theology, psychology, law studies and economy

#### applied sciences

parts of the faculty of natural sciences: informatics, mathematics, astronomy, environmental sciences

#### medicine

most of the faculty of medicine except medical microbiology

#### life science

parts of the faculty of natural science and medicine which have to do with scientific research





### ANALYSIS COMMON UNIVERSITY DEVELOPMENT

existing bicantonal university development

The responsibility for further development and planning of the University Basel will be in the hands of Basel-Stadt (BS) and Basel-Land (BL) together. Basel-Land became the second responsible body for the university in 2007.

The planning concerning the additional university buildings which are needed can have an impact on the location where they will be since the two parties have to be satisfied.

# vision for trinational university development



The vision for MetroBasel 2020 plans a trinational collaboration in terms of university education. The aims were mentioned at the MetroBasel Forum 2006 by Aleksander Berentsen (WWZ Uni Basel):

trinational university education

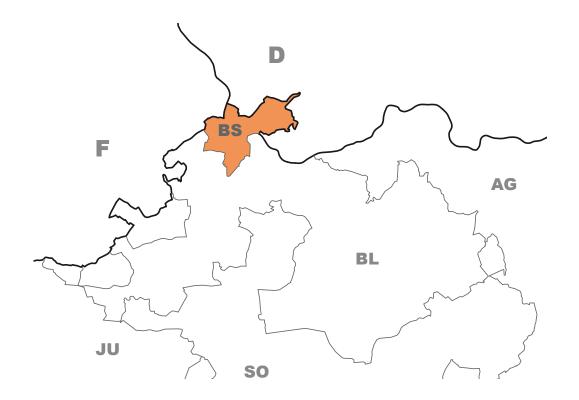
realise a campus for identity to achieve a better come together of education and scientific research

see education as an investment

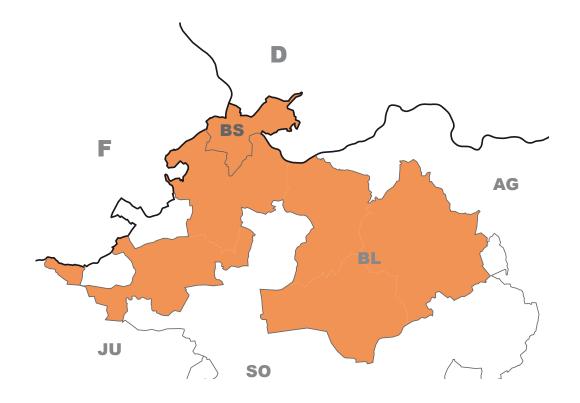
see education as a business to get money from the industry (following the example set by the USA)

University Basel as an english teaching university to attract more foreign students





responsible body until 2006: Basel-Stadt



responsible body since 2007: Basel-Stadt and Basel-Land. © ETH Studio Basel

## ANALYSIS URBANISTIC STUDY BY **HERZOG & DE MEURON**

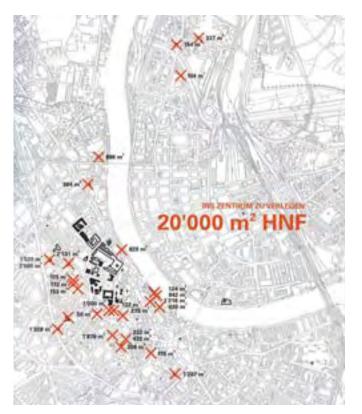
In 2003 Herzog & de Meuron presented the urbanistic study "The University in The City" which suggest a possible way for the spacial development for the University Basel.

The main suggestion is a concentration of the university in the city center around Petersplatz and Schällemätteli where it is also supposed to be densed. A city campus should be created, so that the University Basel receives a face and identity is being created.

The former university buildings which will no longer be in university use, should be transformed into housing.

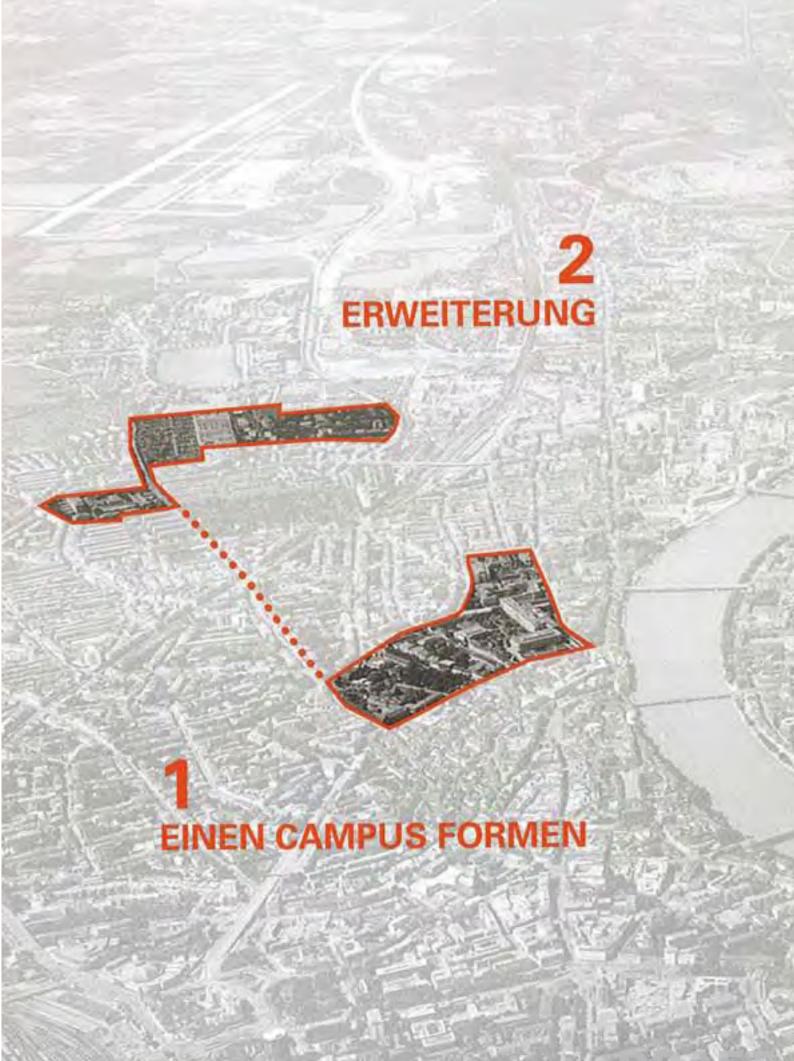
An extension outside of the city center is the suggestion in a second stage when the needed space in the center runs short.

Herzog & de Meuron see the area around the Felix-Platter-Spital and the Psychiatrische Universitätsklinik as a possible place for the extension.



source pictures and plans: Herzog & de Meuron







# **ORGANISATION PATTERNS**

COMPARISON

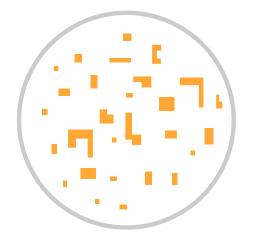
different universitiy characters

Universities in other cities than Basel are found in many different organisation patterns. For example as complete city universities and universities which are concentrated in on a campus outside of the city.

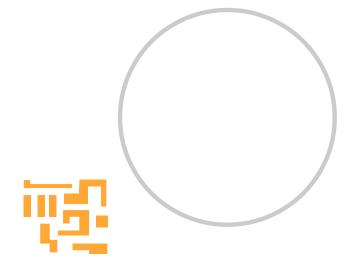
By analysing these different university structures, some valuable rules for a successful development for the University Basel can be found and applied in the context of Basel.



### COMPARISON TWO EXTREME VERSIONS



In a city university, the university facilities are spread out over the whole city. The university is part of the city and the city is part of the university. This university type has a lot of charme and makes the city younger, while there is the danger of not being able to recognize the university.



The total opposite organisation is the campus university where all the university buildings are concentrated in one place out of the city structure. Despite of its identity, there is the problem of isolation which the university has to deal with.



Urbino - city university

city center

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(n. s. s. s.

city center

Lausanne - campus university



E.

# COMPARISON CHARLES RIVER - UNIVERSITIES **IN A CONNECTING DISTANCE**





A mixture of the two extreme university organisations of a city and a campus university are the universities along the Charles River in Massachusetts. Each university is concentrated in its own campus but they are not isolated but connected by a university path of bridges and green walking areas along the river bank and a connecting bus line.



- 1 Massachusetts Institute of Technology (MIT)
- 2 Boston University
- 3 Harvard University





### COMPARISON FHNW - SUBDIVIDED UNIVERSITY



The Fachhochschule Nordwestschweiz (FHNW) was founded in 2006 by uniting all the Fachhochschulen in the northwestern part of Switzerland. It is subdivided into different faculties which are located in different places in the whole area. There is no concentration of all the faculties in one place.

Problematic is the fact that these several locations of the Fachhochschule are so remote, that there is no connection between them.

A linking element, such as the university path at Charles River Massachusetts, is missing.



1 FHNW in Brugg / Windisch

2 FHNW in Muttenz





# COMPARISON ETH HÖNGGERBERG - REMOTE CAMPUS



The campus ETH Hönggerberg is a university campus for applied sciences and life science research.



It is situated on the edge of the city of Zurich. In its past, it always had to deal with problems such as monofunctionality and not having enough connection to the city. The travelling time of around 30 minutes to the city center by public transport makes it additionally difficult to be part of the city of Zurich.



A masterplan tries to solve the problem of monofunctionality by transforming the campus into a own artificial city called Science City. It will be a concentration of buildings within the existing dimensions. But there will still be a lack of infrastructure and culture which a real city would have to offer. The easier way to have these things free to use would have been building the campus closer to the city center.

- 1, 2 ETH Hönggerberg
- 3 Masterplan Science City



campus ETH Hönggerberg

# 30 minutes by public transport

city center



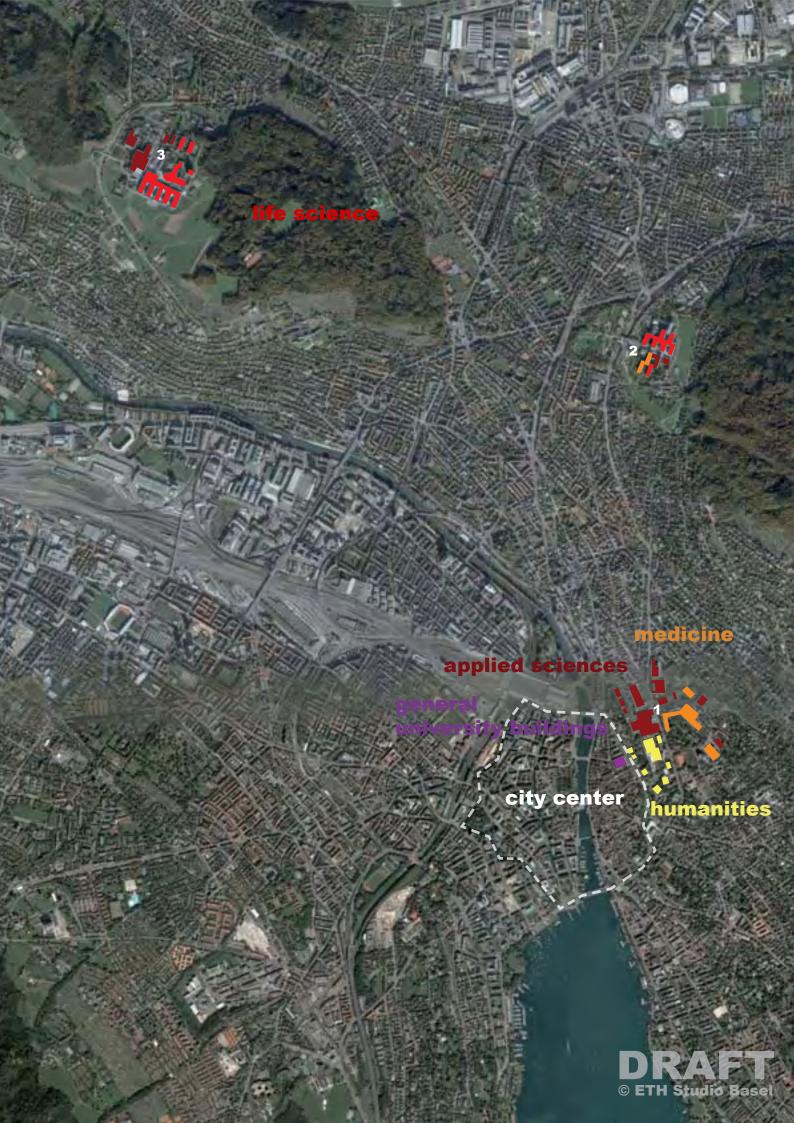
# COMPARISON ZURICH - REPRESENTATION IN THE **CENTER, RESEARCH ON CAMPUSES**



Both universities of Zurich - the ETH Zurich and the University Zurich - have a representing center university. Scientific research takes place on the campuses of Uni Irchel and ETH Hönggerberg.

- 1 ETH Zurich and University Zurich center
- 2 Campus Uni Irchel
- 3 Campus ETH Hönggerberg





### COMPARISON BERN - NATURAL SCIENCES IN CLUSTERS



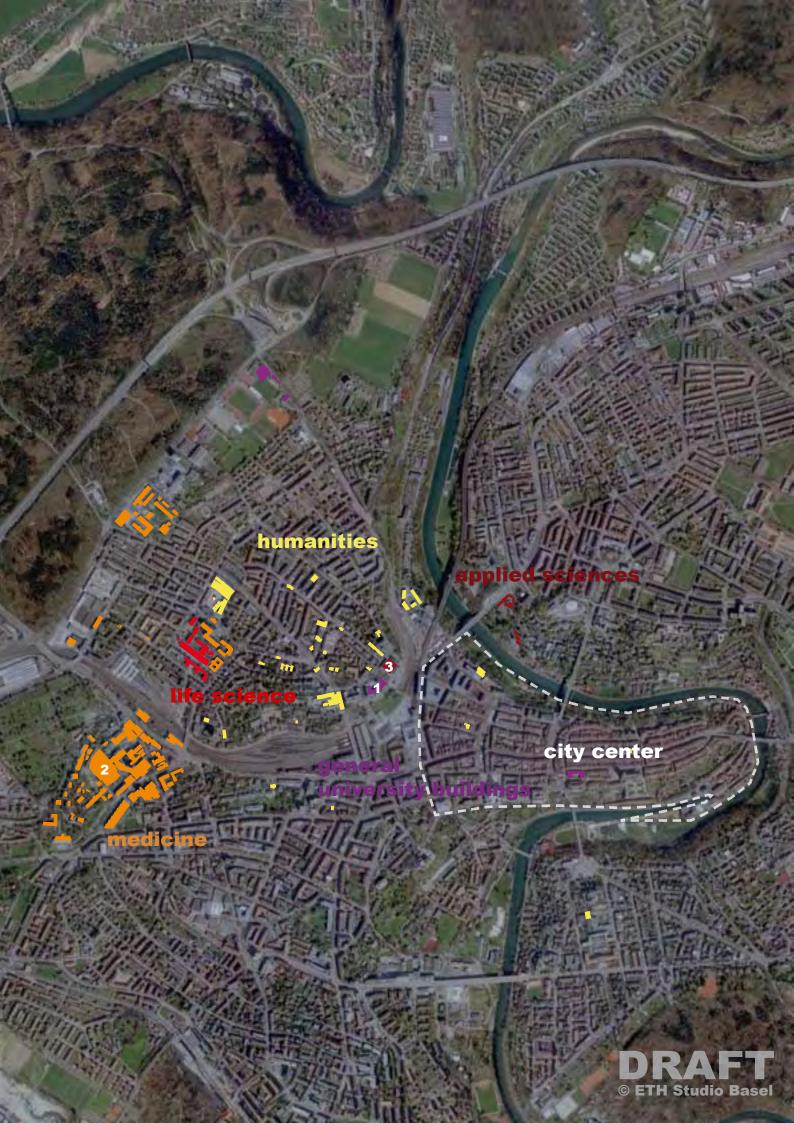
All natural sciences such as medicine, applied sciences and life science are concentrated in several clusters outside of the city center. The humanities are spread out over the whole city in single buildings.





- 1 University Bern, main building
- 2 Inselspital, medicine
- 3 institute for exact sciences





### COMPARISON FREIBURG D - CLUSTER UNIVERSITY



All the different faculties are organised in clusters, while the humanities are in the city center and all the natural sciences in the outer city.





- 1 faculty for applied sciences
- 2 university hospital
- 3 humanities, center university







### COMPARISON MULHOUSE F - SECLUDED **UNIVERSITY CAMPUS**



In Mulhouse are all the university functions concentrated on the Campus de l'Illberg which is located on the edge of the city of Mulhouse.





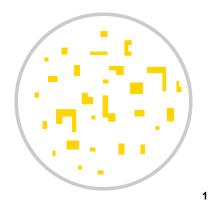
1, 2, 3 Campus de l'Illberg





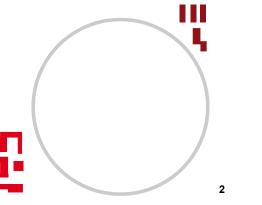


### COMPARISON BASEL - LEARNING FROM GOOD **ORGANISATION PATTERNS**



Humanities are usually found near the city center and are organised in the existing city structure since no big coherent areas are needed.

In Basel, the existing university buildings in the center can be left and transformed for the humanities.

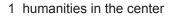


3

Natural sciences are often found as clusters a bit outside of the city center.

In Basel, these are the faculties which could move out of the existing university structure, especially the life science studies which want to grow in the future.

If there are several university locations in a city it is a good idea to connect these in some way as seen at Charles River.



- 2 natural sciences in clusters
- 3 connecting element







# LINKING THE UNIVERSITY AREAS

### **URBAN PLANNING**

present development in Basel

For being able to find a place where the University Basel could extend to, there is a need to zoom out and realise where urban planning and development is currently happening in Basel and its surrounding.

By finding the places of current university and life science planning, some links for the University Basel's desired new life science education location can be found.

The meaning of a university for a city can give information on how much university development can contribute to general urban development.



### URBAN PLANNING AREAS WITH POTENTIAL









- 1 Gare St-Louis
- 2 Neuallschwil -Hégenheim
- 3 Felix-Platter Hospital / PUK
- 4 Novartis-Campus

5 Huningue

- 6 Port Kleinhüningen
- 7 Vitra Design Museum
- 8 DB-Freight Depot

9 DB-Areal

- 10 Rosental-Areal Syngenta
- 11 Roche
- 12 Basel main station

13 Dreispitz

- 14 Port Birsfelden
- 15 Muttenz Industry





















### URBAN PLANNING EXISTING AND PLANNED **UNIVERSITY AREAS**



Concentration of university facilities around Petersplatz / Schällemätteli to create identity for the city university.



The faculty of law has new facilities near the Basel main station station. The University Basel wants to extend here.



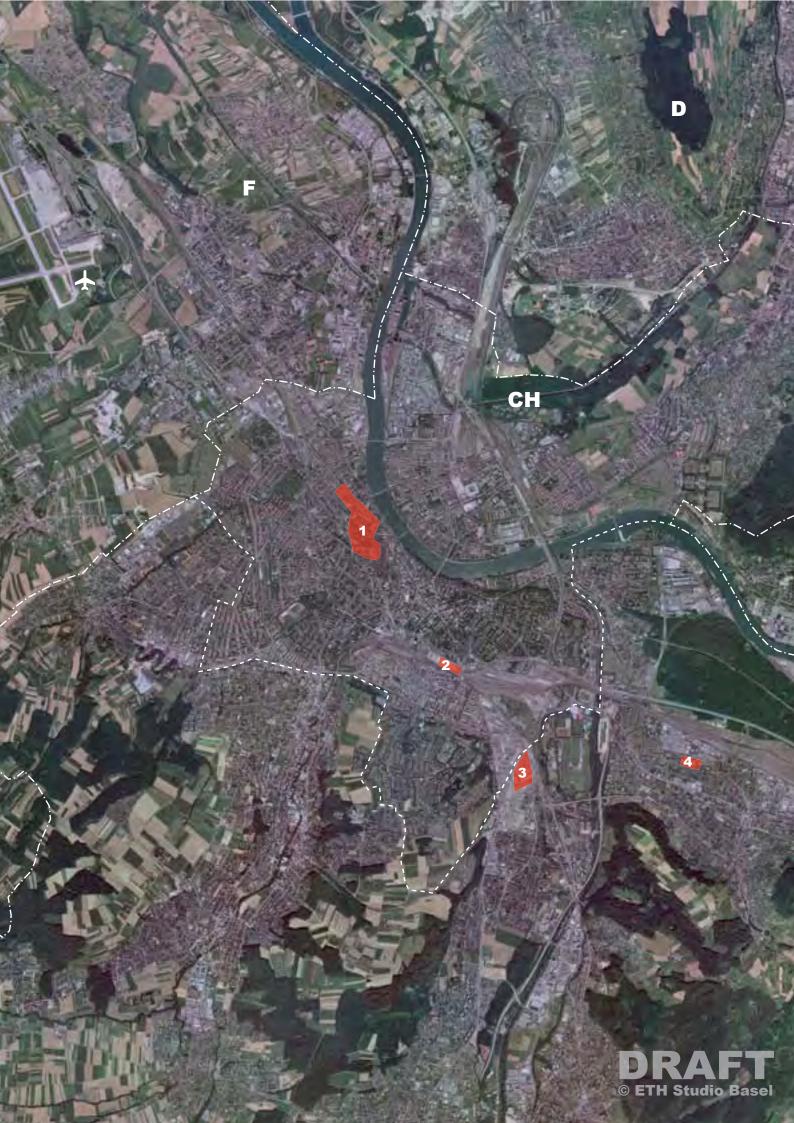
A new university campus for the faculty of art and design of the FHNW will be realised in the Dreispitz-Areal.



The university location in Muttenz will be extended to a life science campus for the FHNW.

- 1 Petersplatz / Schällemätteli, University Basel
- 2 Jakob-Burckhardt-Haus, Basel main station. **University Basel**
- 3 Campus des Bildes, Dreispitz, FHNW
- 4 Life Science Campus, Muttenz Industry, FHNW





### URBAN PLANNING BIG LIFE SCIENCE PLAYERS



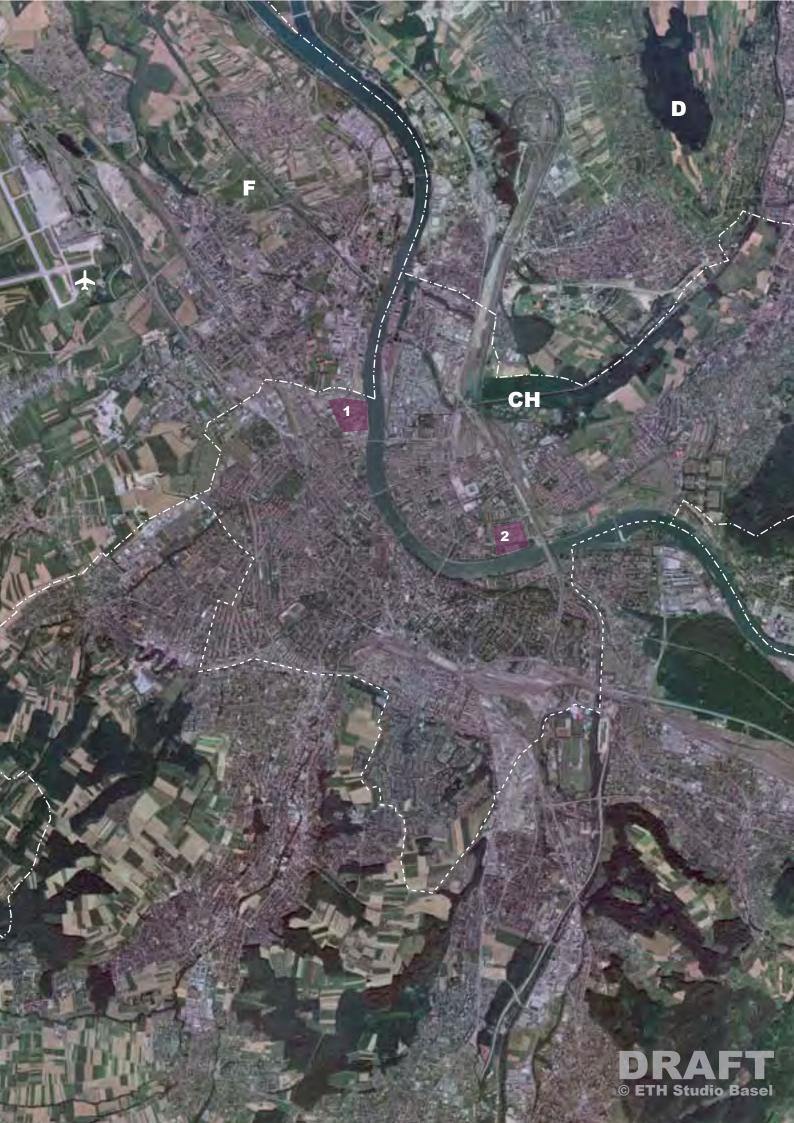
Novartis transforms the area of St. Johann into the Campus des Wissens - a spacially defined campus.



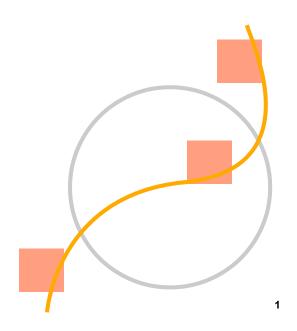
Roche wants to concentrate all its facilities in the Wettsteinquartier where new buildings will be added.

- 1 Novartis-Campus
- 2 Roche





### URBAN PLANNING UNIVERSITY CONNECTION



Existing and planned university areas can be seen as connected by a university path which extends towards the south.

A similar path could develop towards the north over the trinational boarder by introducing new university areas.

1 Reference: university path at Charles River





### URBAN PLANNING STUDENT LIFE AS A MOTOR FOR URBAN DEVELOPMENT

Different to ordinary business people, students usually live in the city and do not only work there. Since they do not have to pay taxes like ordinary business people, they can afford to live in the city. Therefore student life takes place in the city.

The students use the city and the things it has to offer, such as public infrastructure and cultural institutions.

A big urban development, such as the suggested university extension to the north, can only be realised when there are enough people which act as a motor for such a impulse. This is a reason why especially a university can be seen as a motor for urban development.

relations in use of means of transport from home to the city center



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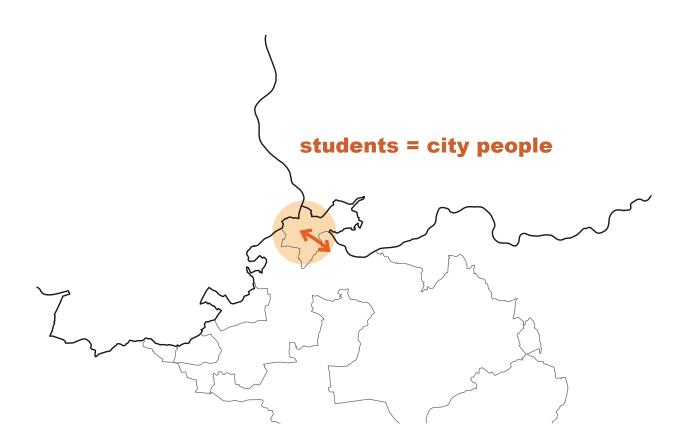
students use:



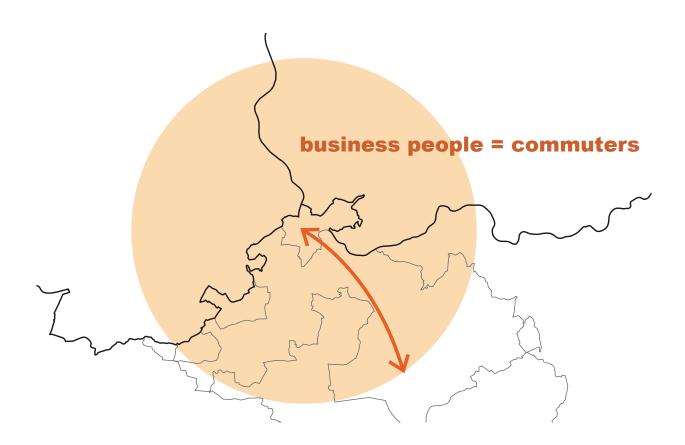


business people use:





way from home to working place for students



way from home to working place for business people



# PATH DEVELOPMENT

PROPOSAL

#### connection

The strategy of introducing a linking element between the existing university zone and the planned university area at the trinational corner creates a connection.

The connecting element will be two paths with different characteristics. An individual bike and walking path leads along the Rhine and public recreation areas, while a university bus path has the purpose to connect train station St. Johann with all university areas by a shuttle bus.

The university buildings and other facilities for student life will be along these two paths and do strengthen this path direction.



PROPOSAL TRINATIONAL CORNER -KLEINHÜNINGEN CH

port Rhine front

logistics

hundrent

# artist studios

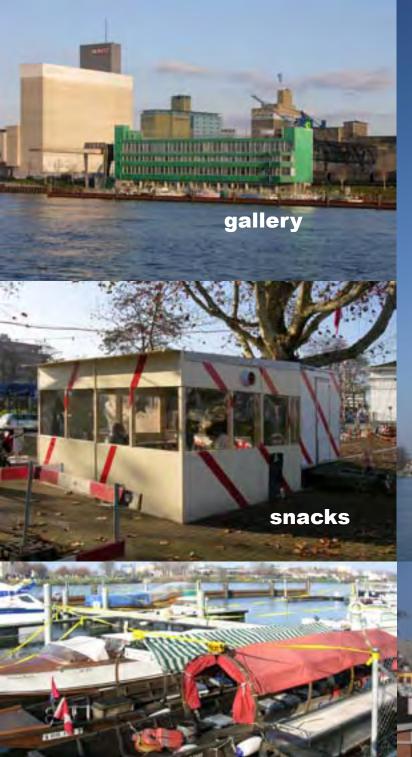
### tourist restaurant

massive port buildings



warehouses

1



water taxis

port customs office

© ETH Stu

trinational

monument

corner

silos as barrier to the Rhine front

railway tracks

.....

**MIN** 

PROPOSAL TRINATIONAL CORNER -WEIL AM RHEIN D

### Vitra design museum

BAR

shopping and entertainment

# railway tracks in use

**Vitra production** 



archaic area behind Vitra

living quarters

bridge over railway tracks

000

PIZZERIA

BUKLU

China Restaurant Lotus

muvic-

Grill & Pizzeria

Dotberger Schloß

G-STAR

TOURIST

SEX-S

REWE

NKD

overgrown railway tracks

new pedestrian bridge to Huningue F

# main street through Weil

green area between highway and railway tracks

a area



### PROPOSAL TRINATIONAL CORNER -HUNINGUE F

# Huningue center

picnic area

cheap living

n n n mm

beach at the Rhine bank

picturesque DRAvillage character © ETH Studio Basel

houses before demolition

## industry areal

Sec. 4.

living quarter

**Rhine walk** 

camping ground

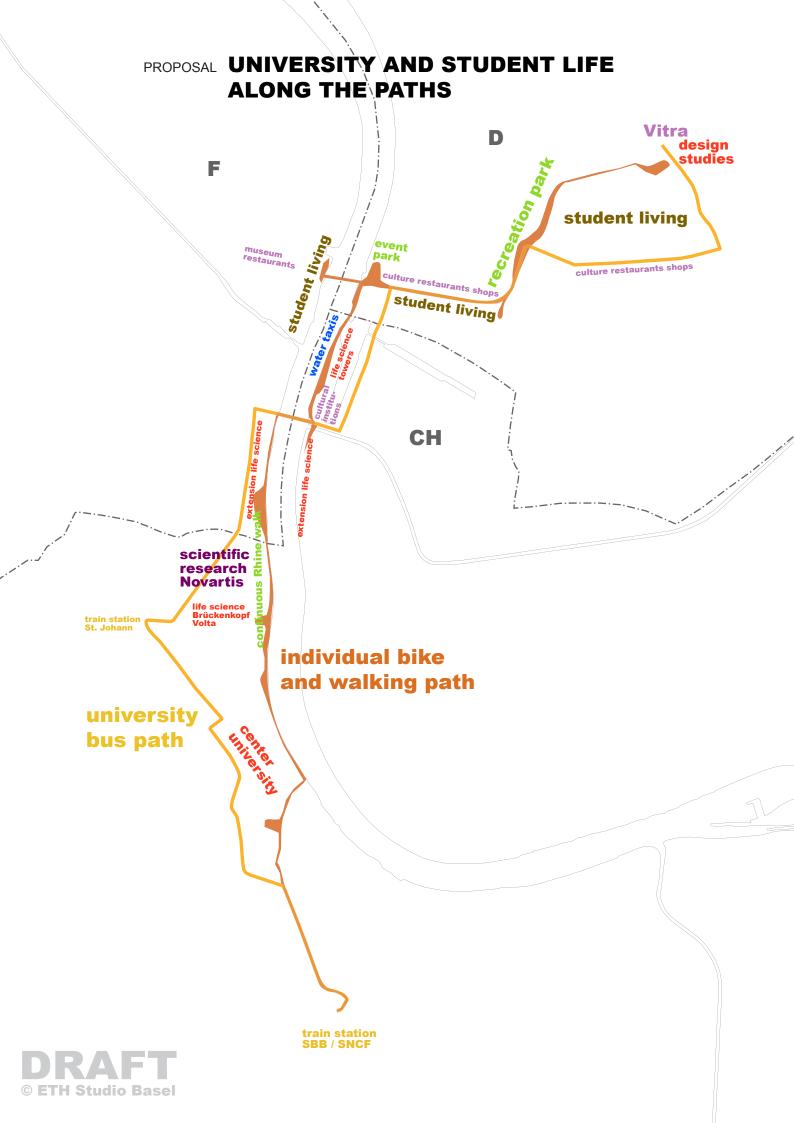
secluded life science industry

residential blocks

1111

m

Rhine walk in front of barriers RAFT © ETH Studio Basel





### PROPOSAL INDIVIDUAL BIKE AND WALKING PATH



An individual bike and walking path connects the existing university around Petersplatz / Schällemätteli with the clusters of the new trinational university in the north.

This university path goes along the Rhine and through public recreation areas such as parks. It leads intentionally not along the traffic streets, since it should be a separate way for students.

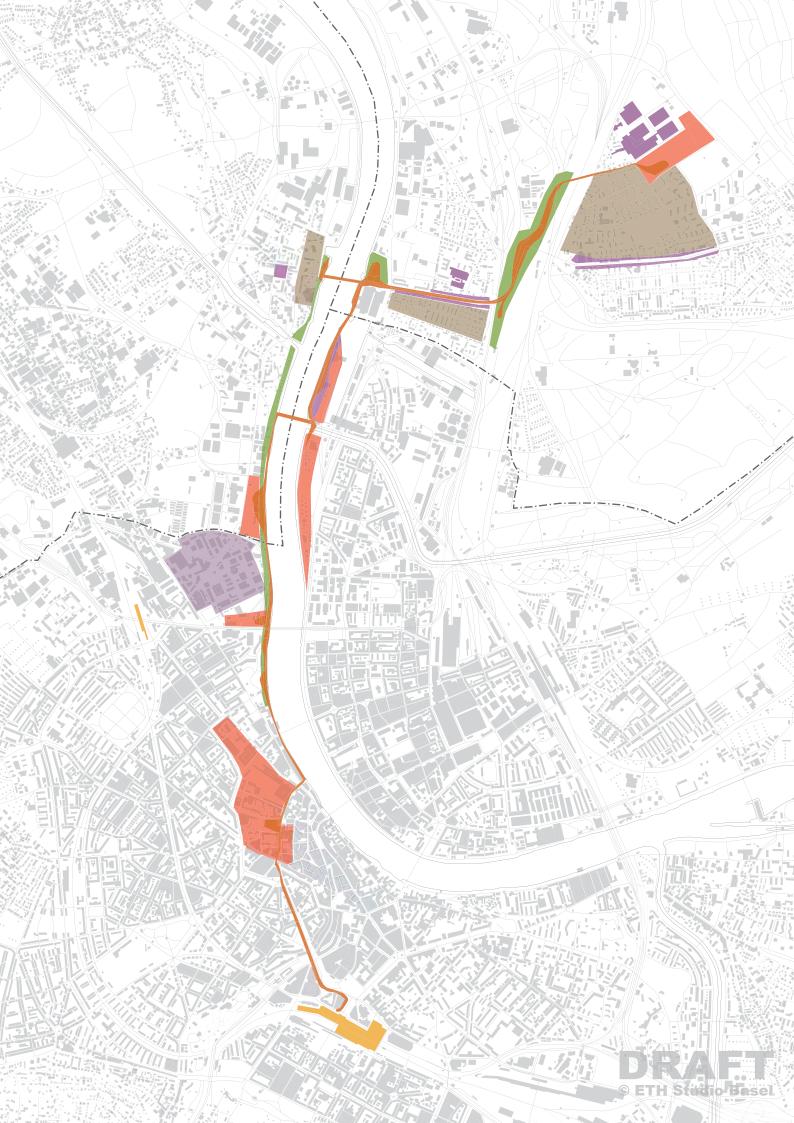
The individual character shows up in its way of expansion at important student places such as public areas of the university zones and park areas.





- 1 walking for short distances
- 2 bicycle for longer distances
- 3 bike and walking path along the Rhine





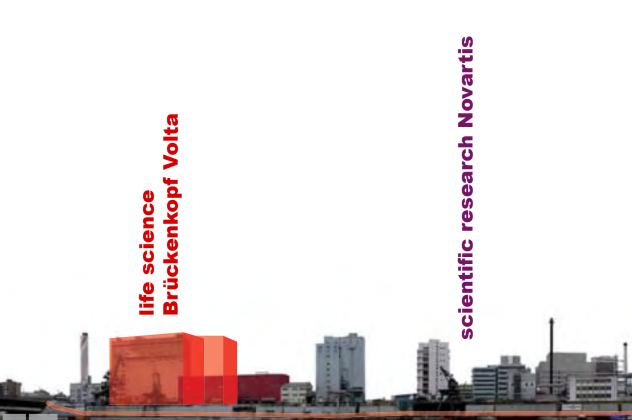
### PROPOSAL EXPERIENCE THE STUDENT FACILITIES ALONG THE PATH

continuous Rhine walk up to Huningue

The Novartis masterplan intends to have new university buildings for life science at Brückenkopf Volta and a continuous path along the Rhine which connects Basel with Huningue. North of the Novartis campus could be an extension area for university life science studies.





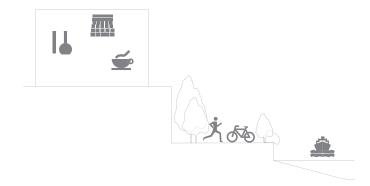


Studio Ba

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reference: existing Rhine walk in Huningue

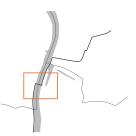


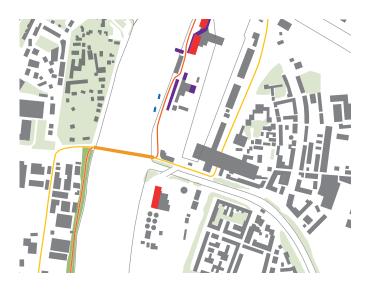


© ETH Studio Basel

culture on and in existing port structures

A new bridge for pedestrian and public transport connects France with Switzerland over the Rhine. Existing port structures have potential for cultural development on the port peninsula.

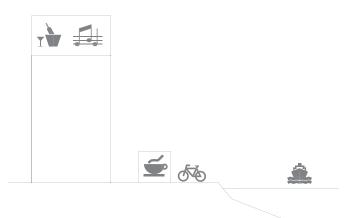








reference: port buildings at Innenhafen Duisburg



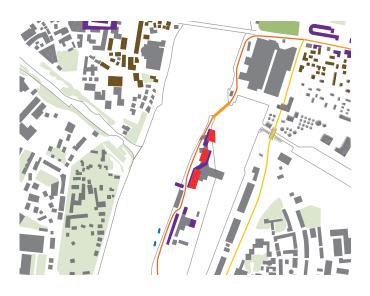
# extension life science

- new bridge CH - F

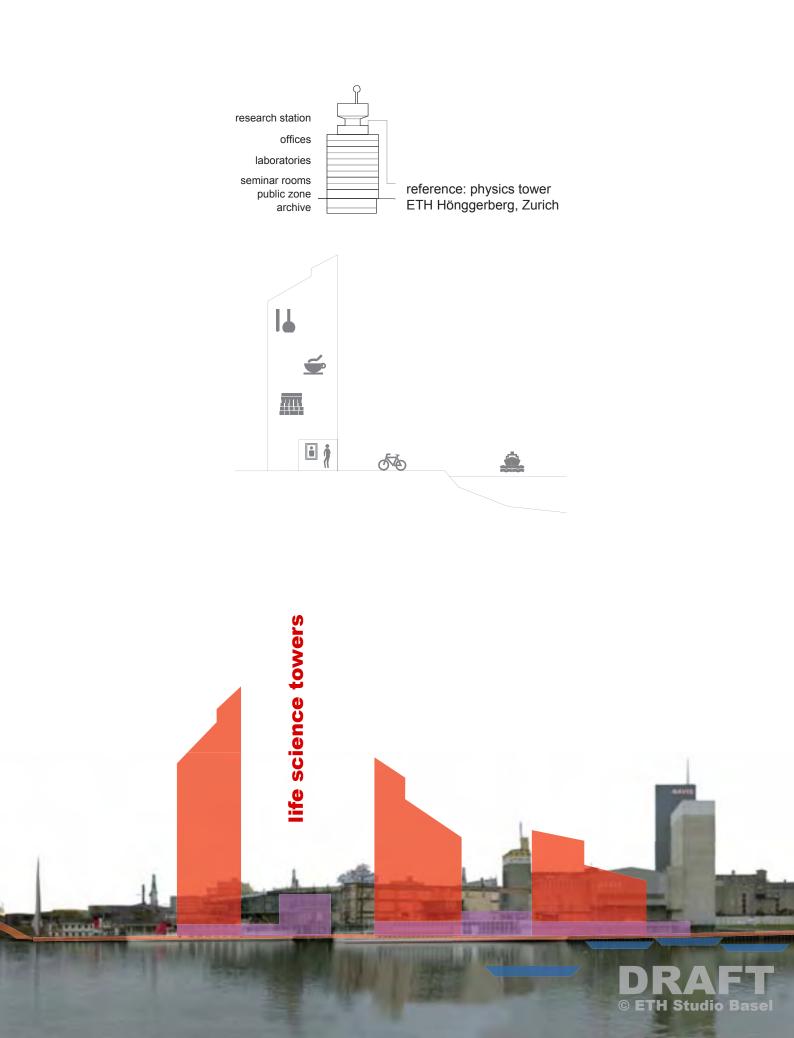
© ETH Studio Basel

life science towers

On the peninsula's edge, life science towers rise and act as landmark for the trinational corner. A new pedestrian bridge connects Switzerland with Germany.

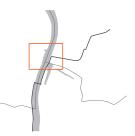


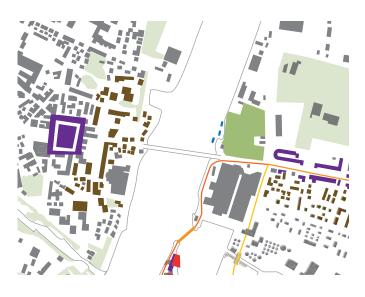


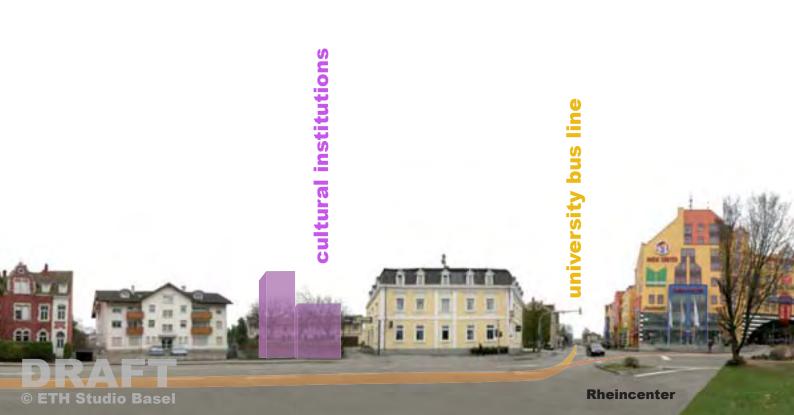


event park

Active student life takes place in and around the event park. It acts as connecting part between Weil and the center of Huningue where a new pedestrian bridge leads to.









reference: event areas at Venice Beach, Los Angeles

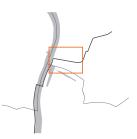




shops and restaurants in Weil am Rhein

A street with shops, bars and restaurants leads through Weil am Rhein. It is the place where the bike and walking path and the university bus path come together because of its density.









reference: street café for students and others





recreation park

Relaxing student life can take place in the recreation park. Some of the existing track field is being used for that purpose. A new pedestrian and bike connection brings the students to the other side where Vitra is.







**vele track** 





reference: recreation areas in Central Park, New York







design studies at Vitra

Vitra is extending their areal with new buildings by Herzog & de Meuron and SANAA. Additional to that, the university could build a new faculty for design studies in cooperation with Vitra.





design studies





reference: Vitra design collection for student inspiration





### PROPOSAL UNIVERSITY BUS PATH



The university bus path is a streight connecting line with a total different character than the individual university path. Main purpose is the fast connection between the different university areas.

Railway station St. Johann becomes the university train station for commuters. From there, the new university shuttle bus brings the students to the center university of Petersplatz / Schällemätteli and to the trinational university in the north.

Towards the north, the bus drives over a new bridge which builds a connection between France and Switzerland and will finally end on the new design studies campus at Vitra in Germany.



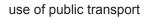
1 university railway station St. Johann

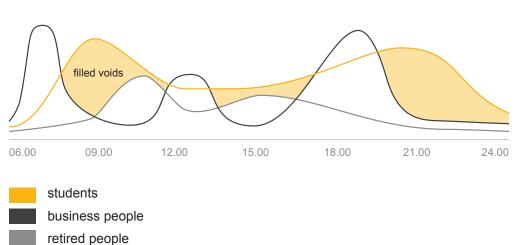
2 university shuttle bus reference: ETH bus in Zurich





### PROPOSAL TRINATIONAL BRANCH OF AN EXISTING BUS LINE





In public transport, the voids between the morning an evening peaks of business people can be filled with students using the net of public transport, since they generally travel at a different time.

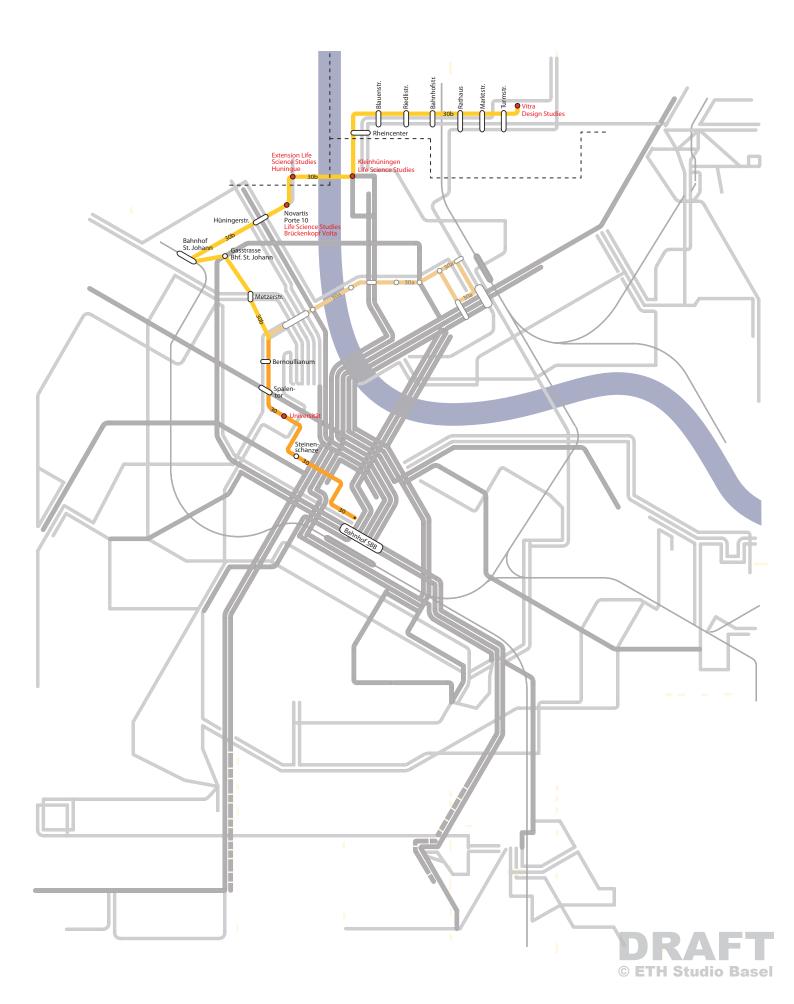
Since students fill these voids in such a good way, they can finance an additional line of tram or bus in a city, such as a university shuttle which connects the different university clusters in a comfortable way for students.



The existing bus line number 30 from Basel main station is used and extended with a new branch 30b over the French and German boarder.

1 new bus line 30b to Vitra Design Studies via railway station St. Johann







## **TRINATIONAL VISION** CONCLUSION

trinational responsible body

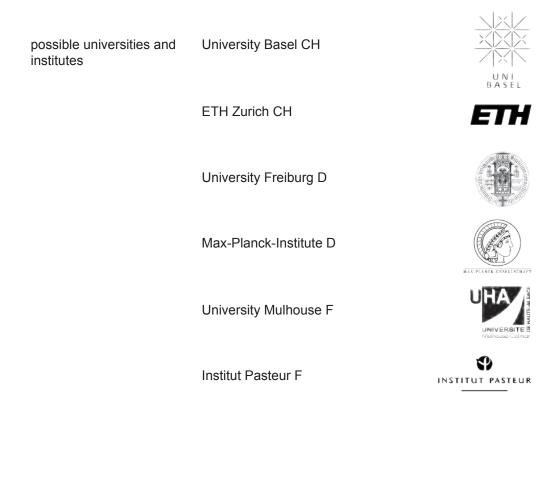
A university proposal which leads over the boarders of Switzerland can only be realised with a trinational responsible body, so French, German and Swiss education can meet in the area of the trinational corner.



CONCLUSION UNIVERSITY BASEL AS TRINATIONAL UNIVERSITY

> By uniting possible actors for a trinational university, the boarders of the three nations of France, Germany and Switzerland can be overcome.

The actors could be other universities and institutes having some of their faculties in this place and companies from the private economy which could cooperate with the university for mutual inspiration and research exchange.



possible private companies

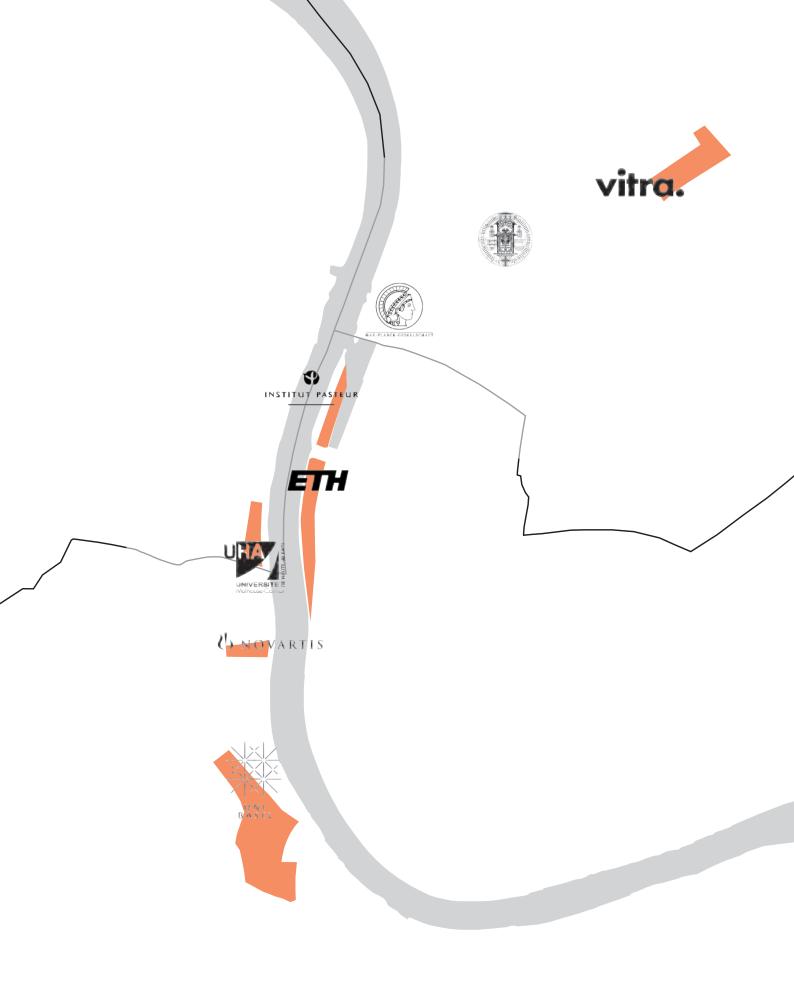
Novartis CH

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# CONCLUSION NEW RESPONSIBLE UNIVERSITY BODY



A trinational university could be a chance for successful urban development at the trinational corner.

This new planned university could have a new responsible body consisting not only out of two cantons like it is now, but it could consist out of the three nations of France, Germany and Switzerland.





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sources

books, brochures magazines webpages (comparison of universities) webpages (areals in Basel) webpages (Basel general)

contacts

University Basel



sources	
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