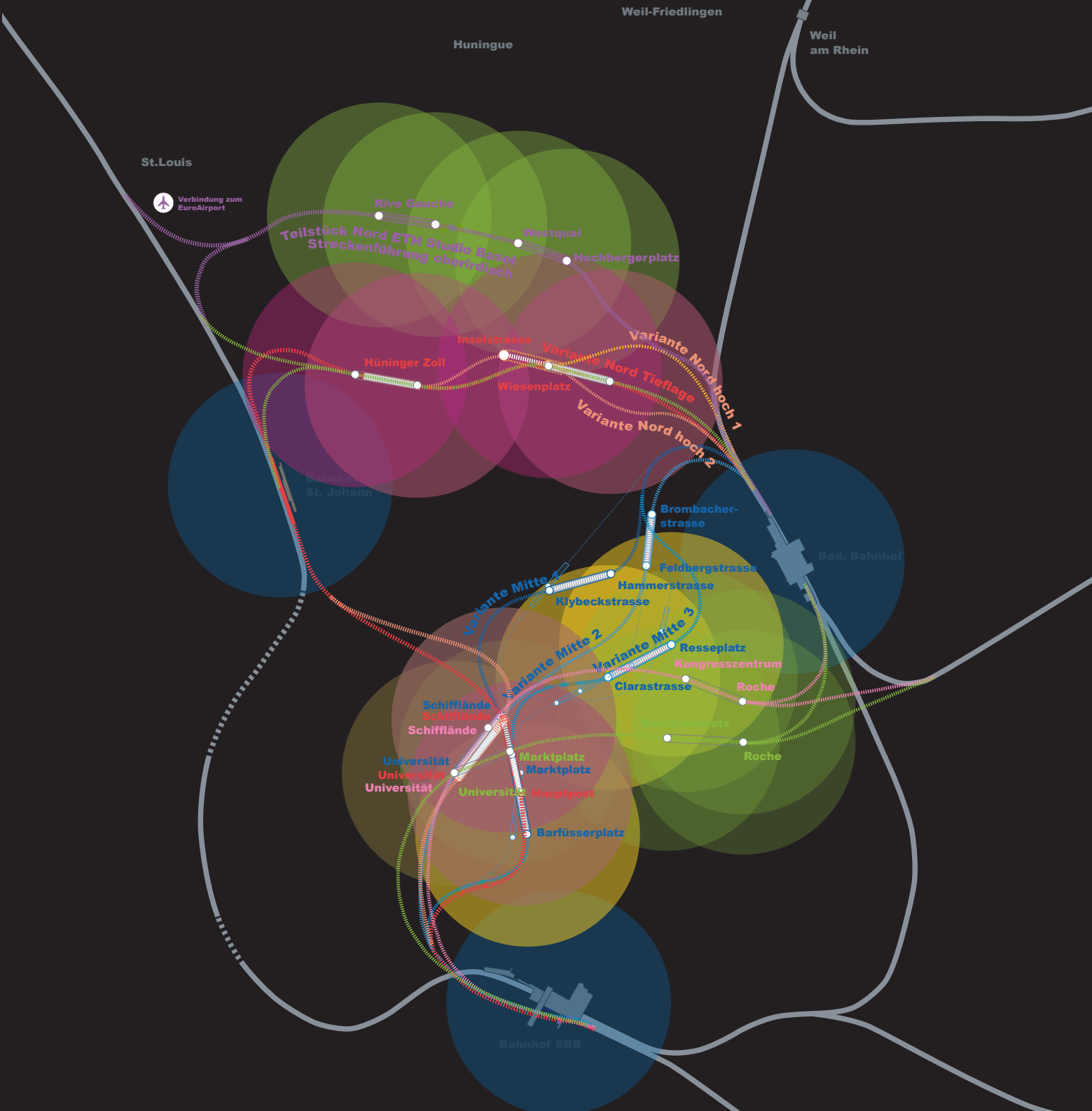


REGIO-S-BAHN BASEL HERZSTÜCK





14

Messplatz-Dreirosenbrücke

489

489

weizer

WSKI



11

OCHSNER SCHUHNE + SPORT
coop city

Information board with text and symbols

Bata



Basel St. J

DRAFT
© ETH Studio Basel



ohann

DRAFT
© ETH Studio Basel



NOVARTIS

K&M

DRAFT

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Caratteristiche del tuo gruppo
con i telefoni.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Telefonia mobile a tariffa unitaria
verso tutta l'Europa.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

UNIVER
COMPLETAMENTE



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

REGION-S-BAHN BASEL HERZSTÜCK

**AN URBAN PLANNING RESEARCH AND CONCEPT
HEARTPIECE OF FAST CITY TRAIN SYSTEM
FOR THE CITY OF BASEL IN SWITZERLAND**

**PROJECT METROBASEL
ETH STUDIO BASEL
CONTEMPORARY CITY INSTITUTE
WINTERSEMESTER 2006/2007**

**PROFESSORSHIP JACQUES HERZOG and PIERRE DE MEURON
ASSISTENT SIMON HARTMANN, MANUEL HERZ, ANN - SOFI RÖNNESKOG**

STUDENT DONG GYU KIM and LIBEI ZHAO

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PREFACE

Since 1999 Jacques Herzog, Pierre de Meuron, Roger Diener and Marcel Meili began with the research of urban development at ETH Studio Basel. The city of Basel with its neighbouring metropolitan areas is one of the research objects in the project « The Switzerland - An Urban Portrait ».

The construction of the S-Bahn Herzstück, a heartpiece of the fast city train system of Basel, became a frequently mentioned topic which has since a long time been a programme of the Trinationalen Agglomeration Basel (TAB). The Canton of Basel City, Canton of Basel Village and the SBB (Swiss Federal Railway) carried out a research under the name Herzstück Regio-s-Bahn (Heartpiece of the Fast City Train System), for the possibility and feasibility of the construction of the Herzstück.

The S-Bahn Herzstück project, together with other various projects at ETH Studio Basel, also composes the urban planning research landscape of Metrobasel project, which highlights the future of life science and urban development in Basel metropolitan region, one of the most important and prestigious contemporary regions for lifescience in the world.

Our work deepens the Theme Regio-S-Bahn Herzstück related to the necessity and possibility of the construction of the Herzstück in Basel. Basic sense of S-Bahn is introduced. Situation and potential of Metrobasel region relevant to S-Bahn are analysed. Approach, theoretical modell, concept and tools demonstrating the optimization of Herzstück in Basel and chances for a better and more efficient life of the whole Metrobasel region are addressed.

We would like to convey our sincerest and best acknowledgement to our Professor Jacques Herzog and Pierre de Meuron, Who have given us very insightful and helpful suggestions and critics during the semester at Studio Basel. Also special Thanks to our assistants Simon Hartmann, Manuel Herz and Ann-Sofi Rönnskog for their generous help, which accompanied us throughout the whole project.

Basel and Zurich, Switzerland
January 2007

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S-BAHN: A GENERAL VIEW

The S-Bahn is a suburban metro railway network in Germany, Austria and Switzerland. The name is an abbreviation for "Stadtschnellbahn" (fast city train) and was introduced in December 1930 in Berlin, after "SS-Bahn" (Stadtschnell...) had been unofficially in use already. The S-Bahn is a railway that serves metropolitan traffic as well as direct regional traffic, and is characterised by a synchronised timetable that allows for denser train traffic on the rail lines. This is achieved by the use of separate tracks, electric locomotives and train doors at platform level (in some cities these standards are not met though). The symbol for the S-Bahn in Germany is a white "S" on a green circle.

In Austria S-Bahn lines and stations are displayed by a blue circle with a white, cornered 'S' in it. There are proper S-Bahn Systems in Vienna and Salzburg. The Viennese System is very large, old and well-known. In Switzerland, S-Linien (S-lines) is displayed in black letters on a white background. From the term S-Bahn come many similar notations, like the name R-bahn for regional trains, which do not meet S-Bahn criteria.

The term "RER" (Réseau express régional), used in France and western Switzerland, and the "S-tog" in Copenhagen are very similar to the S-Bahn. In the United Kingdom, Merseyrail (Liverpool) and the SPT Rail Network (Glasgow) are roughly equivalent to S-Bahns.





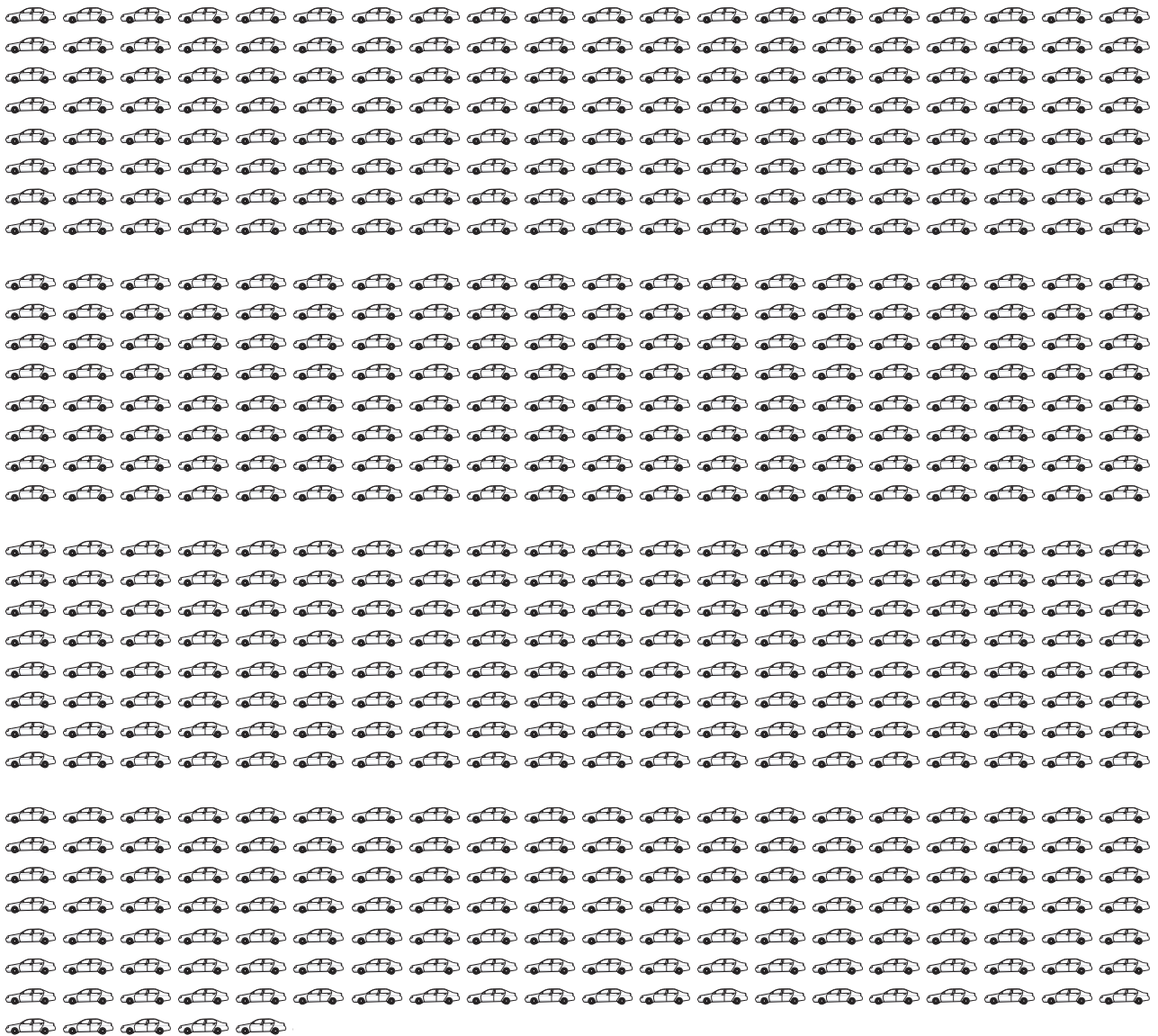
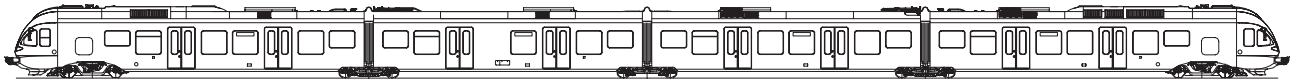
WHY S-BAHN

In comparison to the other railway regional traffic the fast city train (S-Bahn) exhibits a higher efficiency, in addition, shorter station distances. Stations and station surrounding fields are heterogeneous, most complex areas - geographically, structurally, functionally and concerning the participants.

This leads to closer relationship between the core city of a region and its satellite clusters as well as among the suburban areas.

The volume of transportability of S-Bahn is also dramatically better than bus, tram and private cars. Due to its efficiency with transportation, S-Bahn relieves the pressure of other urban public and private transportation modes. Indirectly this avoids various problems in contemporary cities such as traffic jam, traffic pollution, etc.

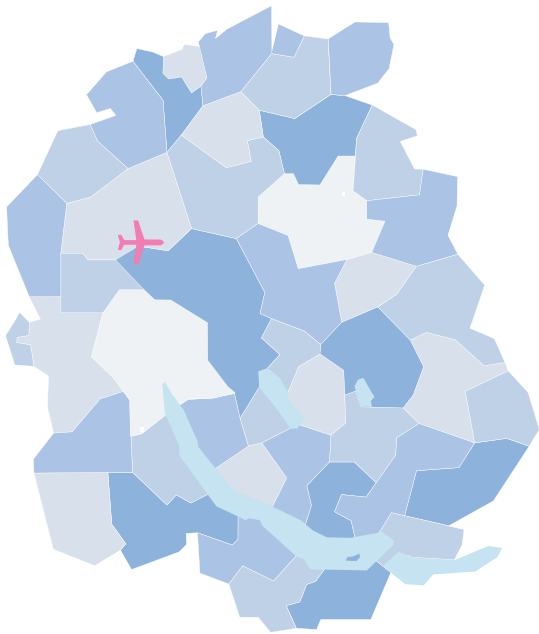




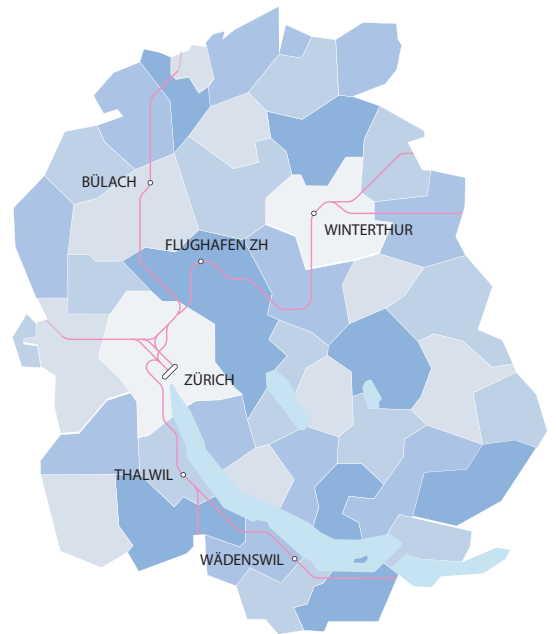
The New S-Bahn Flirt :
Seat 180
Stand Place 297
Total 477 Passengers

477 Passengers = 625 Private Cars
625 Private Cars = Colum ca. 5.5 km

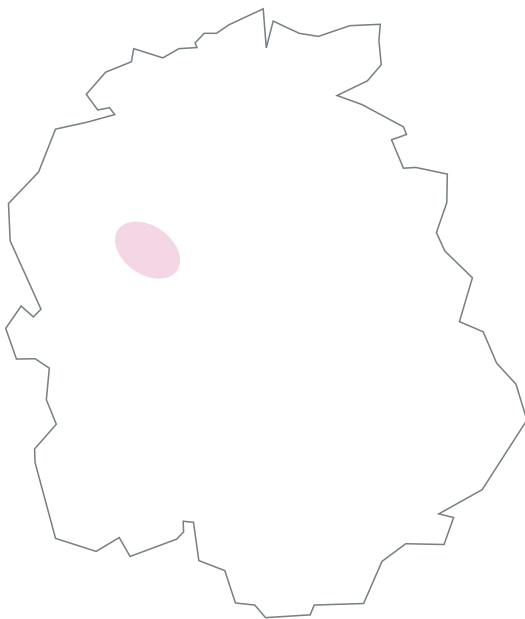
S-BAHN: SEMIFINE DISTRIBUTION



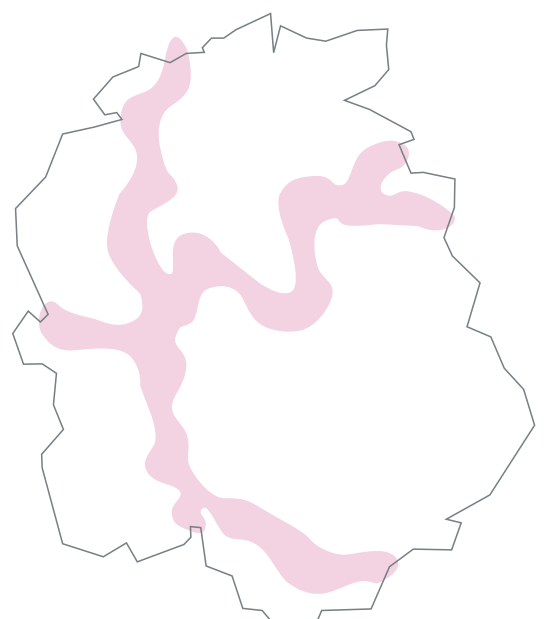
Plane



Train

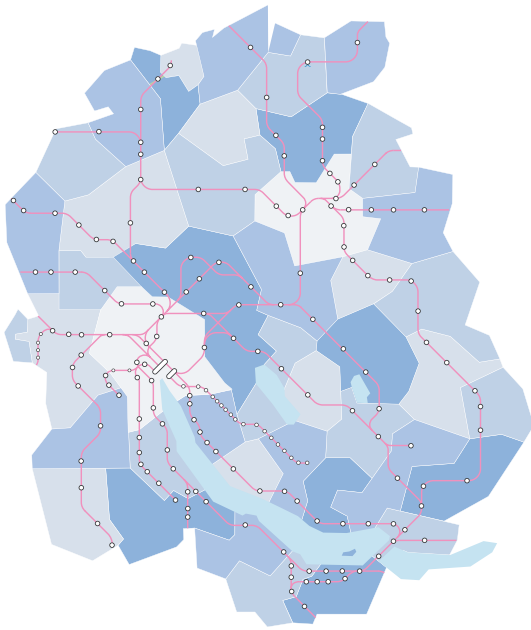


Point - Rough

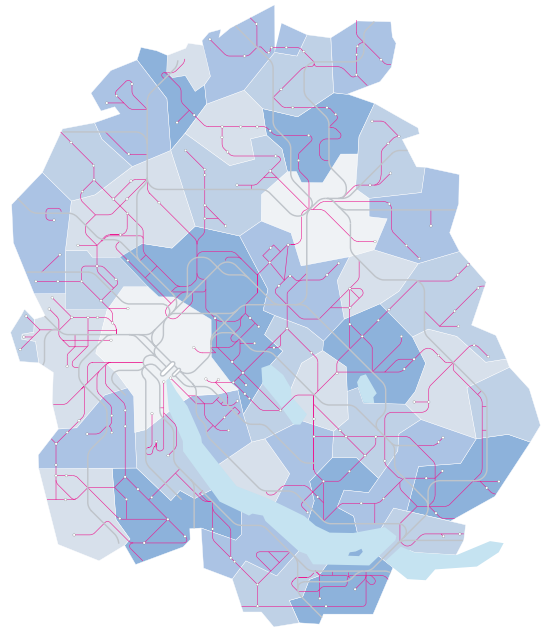


Line - Semi-rough

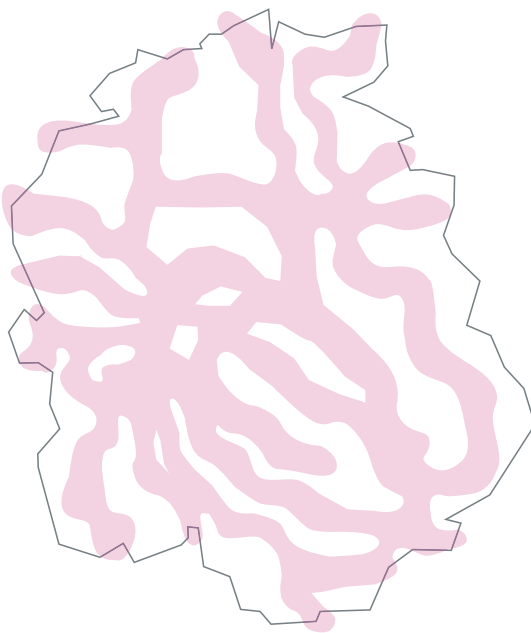
Case: Agglomeration of Zürich Metropolitan Region



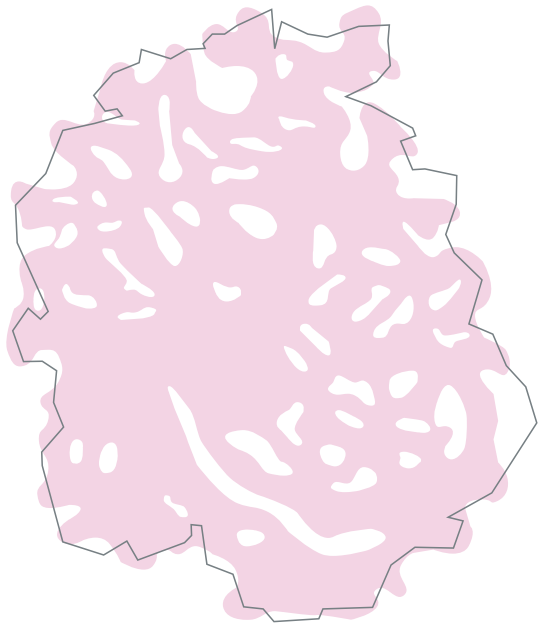
S-Bahn



Tram and Bus

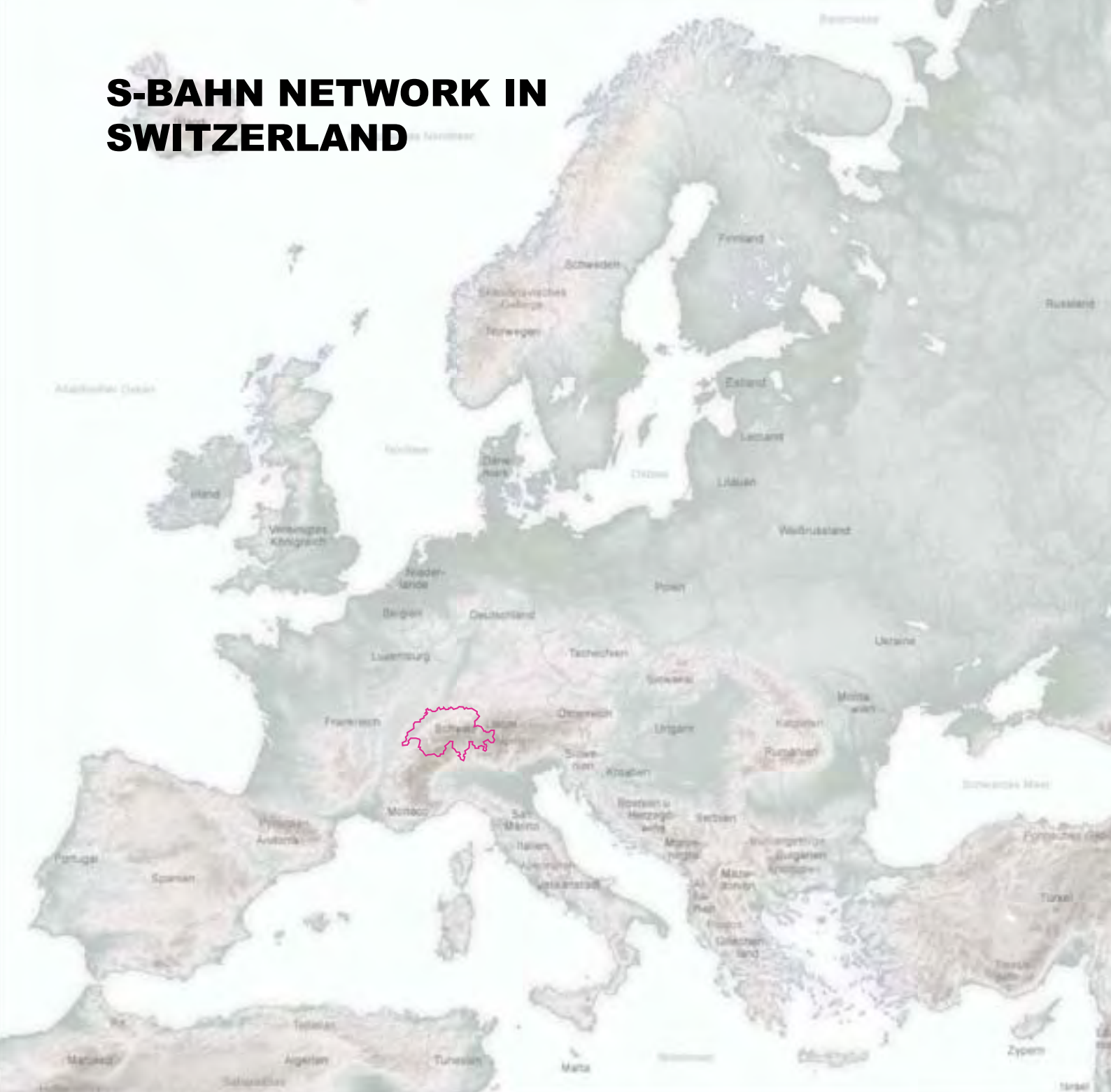


Net - Semi-fine



Face - Fine

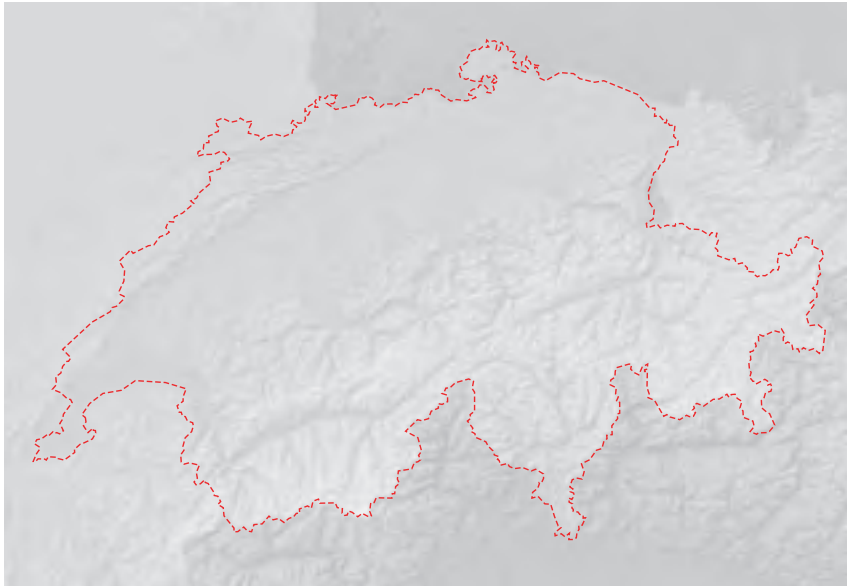
S-BAHN NETWORK IN SWITZERLAND



S-Bahn is generally used in German-speaking Switzerland. While French publications of those networks translate it as RER, the line numbers are still prefixed with an S (e.g. S2).

The oldest network in Switzerland is the Bern S-Bahn, established in 1987. It also is the only one in Switzerland to use a colored “S” logo. In 1990, the Zürich S-Bahn, which covers the largest area, went into service. S-Bahn services were set up in the course of the initiative Bahn 2000 in Central Switzerland (a collaborative network of S-Bahn Luzern and Stadtbahn Zug), St. Gallen (S-Bahn St. Gallen) and Ticino (S-Bahn Tessin).

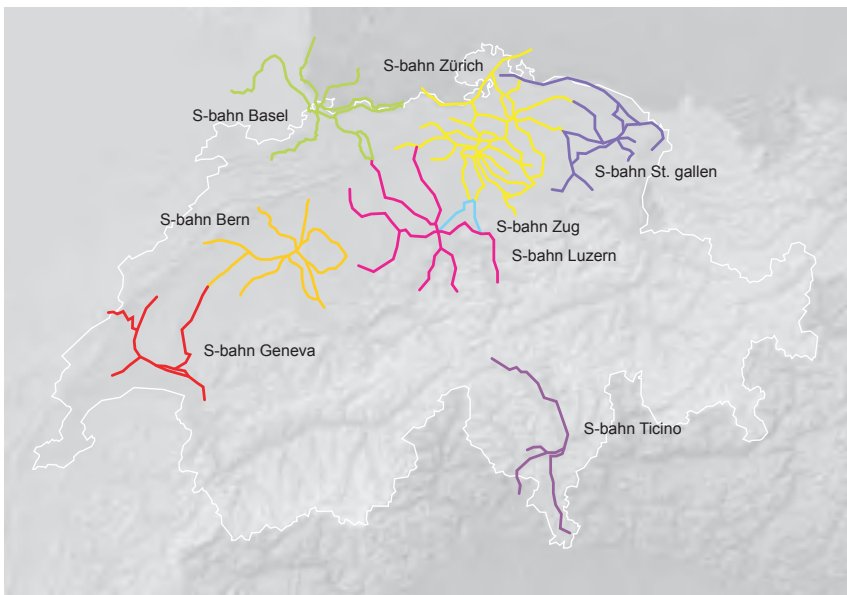
The Regio S-Bahn Basel services the whole Euroregion “Regio TriRhena”, thus providing cross-border transportation into both France and Germany.



Land Border



Railway Network

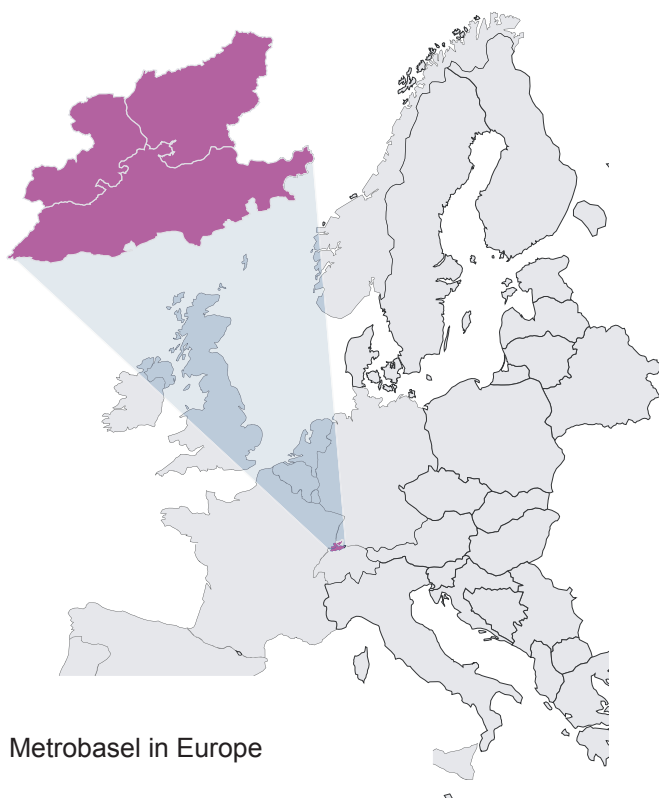


S-Bahn Network

IN METROBASEL REGIONAL CONTEXT

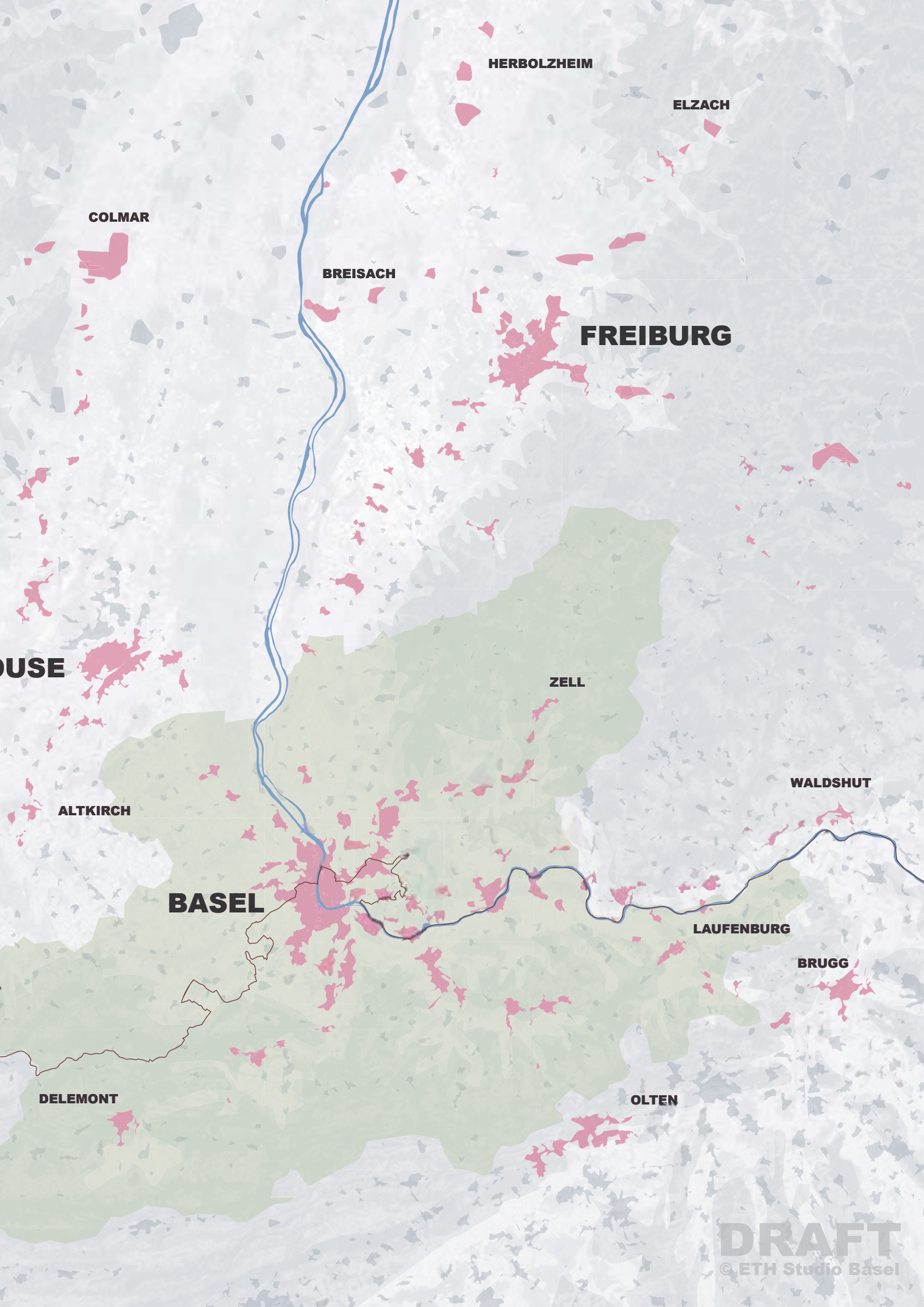
In the pan-boundary region Metrobasel live approximately 900 ' 000 inhabitants and inhabitant. The area extends more than an area 2 ' 606 sqkm.

Metrobasel - the region is around the town center of Basel, which covers also the suburbs as urbane as well as the rural areas. Metrobasel is the identity, under which the trinational metropolitan region Basel forms a unit. Metrobasel is the roof mark, under which institutions, enterprises and civil company come together- found, which contribute to the stabilization of the trinational metropolitan region Basel.



Metrobasel in Europe





HERBOLZHEIM

ELZACH

COLMAR

BREISACH

FREIBURG

HOUSE

ZELL

WALDSHUT

ALTKIRCH

BASEL

LAUFENBURG

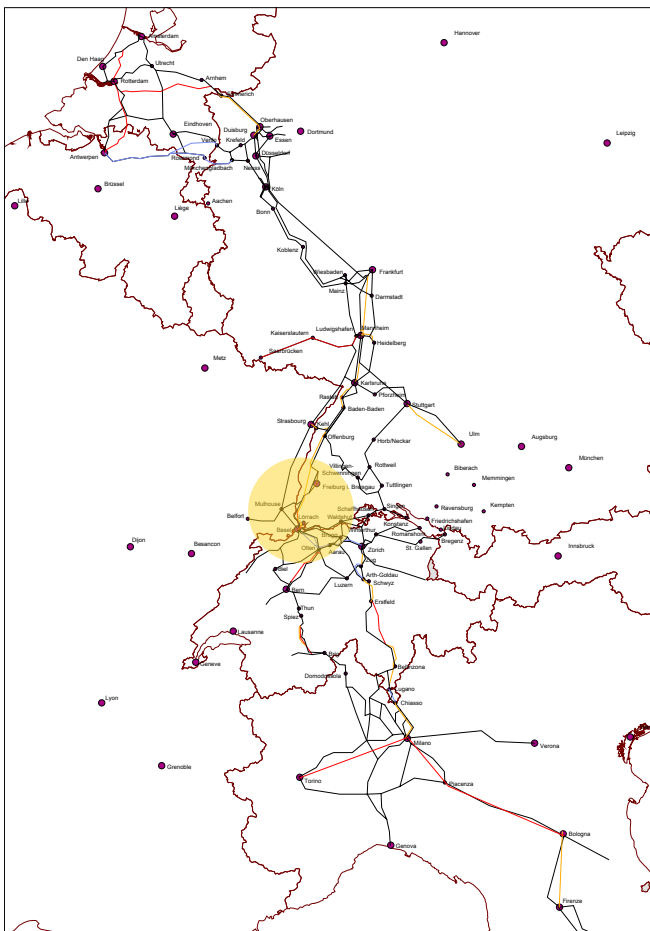
BRUGG

DELEMONT

OLTEN

DRAFT
© ETH Studio Basel

REGIONAL RAILWAY NETWORK



MULHO


BELFORT




S-BAHN NETWORK




MULHO

 S1 Mulhouse - Basel SBB - Laufenburg/Frick - Brugg (79.6 km)

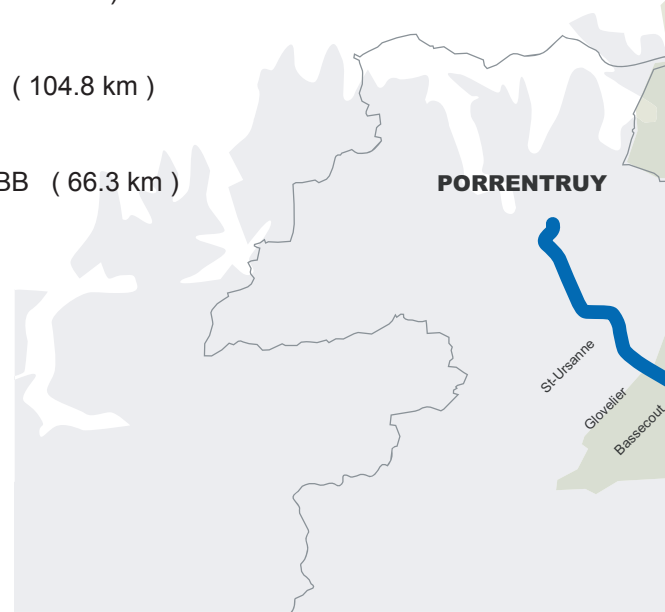
 S3 Porrentruy - Delémont - Laufen - Basel SBB - Olten (104.8 km)

 S4 Offenburg - Freiburg i. Br. - Basel Bad Bhf - Basel SBB (66.3 km)

 S5 Weil a. Rh. - Lörrach - Steinen (13.0 km)

 S6 Zell i. W. - Basel Bad Bhf - Basel SBB (28.8 km)

 S9 Sissach - Läfelingen - Olten (18.2 km)

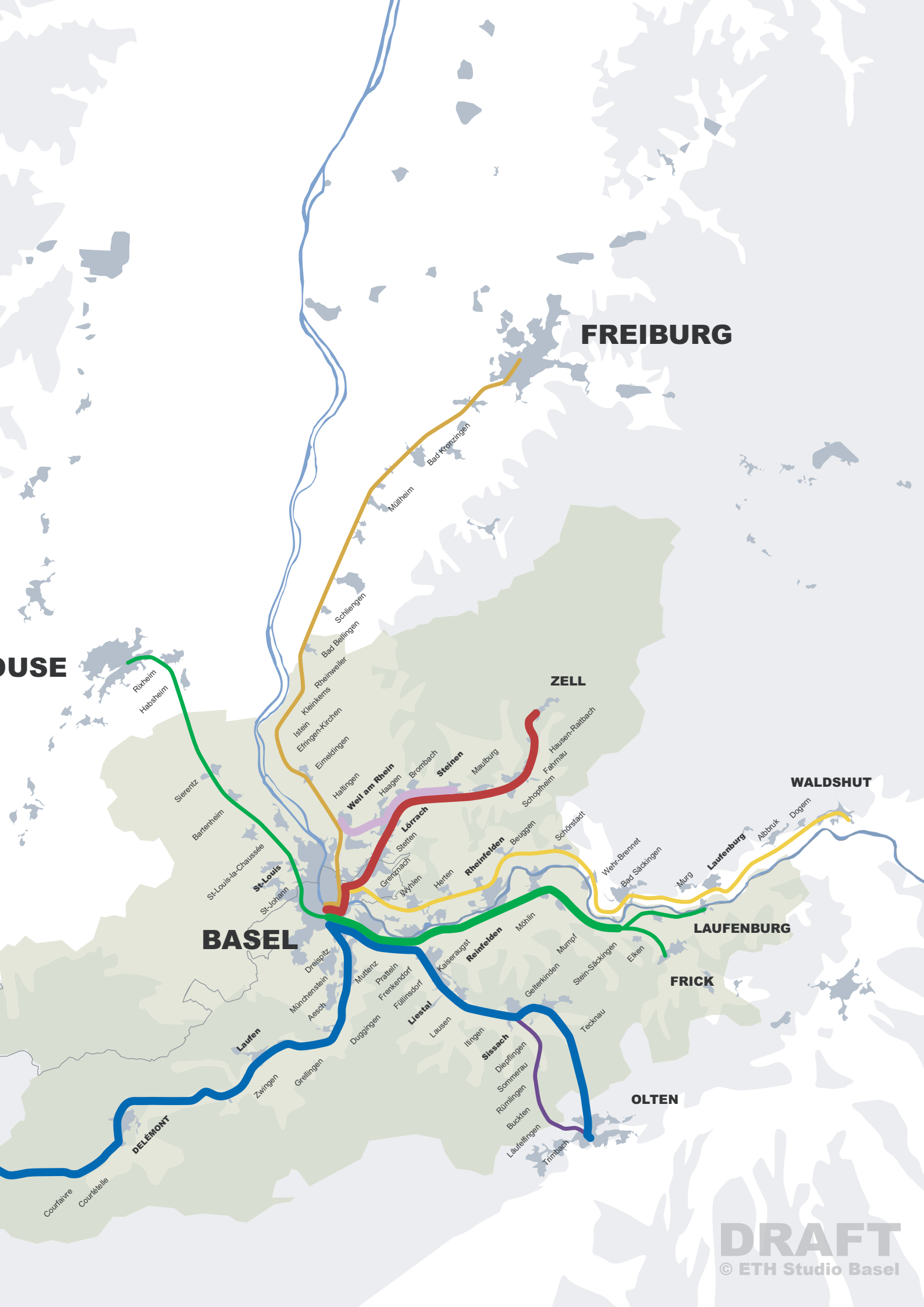


PORRENTUUY

St-Ursanne

Glovelier

Bassecourt



FREIBURG

BASEL

ZELL

WALDSHUT

BASEL

LAUFENBURG

FRICK

OLTEN

DELEMONT

DRAFT
© ETH Studio Basel

Rixheim
Habsheim

Sierentz

Bartenheim

St-Louis-la-Chaussée
St-Johann

Laufen

Zwingen

Grellingen

Dreispitz

Münchenstein

Aesch

Muttenz

Fratteln

Frenkendorf

Füllinsdorf

Liestal

Lausen

Ittingen

Sissach

Dieblichingen

Sommerau

Rümlingen

Buckten

Läufelingen

Trimbach

Weil am Rhein

Haegen

Lörrach

Stetten

Grenzach

Wyhlen

Heiten

Rheinfelden

Bauggen

Schorstadt

Wehr-Brennet

Bad Säckingen

Murg

Laufenburg

Albbuk

Dogern

Hallingen

Bad Bollingen

Rheinweiler

Kleinems

Istein

Efringen-Kirchen

Eimeldingen

Steinen

Bronnbach

Maulburg

Hausen-Paltbach

Fahrmau

Schopfheim

Mühlheim

Bad Krozingen

Schliengen

Bad Bollingen

Courfaivre

Courtélaite

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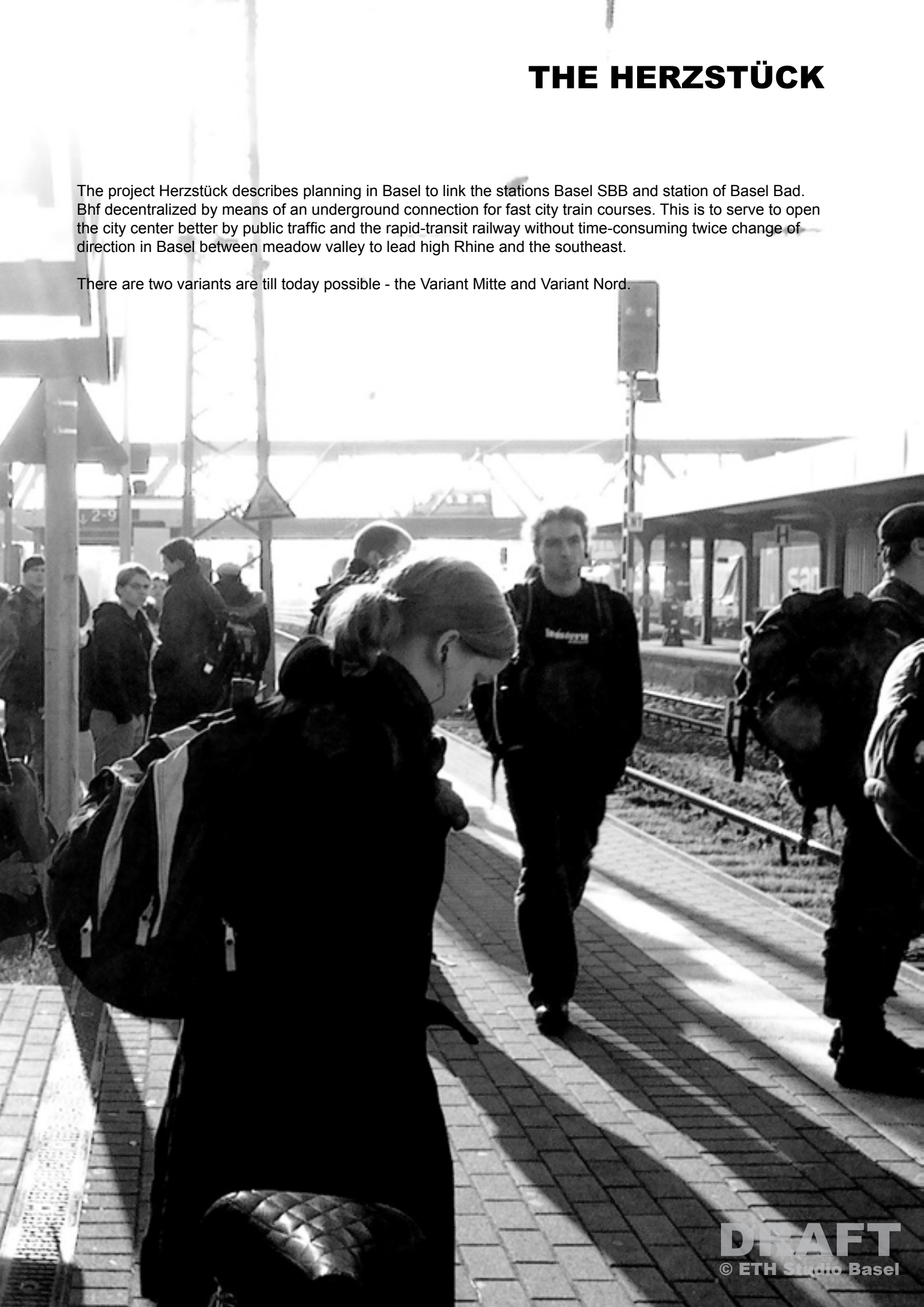
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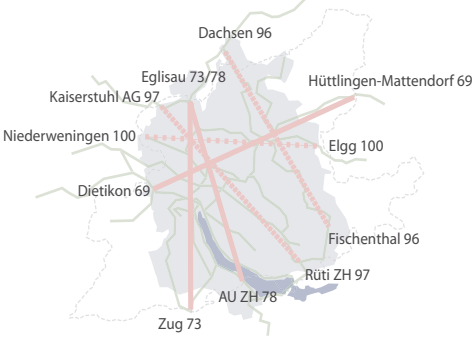
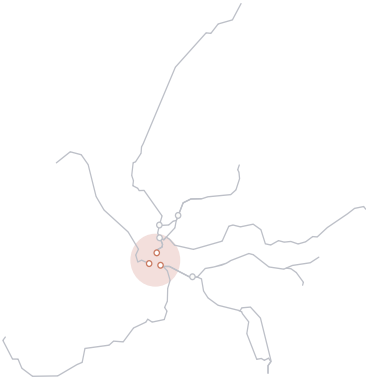
THE HERZSTÜCK

The project Herzstück describes planning in Basel to link the stations Basel SBB and station of Basel Bad. Bhf decentralized by means of an underground connection for fast city train courses. This is to serve to open the city center better by public traffic and the rapid-transit railway without time-consuming twice change of direction in Basel between meadow valley to lead high Rhine and the southeast.

There are two variants are till today possible - the Variant Mitte and Variant Nord.

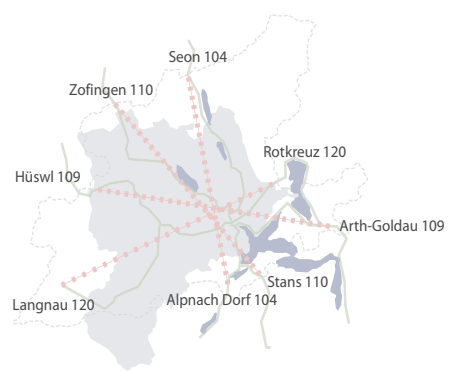
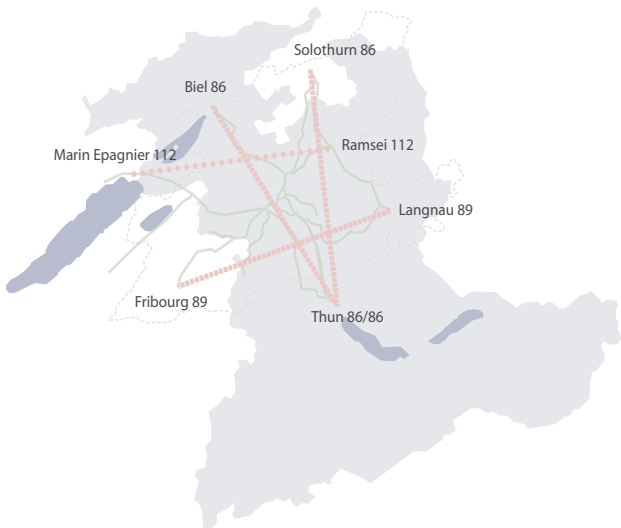
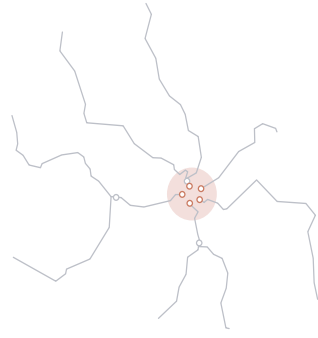
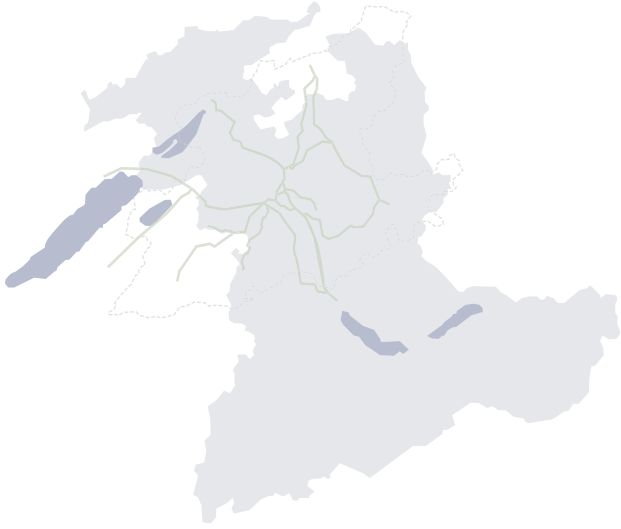


TYOLOGY DURCHMESSERLINIE



Metrobasel

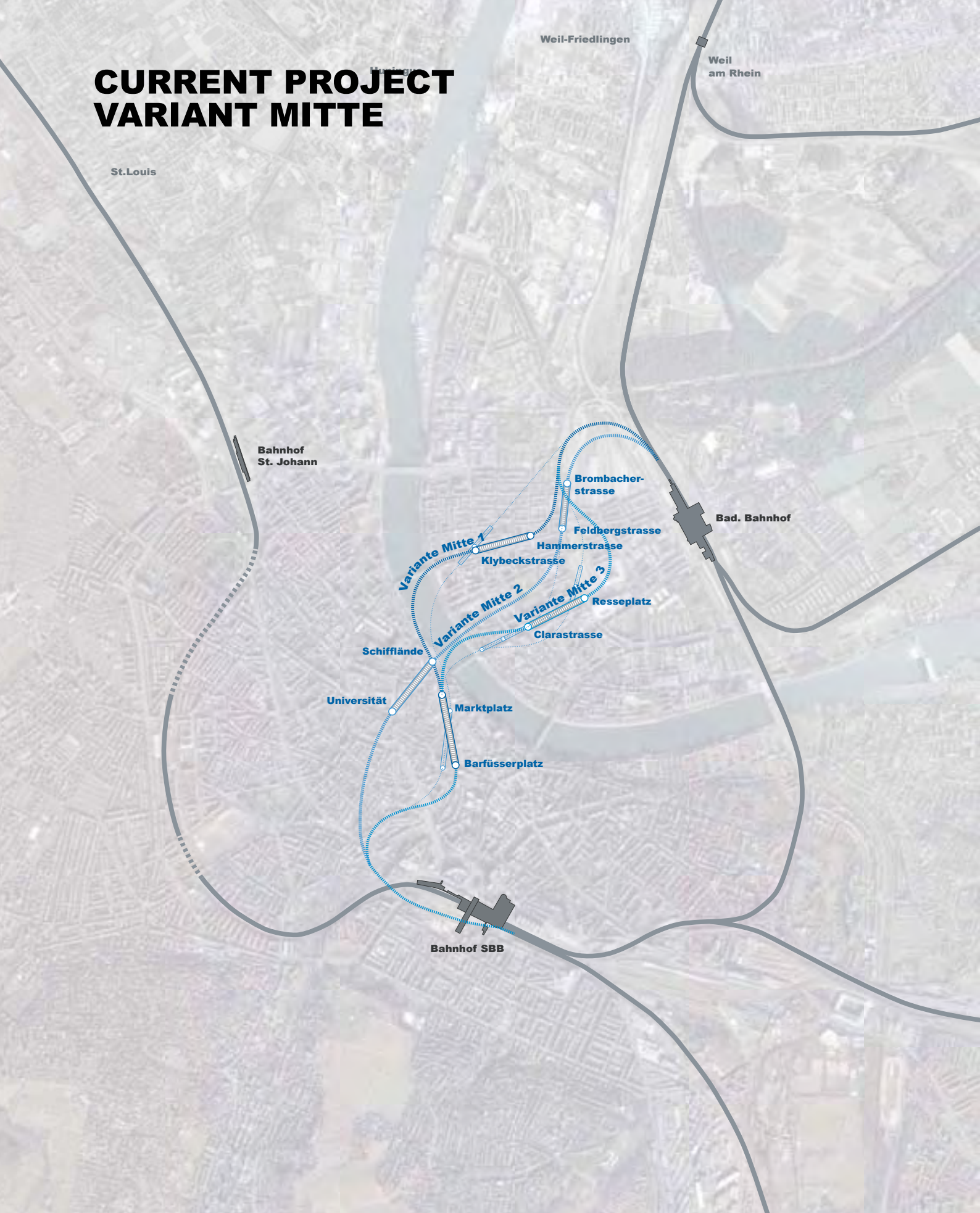
Zürich



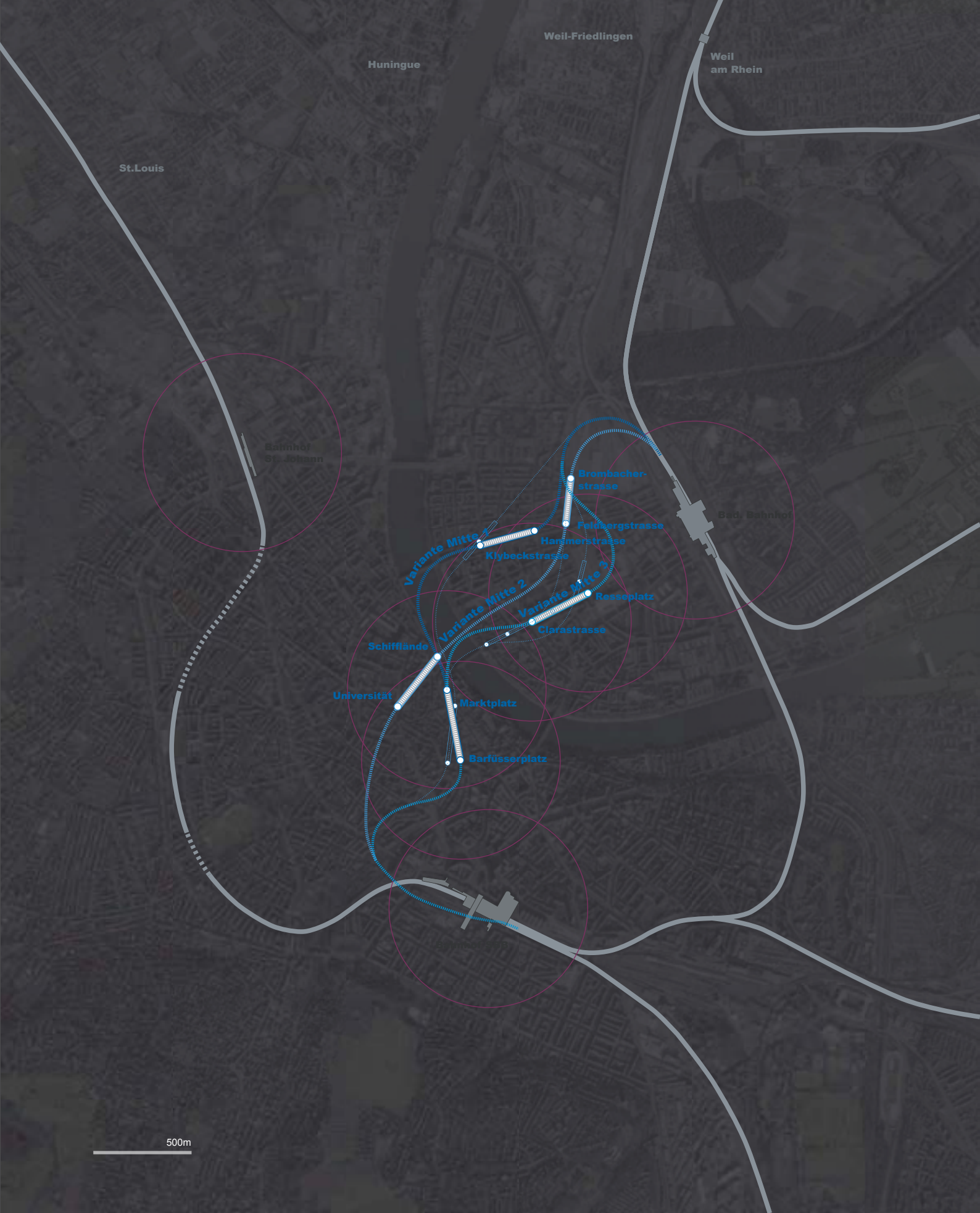
Bern

Luzern

CURRENT PROJECT VARIANT MITTE

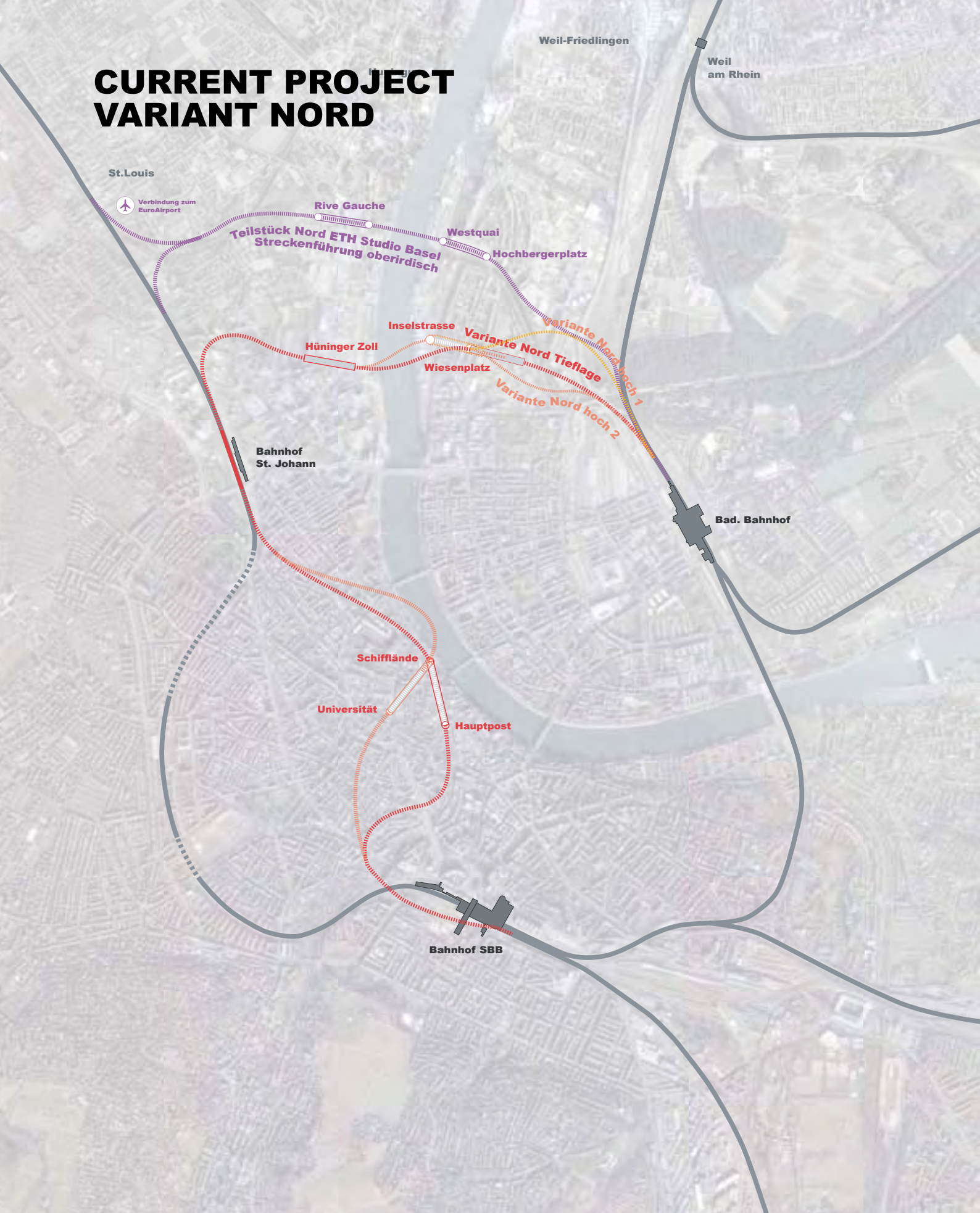


Line Plan



Accessibility from Station

CURRENT PROJECT VARIANT NORD



Line Plan



Accessibility from Station

GAME IS NOT OVER





Luzern Bern
Zürich
St. Jakob Park
St. Jakob Park
Anlieferung 1
Zeughaus

Delémont
Mutzens



Fankhauser
Fankhauser



MORE FREEDOM







MORE FREE TIME

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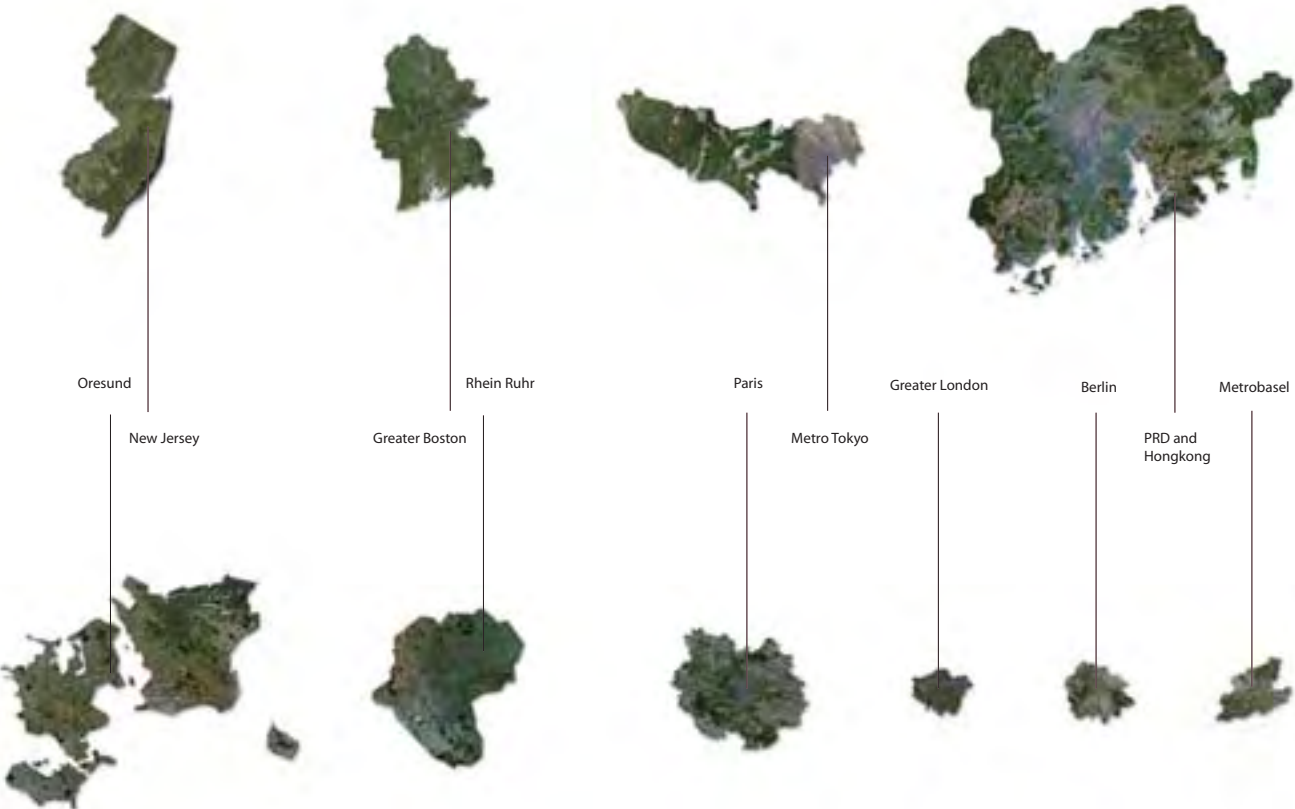
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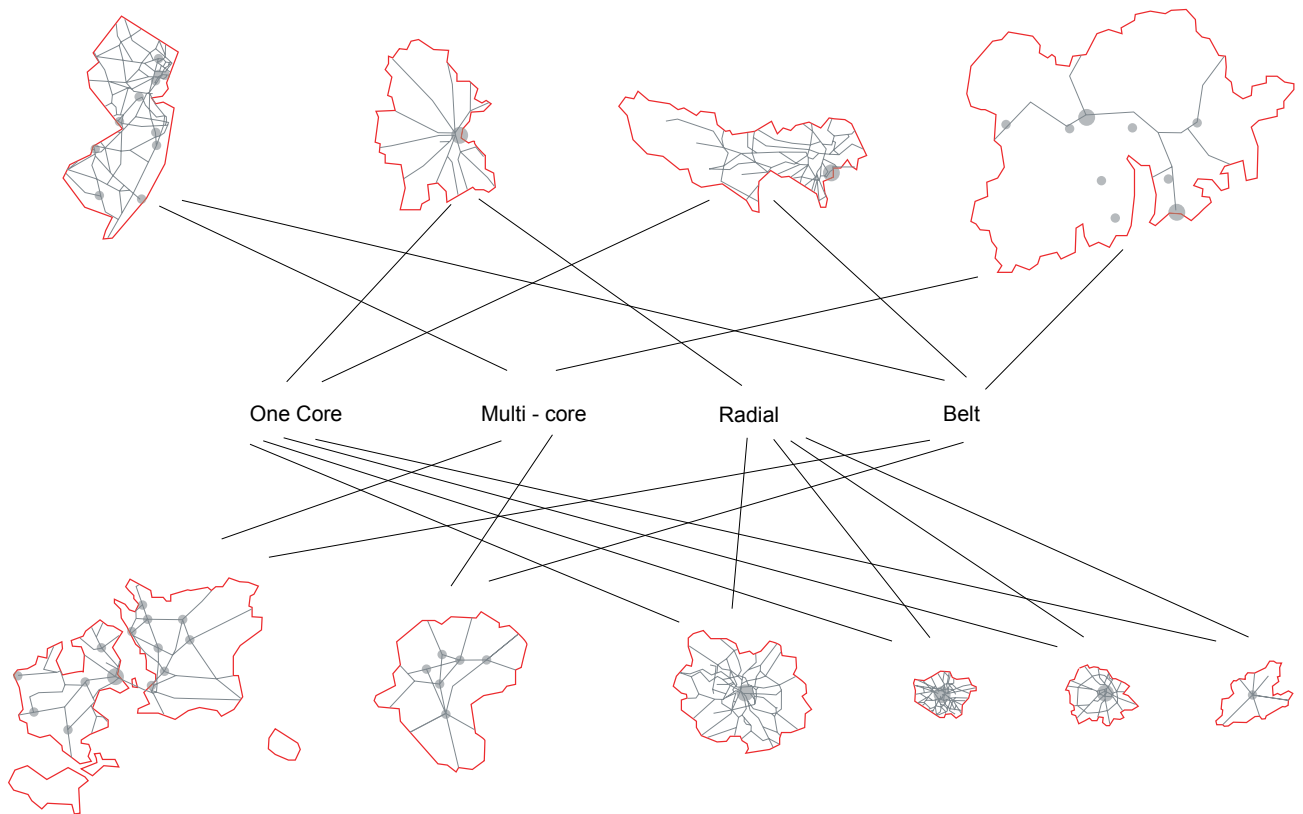




LOOK AROUND

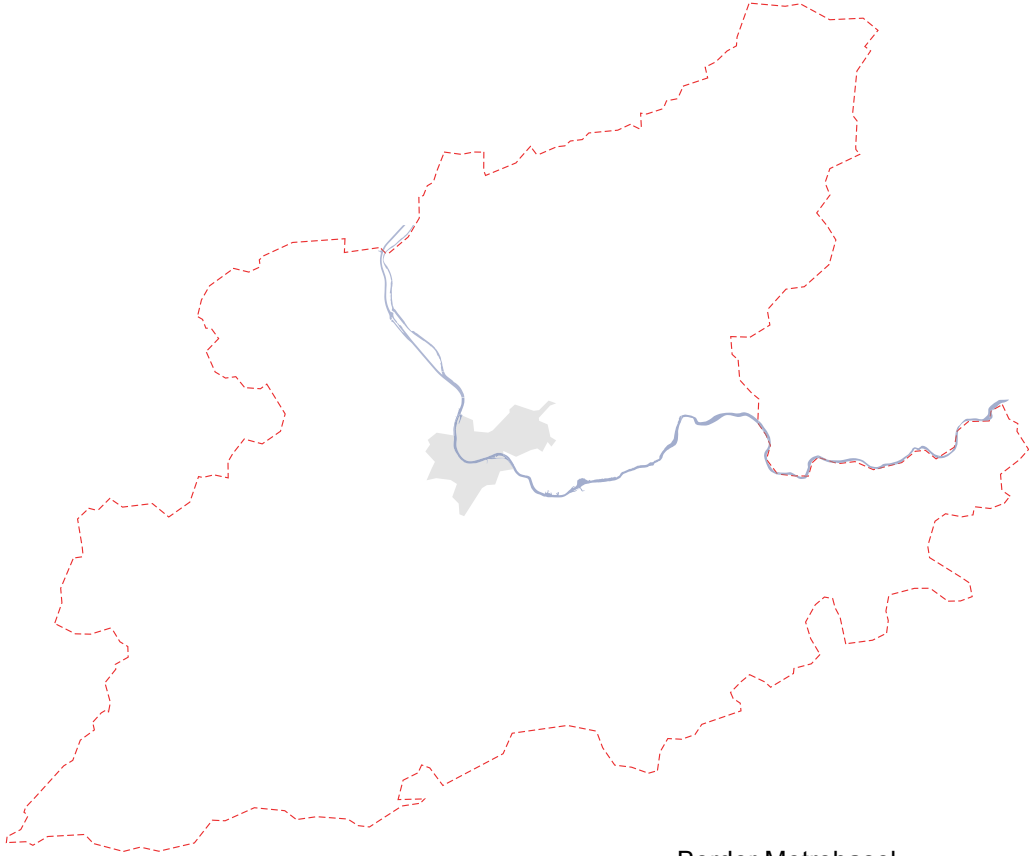


Selected World Metropolitan Regions



Typology
Parameters: Structure, Network

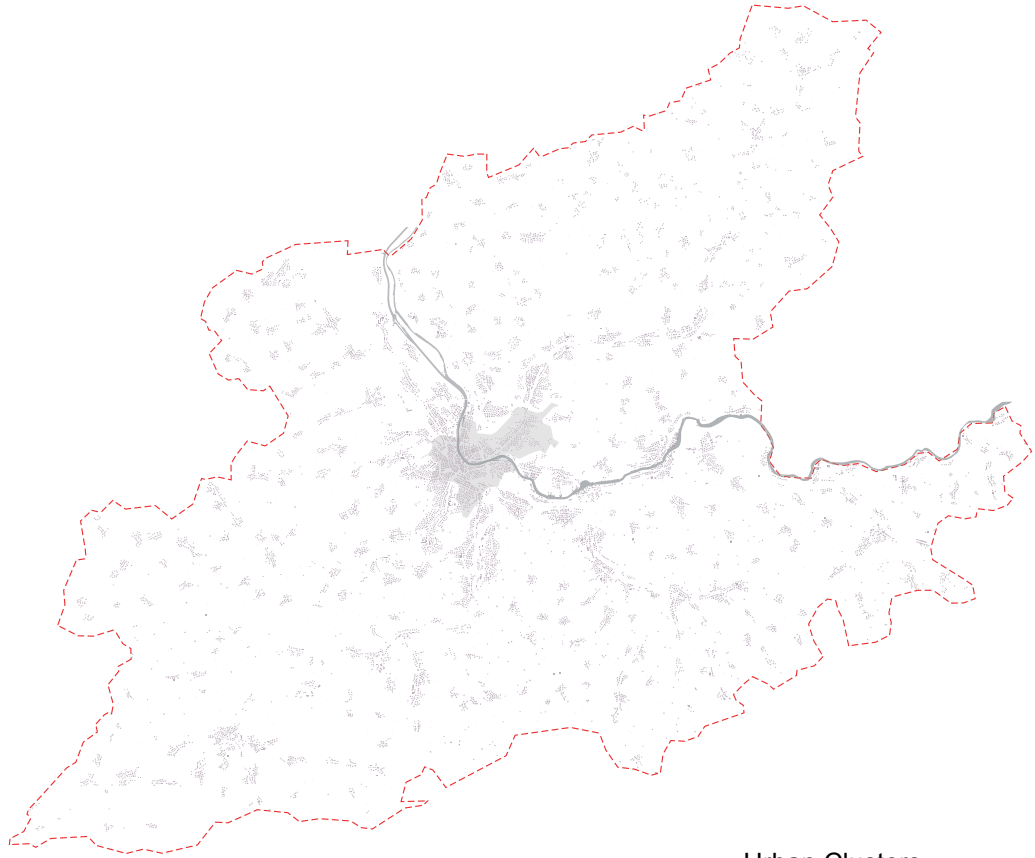
AREA CONTEXT



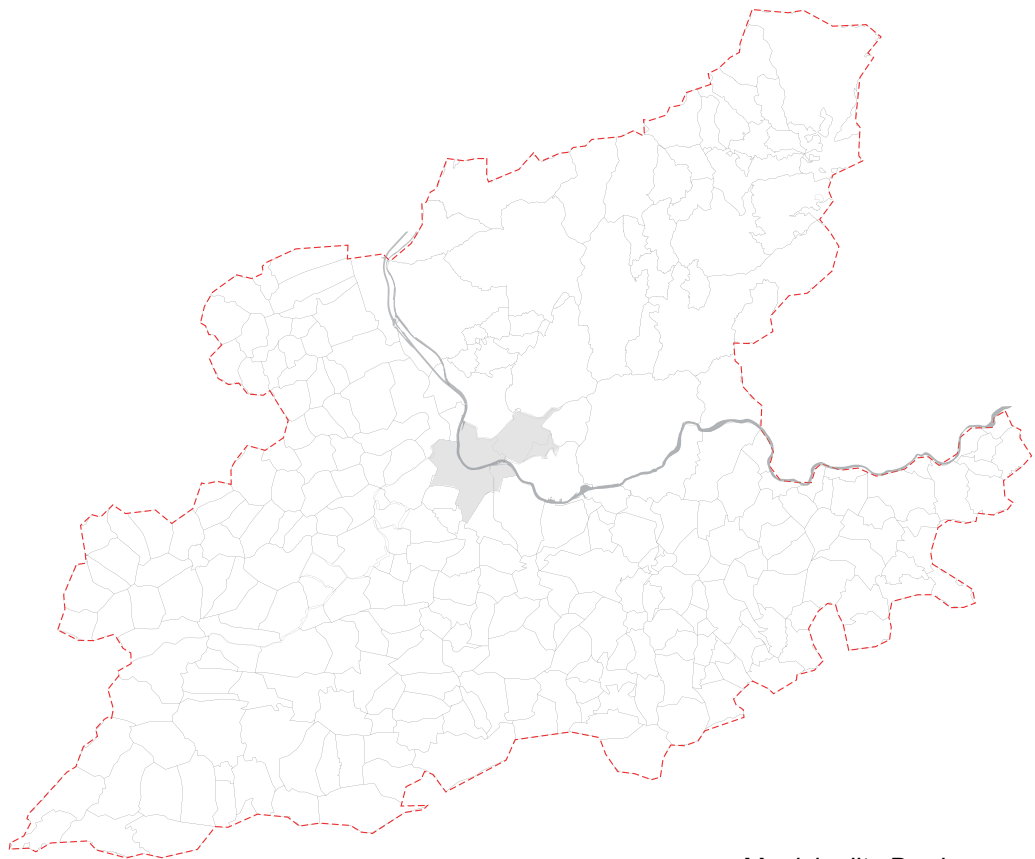
Border Metrobasel



Land Border



Urban Clusters



Municipality Border

10 km

AREA GEOMETRY

Frick

Eiken

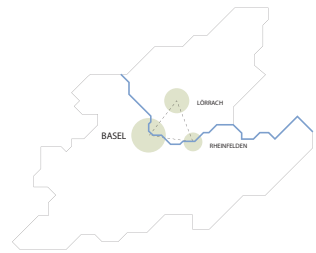
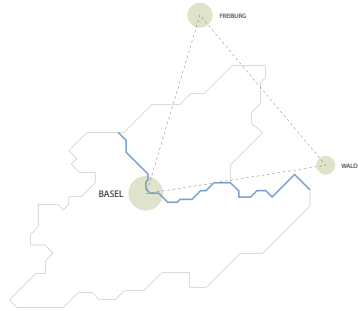
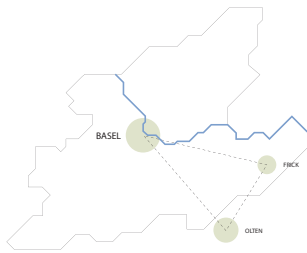
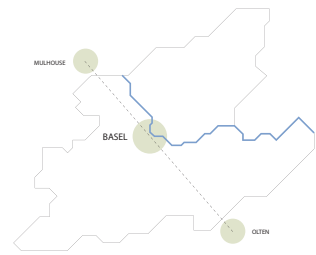
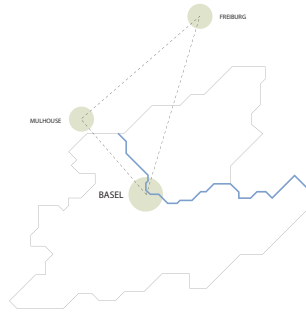
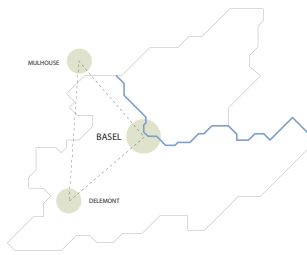
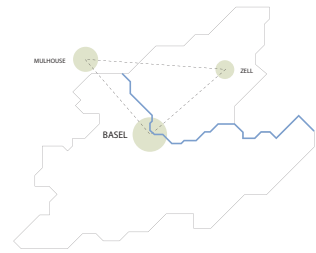
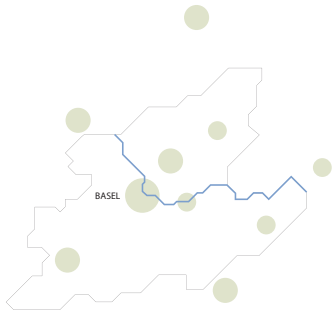
Stein - Säck

Mumpf

Möhl



Snapshots: S-Bahn Line 1
From Frick to Basel SBB



Geometrical Observation

Rheinfelden

Kaiseraugst

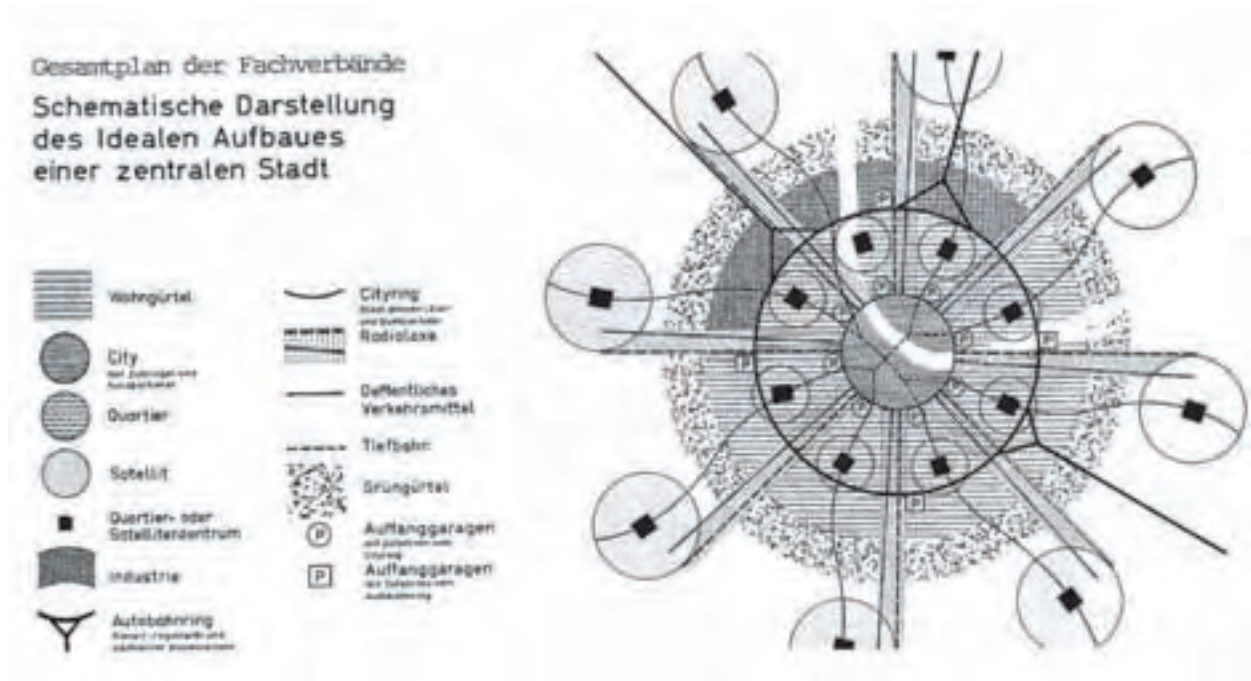
Pratteln

Muttenz

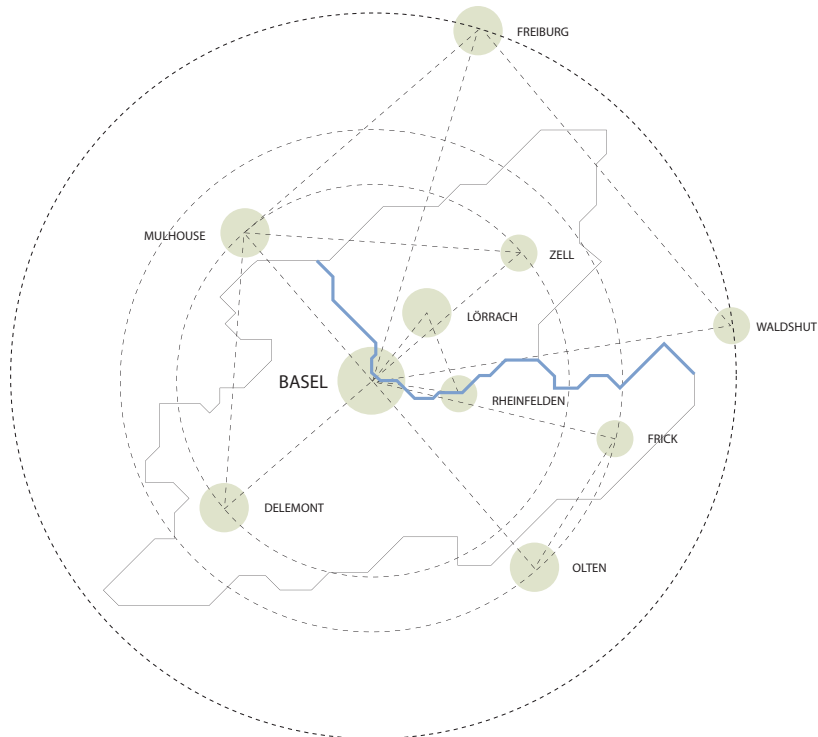
Basel SBB



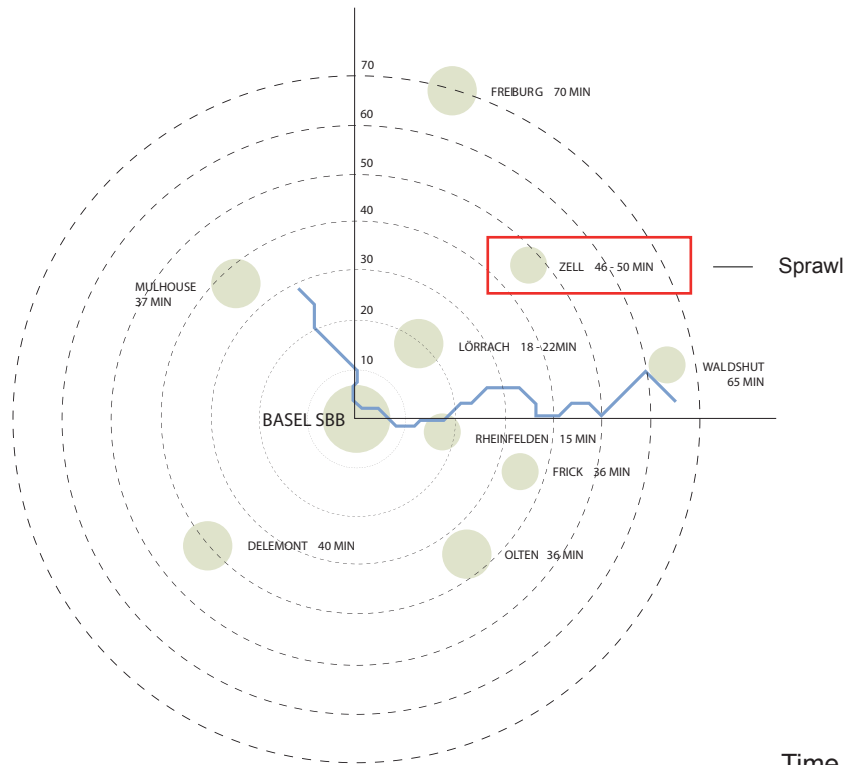
GEO-MAP VS TIME-MAP



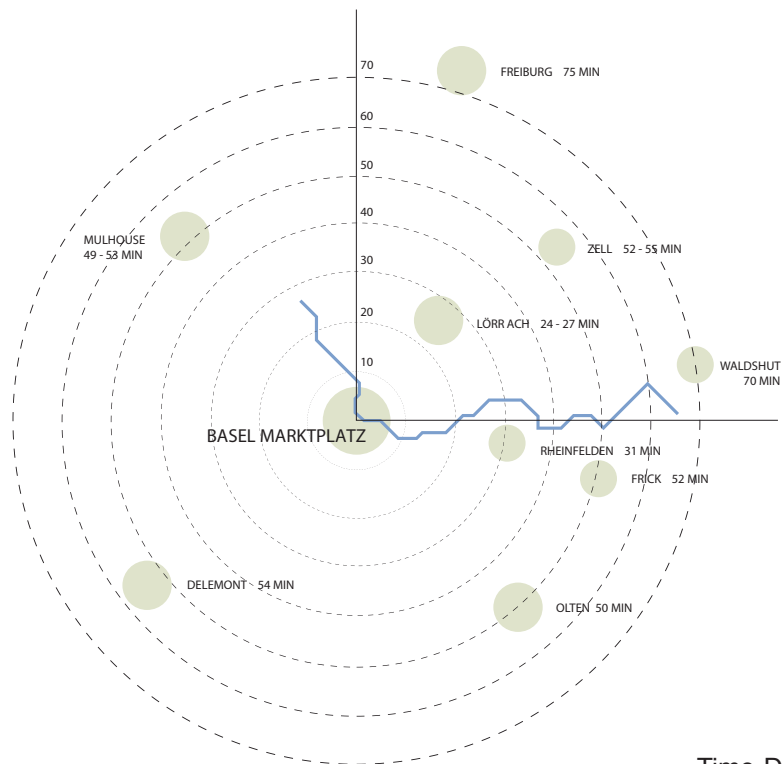
Ideal Traffic Modell
of Ringcity Basel 1963



Geo-Distance
Basel - Satellite Points



Time-Distance S-Bahn
Basel - Satellite Points
From Basel SBB



Time-Distance S-Bahn + Tram
Basel - Satellite Points
From Marktplatz

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CONCEPT





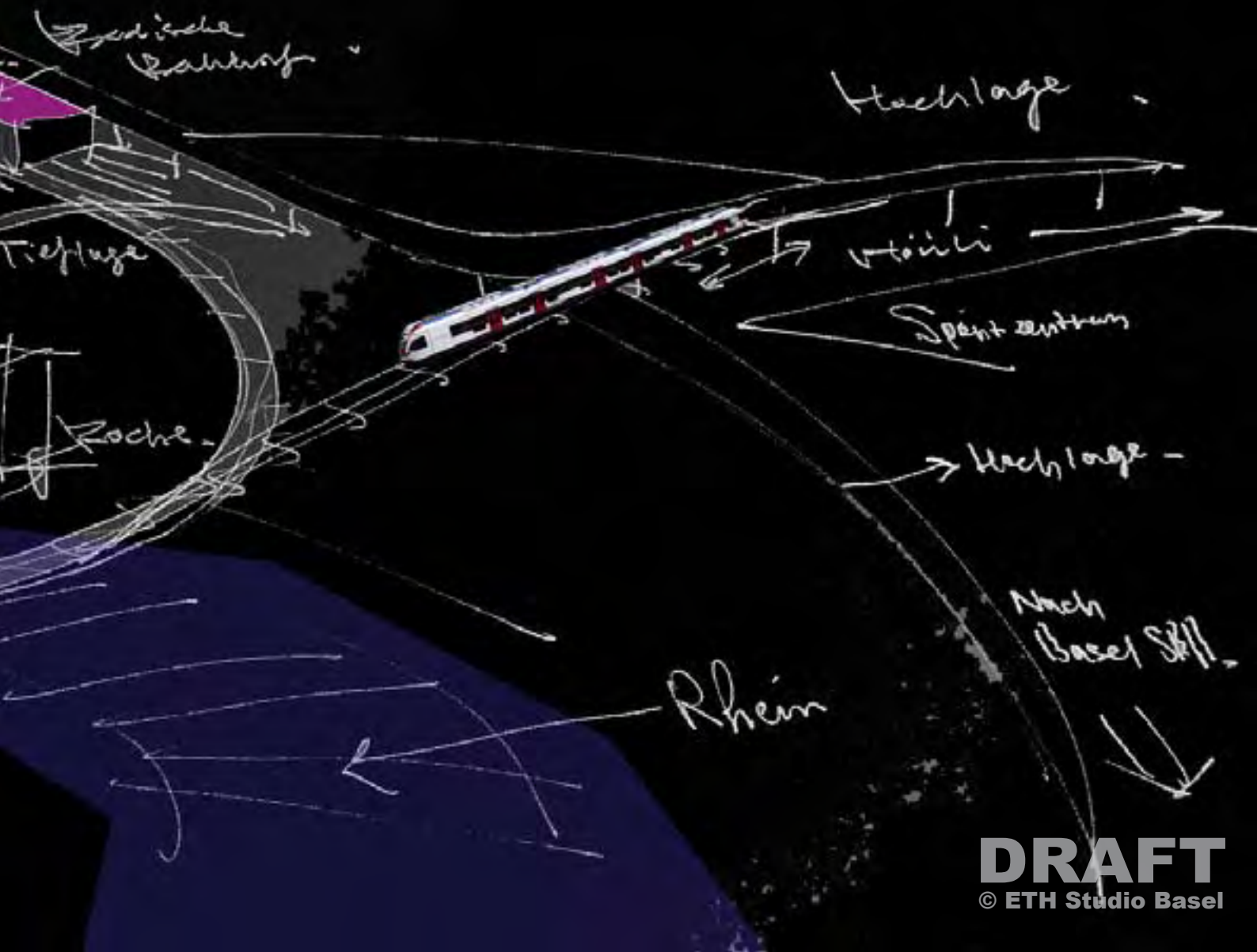
SENARIO



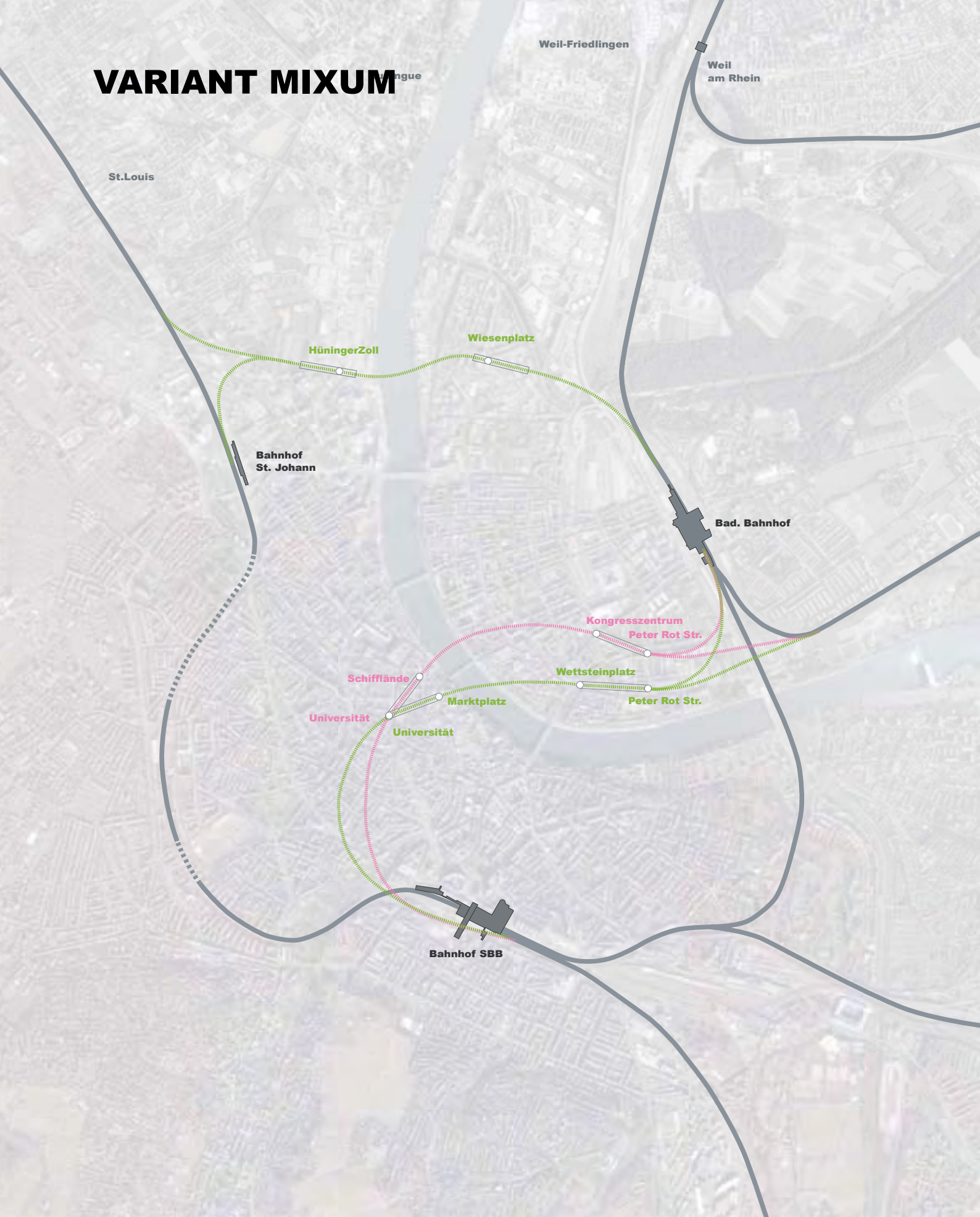
NATURE

NATURE

NATURE



VARIANT MIXUM

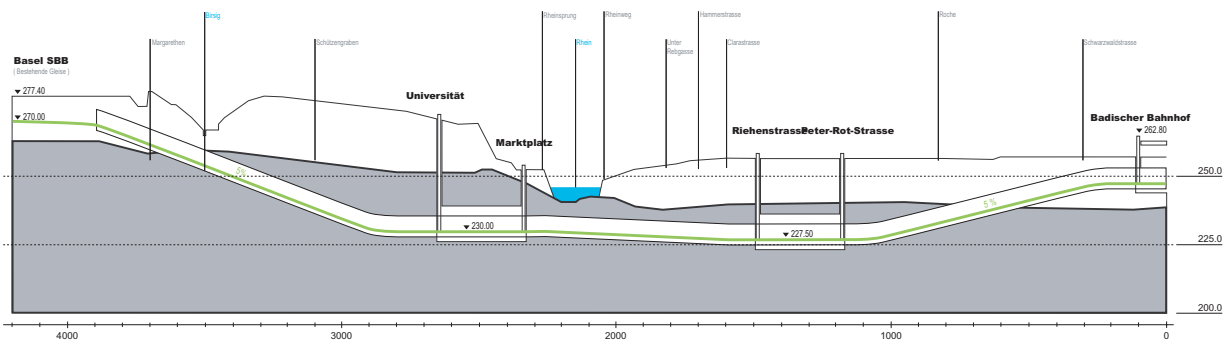
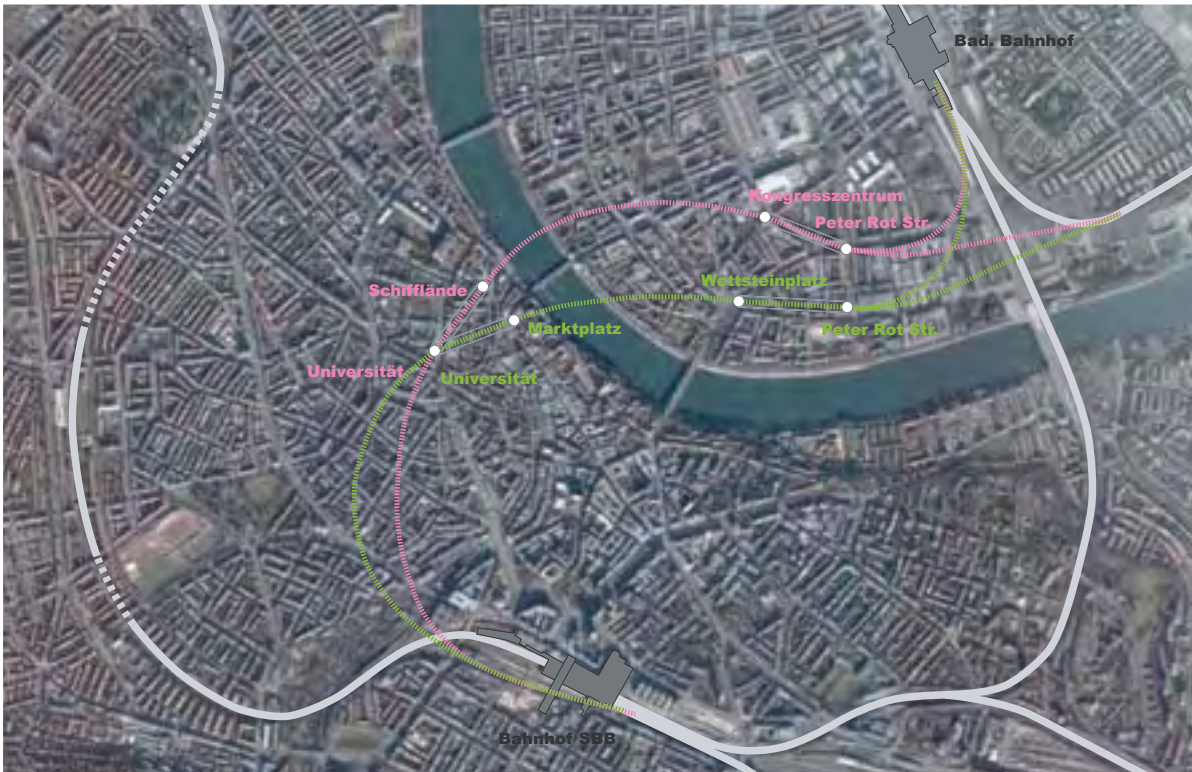


Line Plan

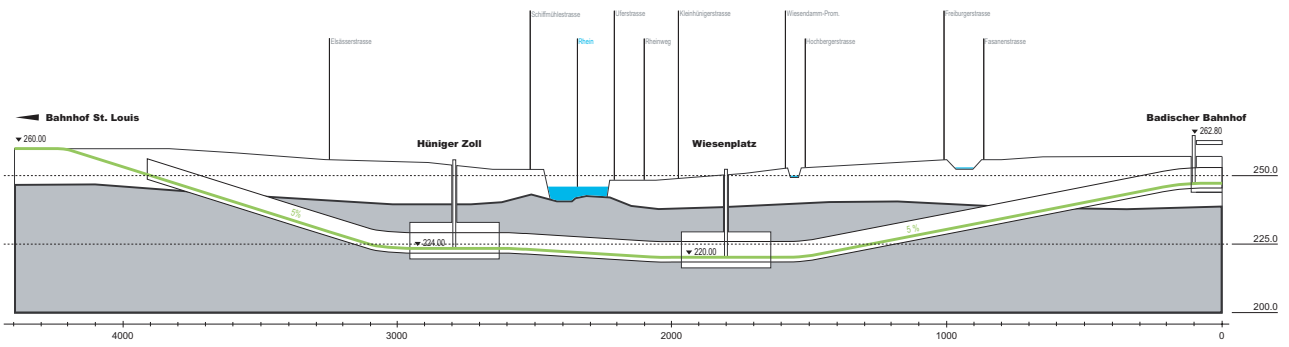


Accessibility from Station

SECTION VARIANT MIXUM

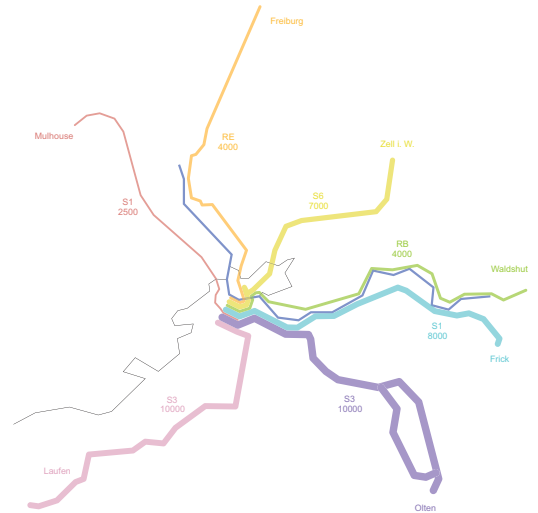


Section South Course



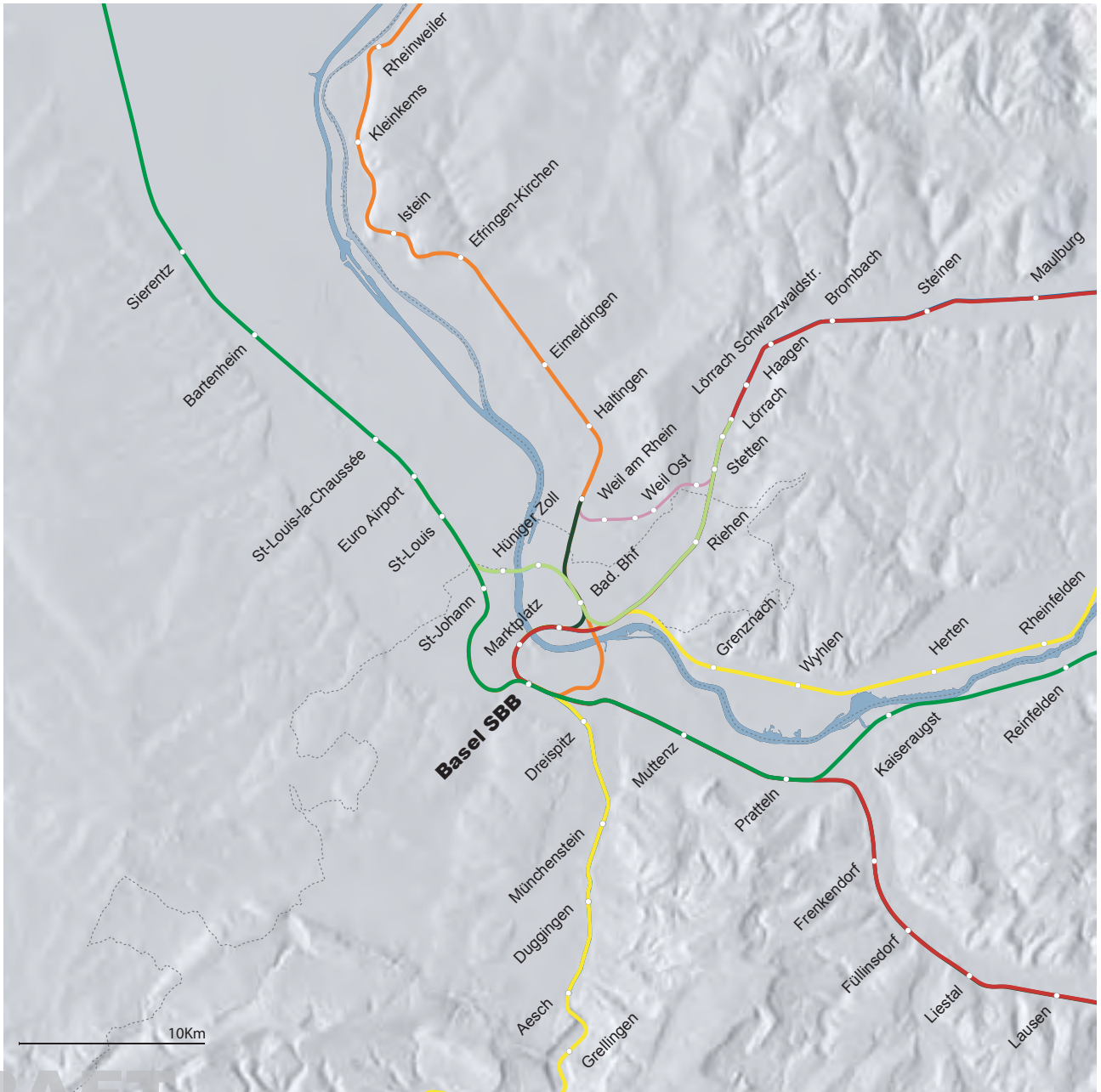
Section North Course

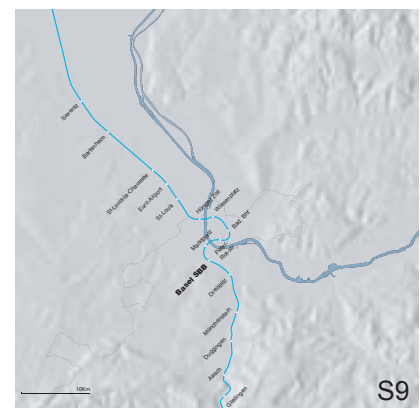
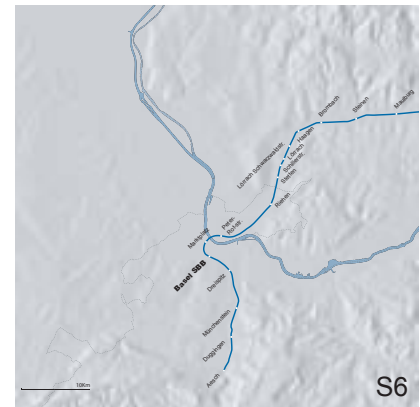
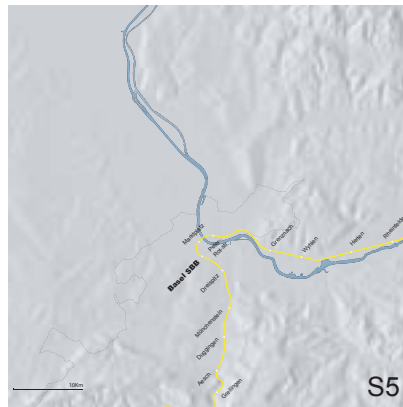
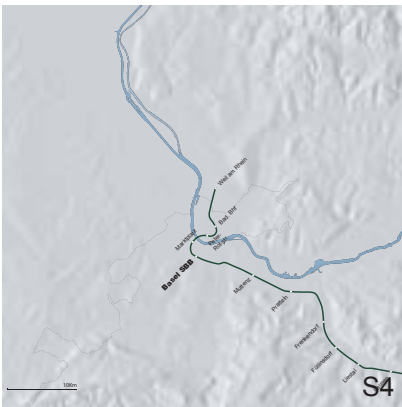
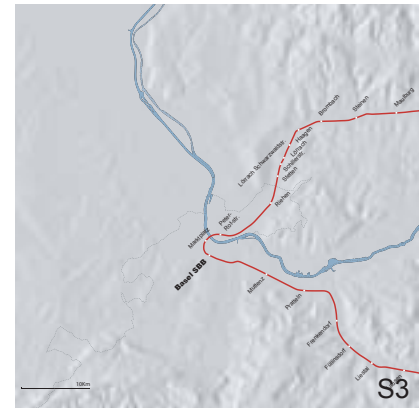
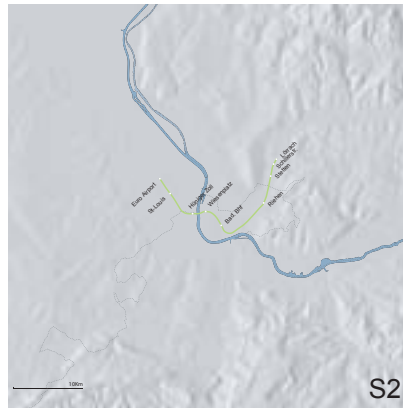
NETWORK PLAN



Right: Current Volume of Pendlers to Basel with S-Bahn in Region (Pers/D)

Under: S-Bahn Network Plan of Variant Mixum





Network Plan

- S1 Euro airport - Basel SBB - Laufenburg (CH/F)
- S2 Euro airport - Bad.Bhf - Lörrach (D/CH/F)
- S3 Zell - Lörrach - Marktplatz - Basel SBB - Olten (CH/D)
- S4 Weil am Rhein - Bad. Bhf - Marktplatz - Basel SBB - Olten (CH/D)
- S5 Waldshut - Marktplatz - Basel SBB - Delémont (CH/D)
- S6 Lörrach - Marktplatz - Basel SBB - Aesch (CH/D)
- S7 Freiburg - Weil am Rhein - Bad. Bhf - Basel SBB - Euro airport (D/CH/F)
- S8 Weil am Rhein - Steinen (D/D)
- S9 Mulhouse - Euro airport - Basel SBB - Laufen (CH/F)
- S10 Sissach - Olten (CH/CH)

Line Distribution

CH/D 4L CH/F 2L D/CH/F 2L CH/CH 1L D/D 1L

ACCESSIBILITY COMPARISON FROM S-BAHN STATIONS

St.Louis

Munich

Weil-Friedlingen

Weil
am Rhein



500m

Current Situation



Variant Mitte

ACCESSIBILITY COMPARISON FROM S-BAHN STATIONS

St.Louis

Weil-Friedlingen

Weil
am Rhein



500m

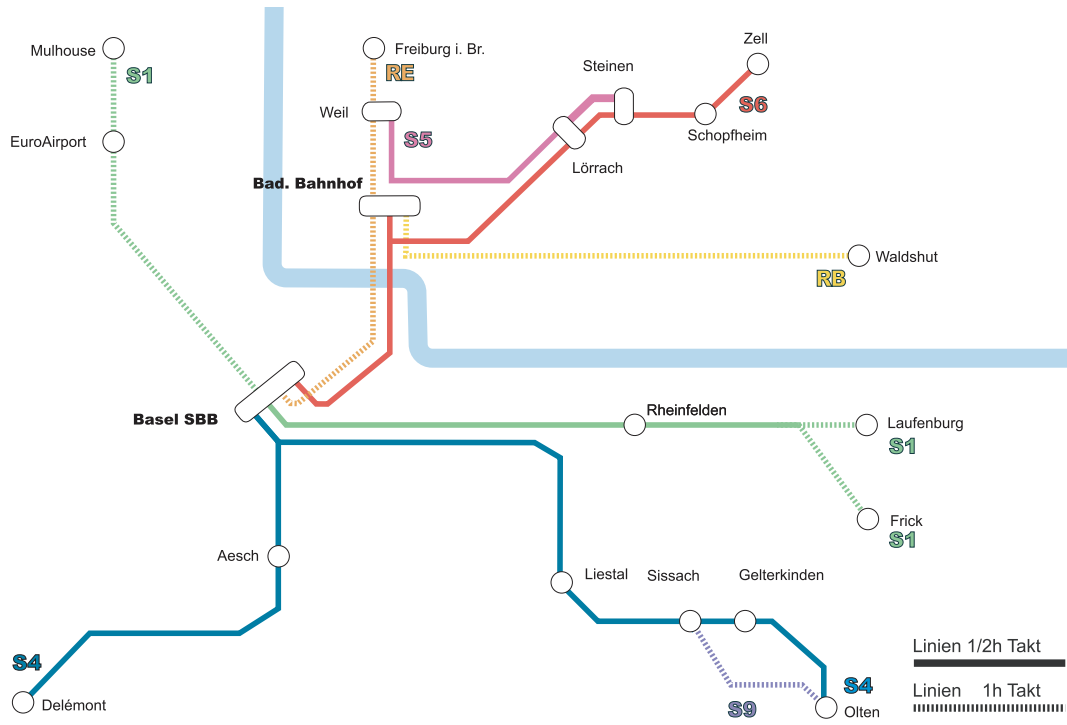
Variant Nord



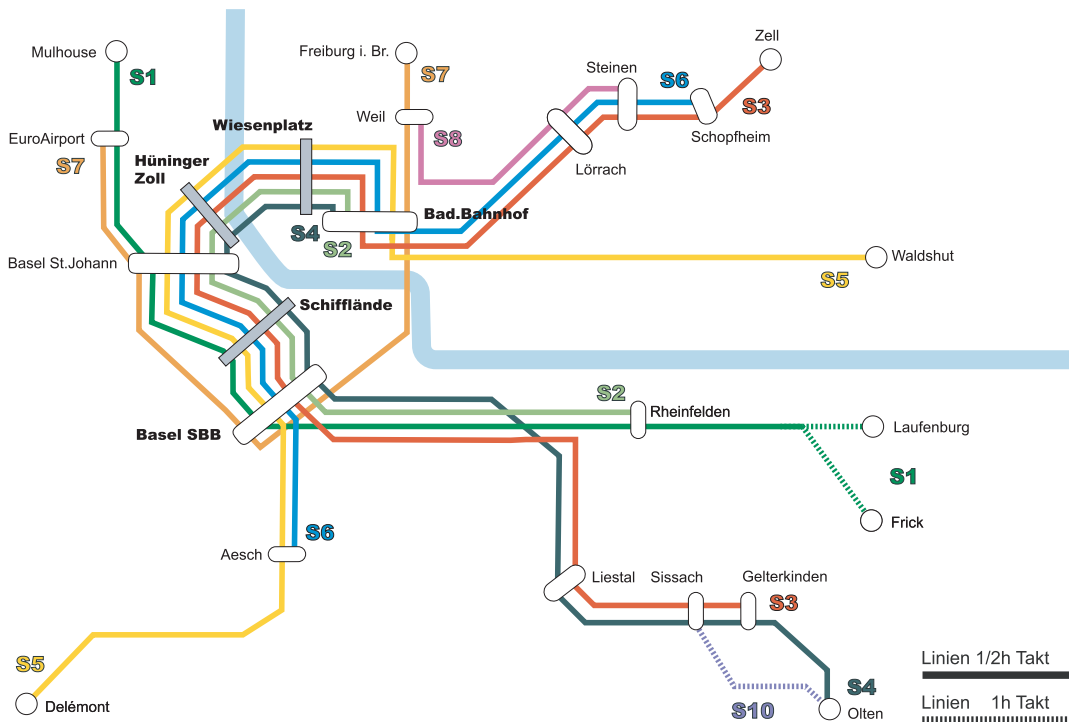
Variant Mixum

DRAFT
© ETH Studio Basel

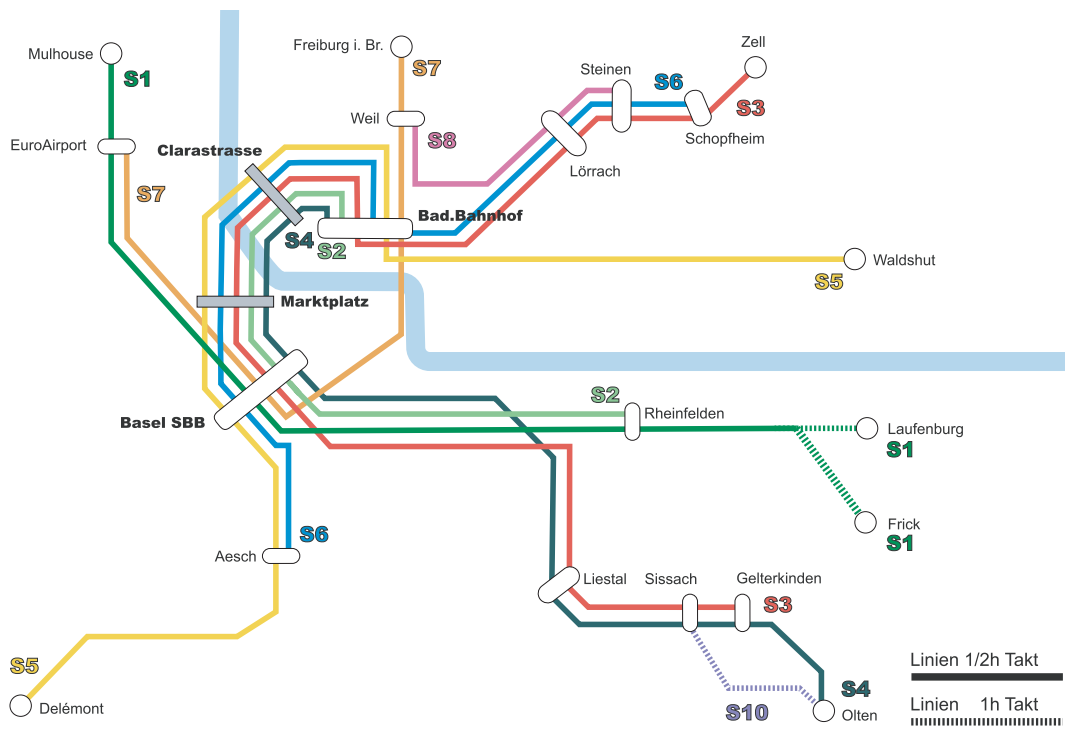
NETWORK PLAN COMPARISON



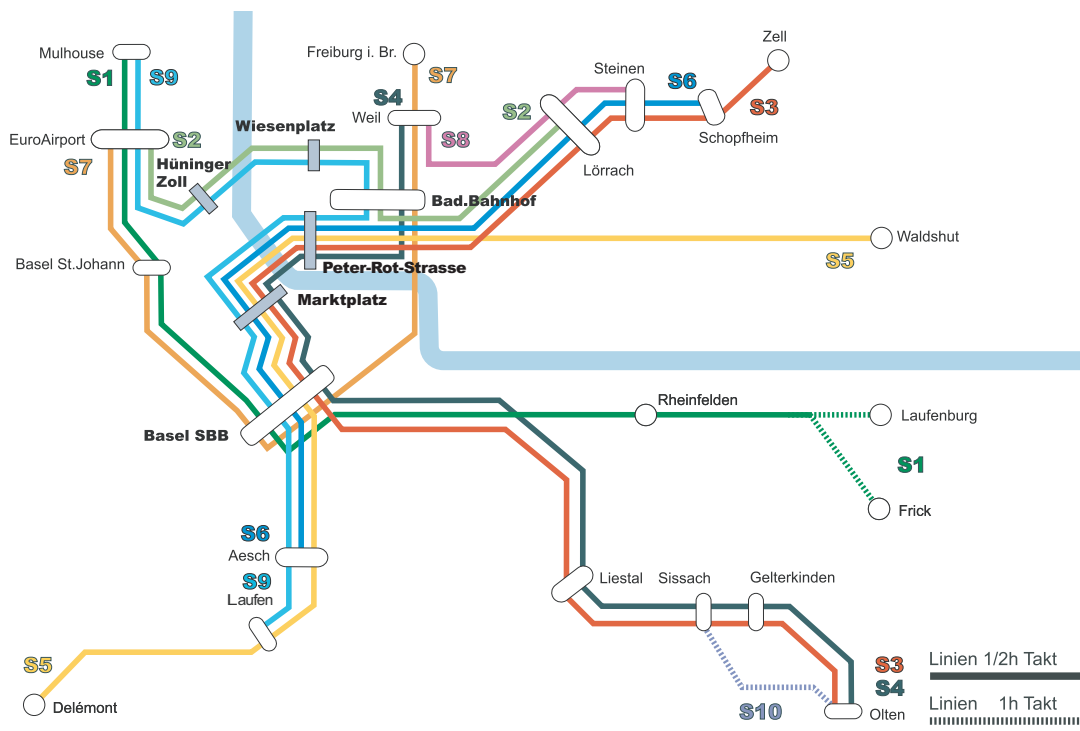
Current Situation



Variant Nord



Variant Mitte



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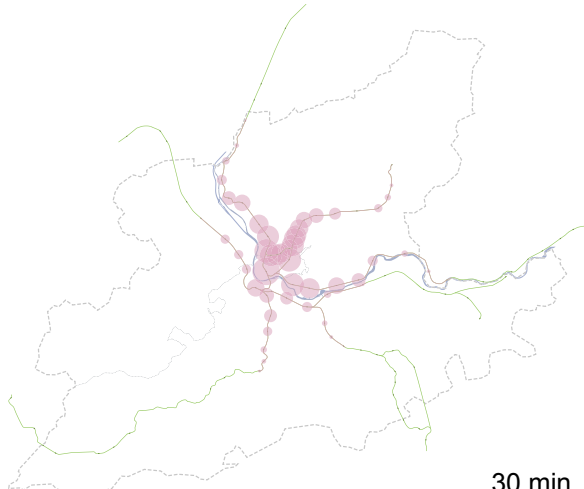
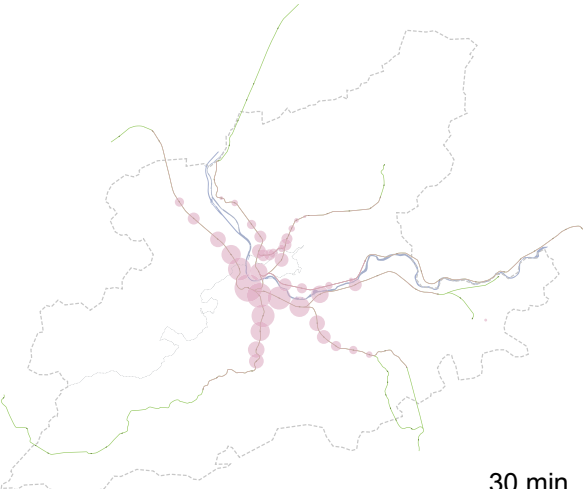
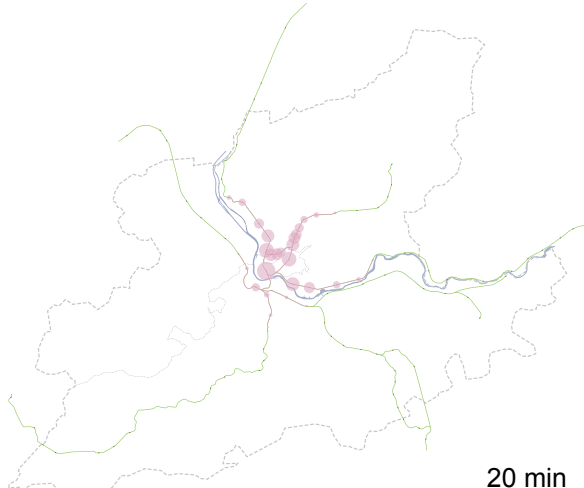
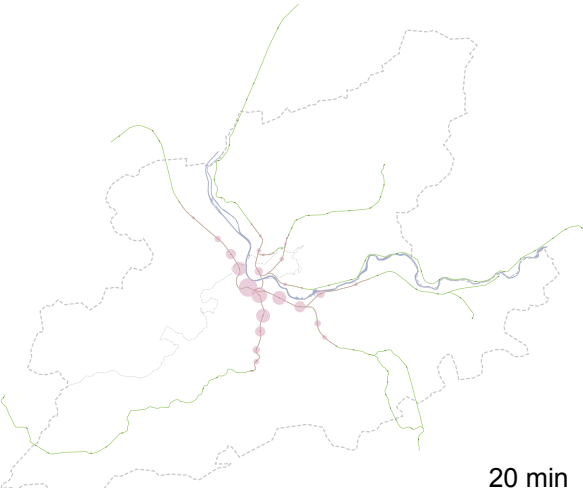
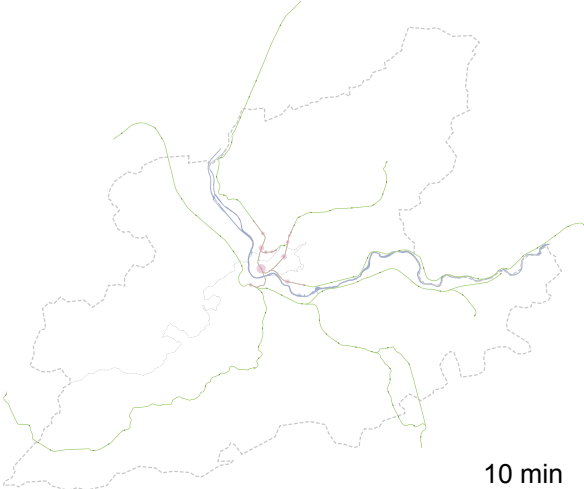
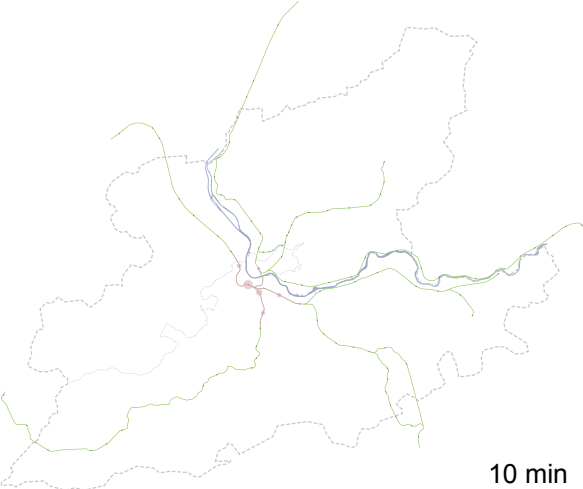
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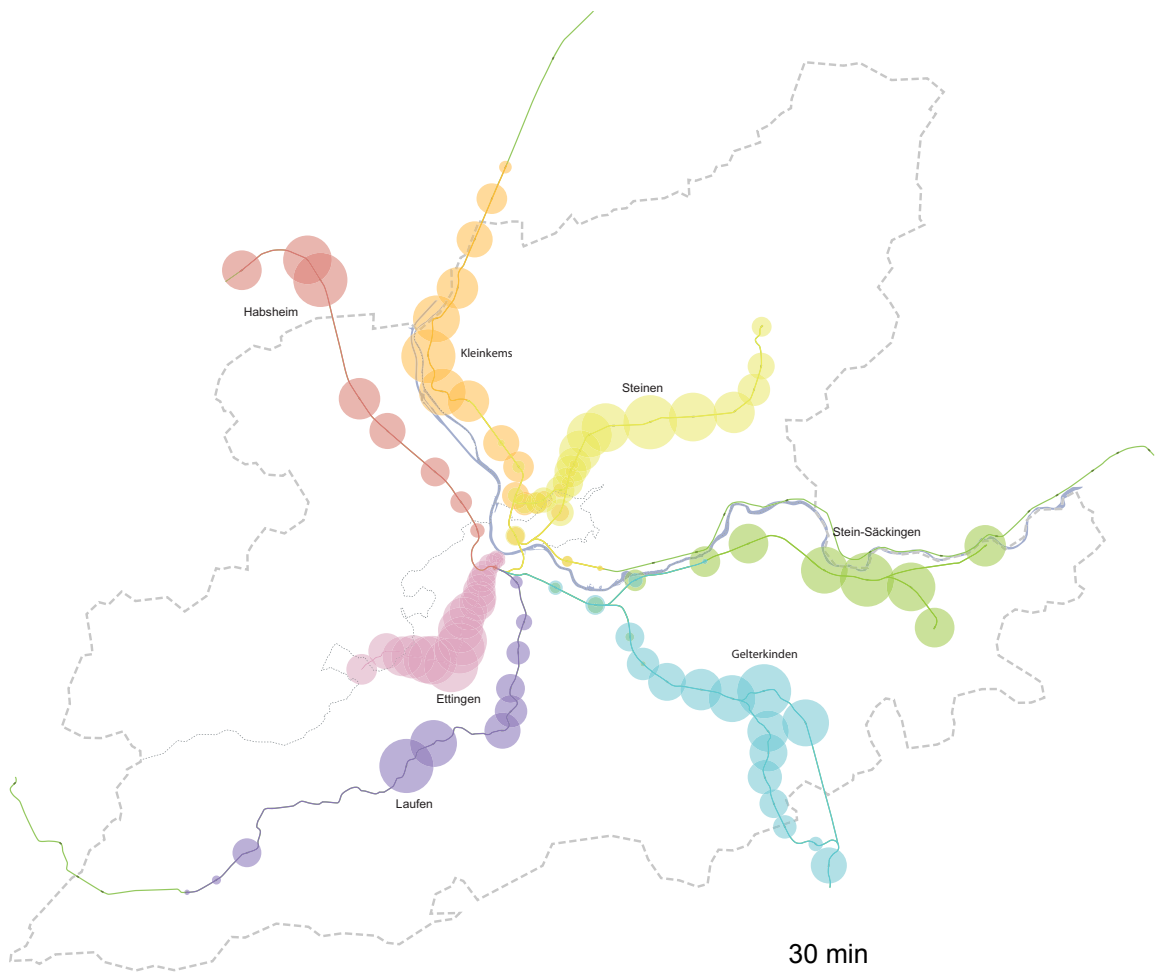
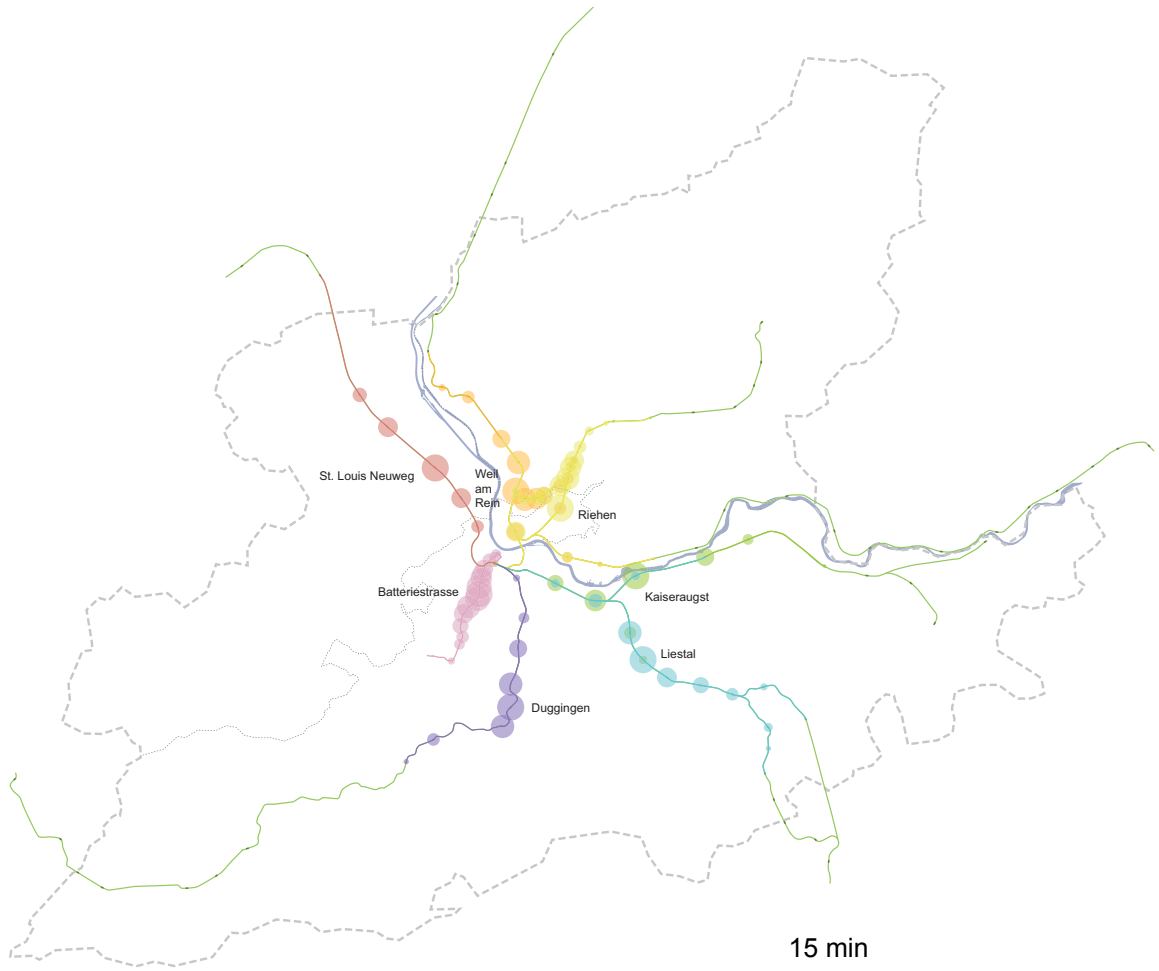
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TIME CIRCLE BASEL SBB, BADISCHE BHF AND VARIOUS POINTS IN AREA



Basel SBB

Basel Bad. Bhf



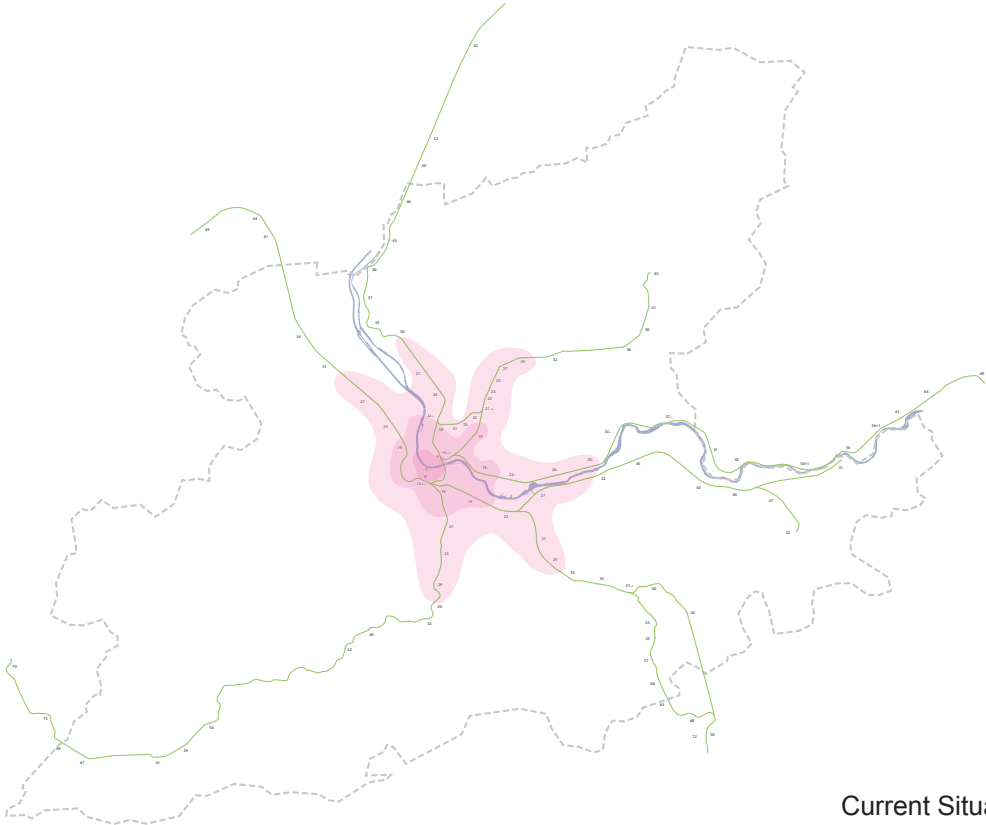
FROM BASEL SBB TO MARKTPLATZ ?



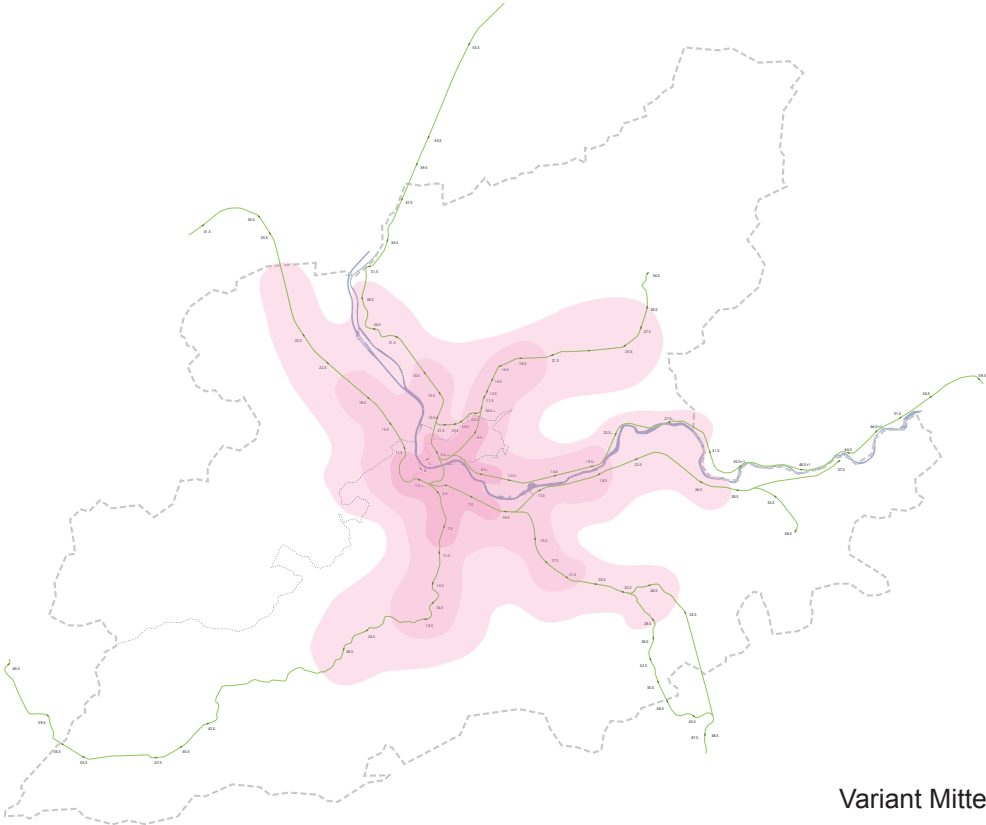


DRAFT
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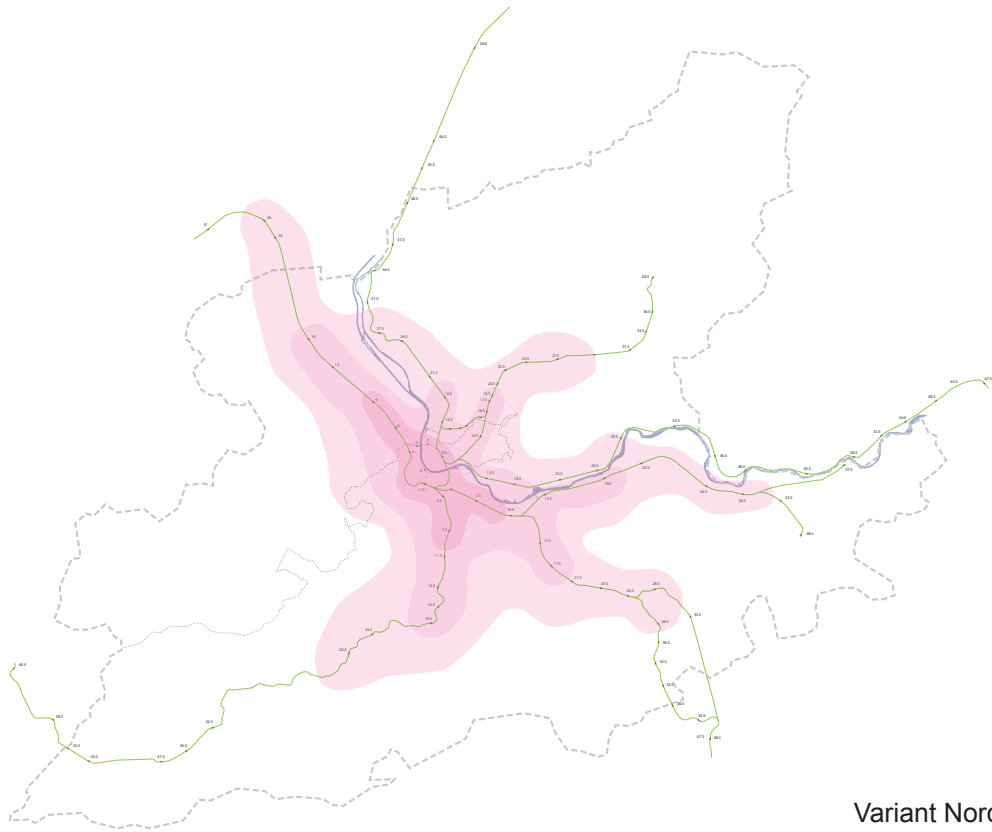
TIME AMOEBA FROM MARKTPLATZ PARAMETER 10, 20, 30 MIN



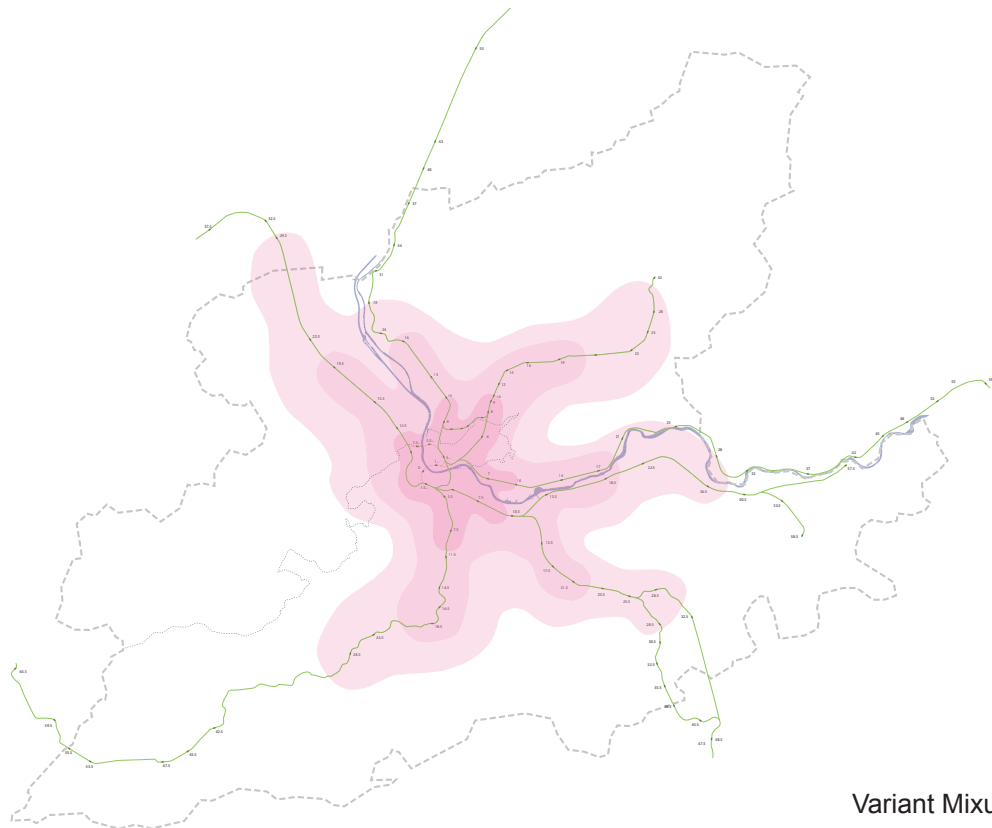
Current Situation



Variant Mitte



Variant Nord

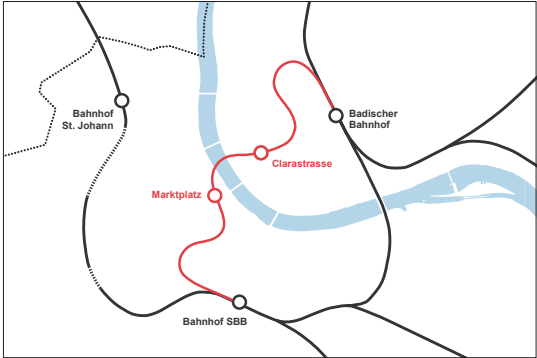


Variant Mixum

TIME AMOEBA COMPARISON FROM MARKTPLATZ PARAMETER 10, 20, 30 MIN



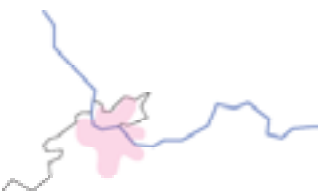
Current Situation



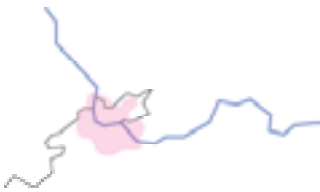
Variant Mitte



10 min



10 min



20 min



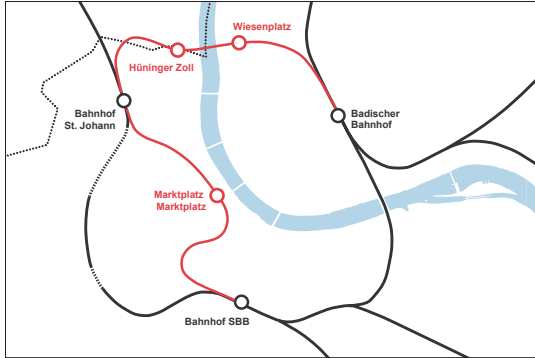
20 min



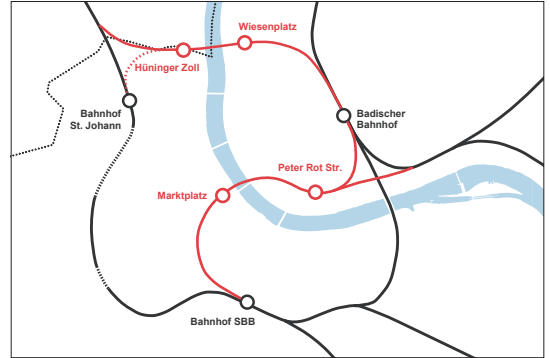
30 min



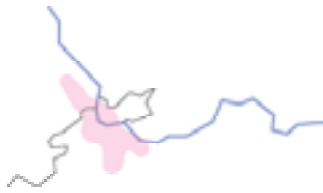
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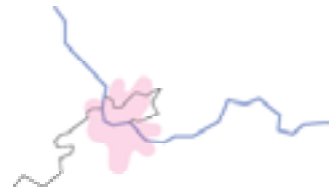
Variant Nord



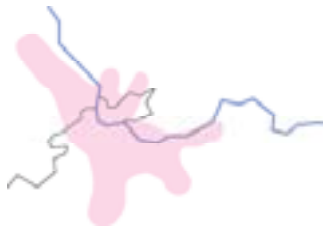
Variant Mixum



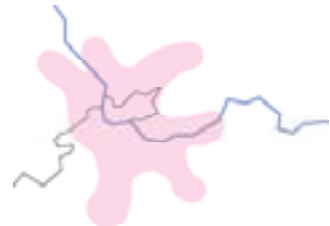
10 min



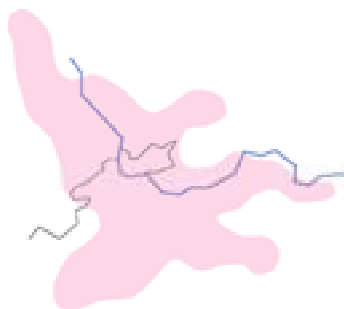
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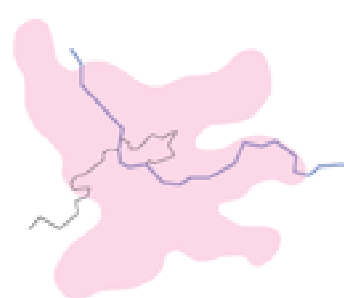
20 min



20 min

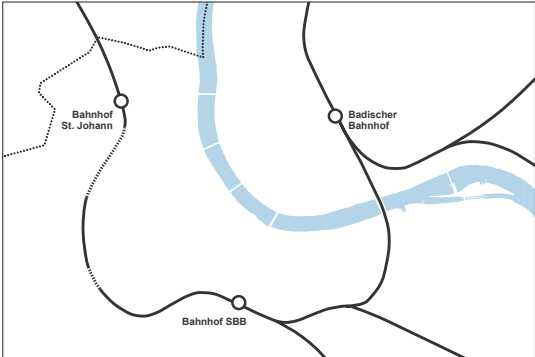


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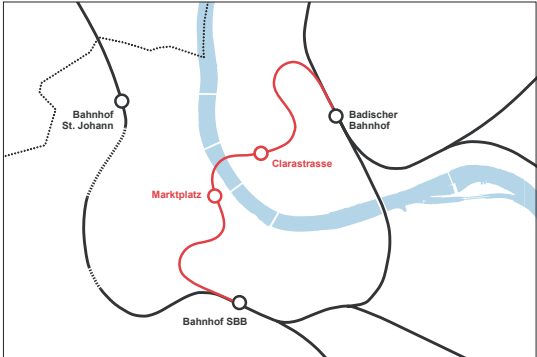


30 min

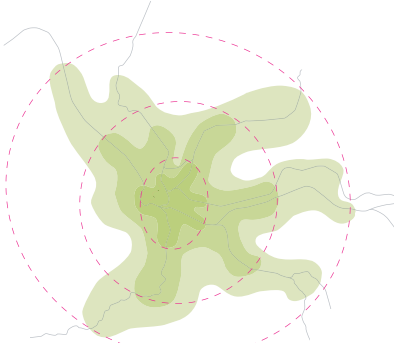
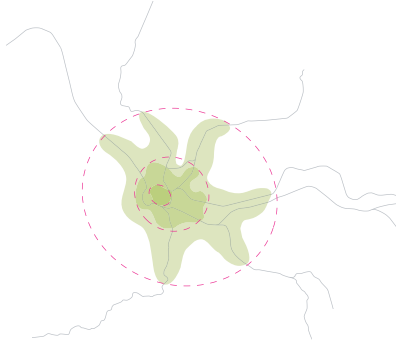
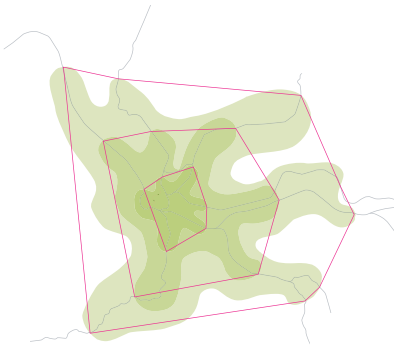
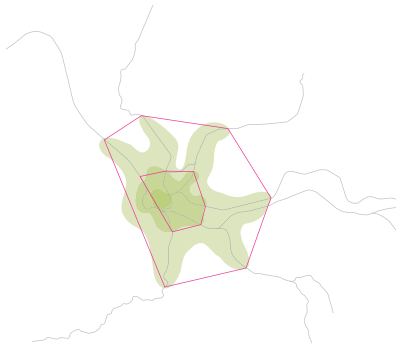
ANALYSIS OF TIME AMOEBA FROM MARKTPLATZ PARAMETER HINGE AND OVAL



Current situation

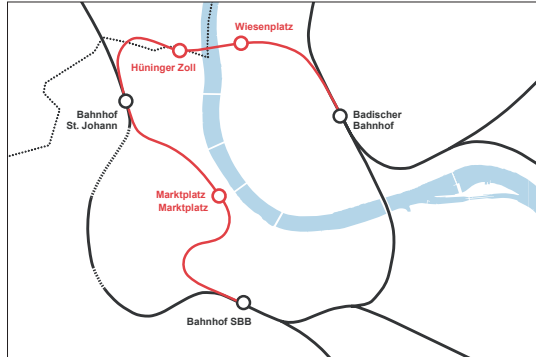


Variant Mitte

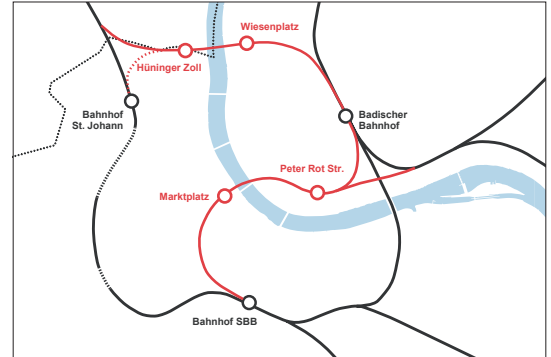


Few Zigzag, Nearly Circle
Fair to All Directions
But Radius Limited

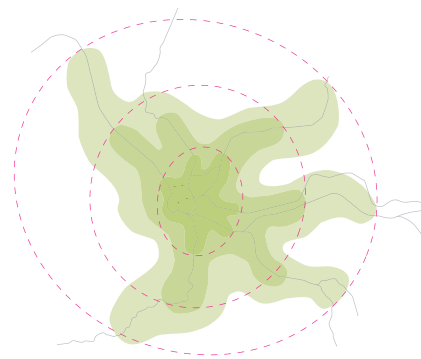
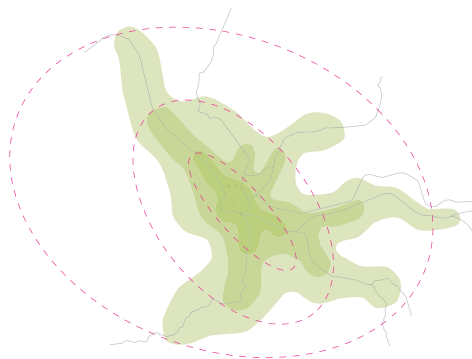
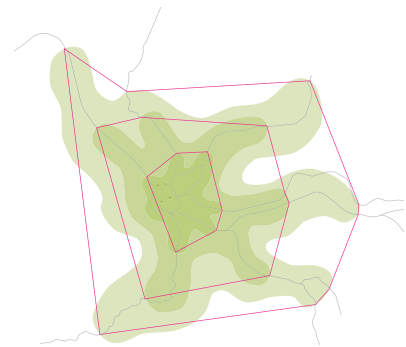
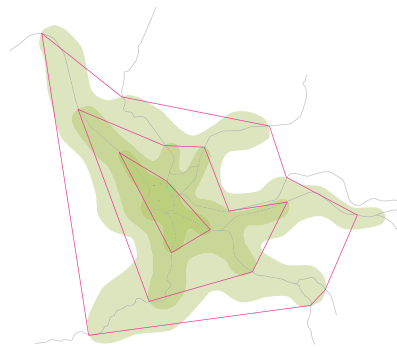
Few Zigzag, Nearly Circle
Fair to All Directions
Radius OK



Variant Nord



Variant Mixum



Many Zigzags, Nearly Oval
 Priority on French Side
 German Direction Weak

Few Zigzag, Nearly Circle
 Fair to All Directions
 Radius Fine

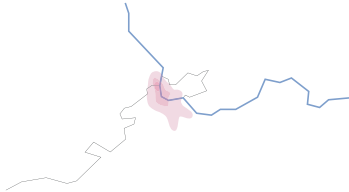
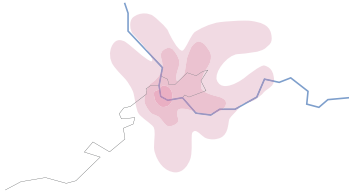
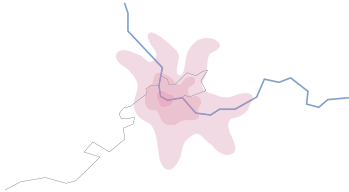
TIME AMOEBA COMPARISON FROM HOTPOINTS IN BASEL PARAMETER 10, 20, 30 MIN

Marktplatz

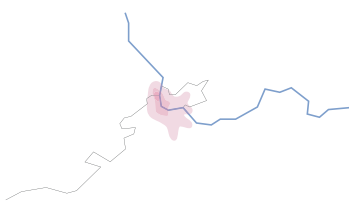
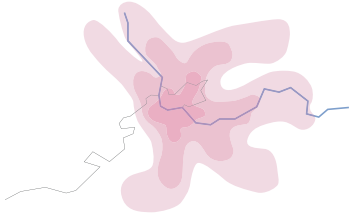
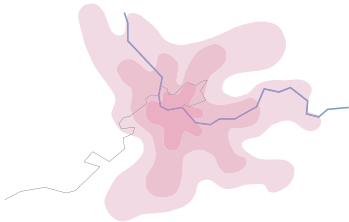
Messeplatz

Novatis

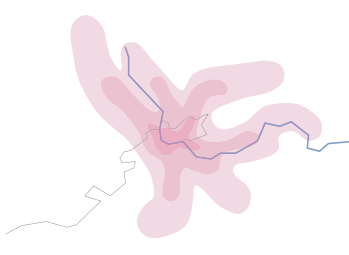
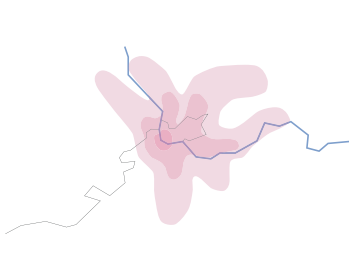
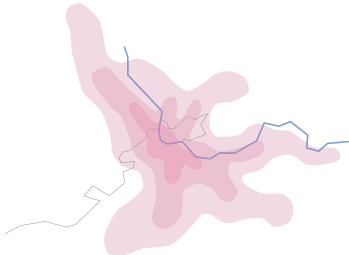
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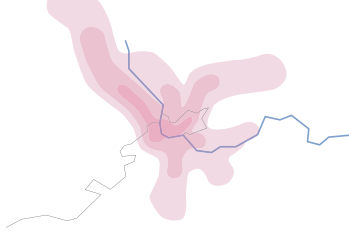
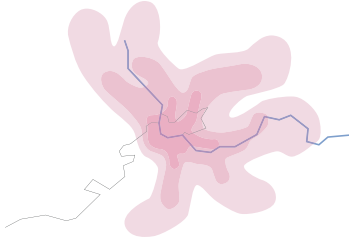
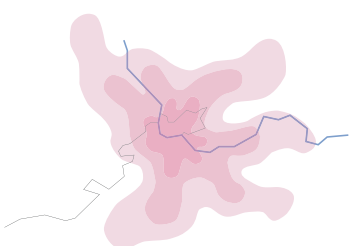
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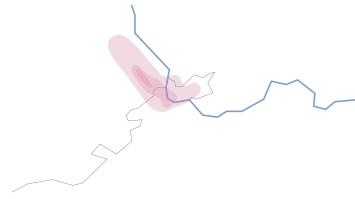
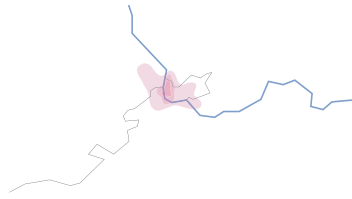
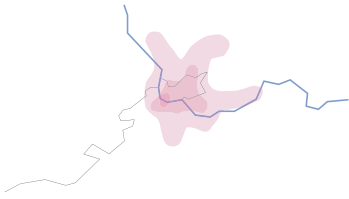
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X
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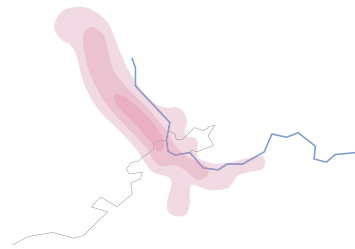
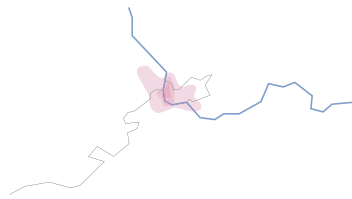
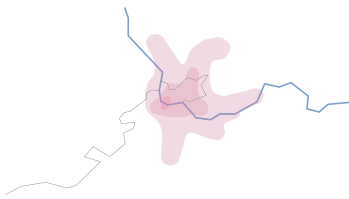
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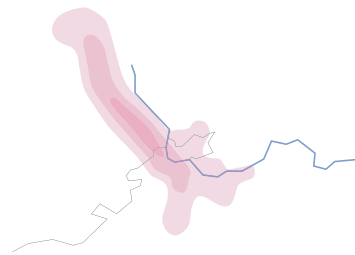
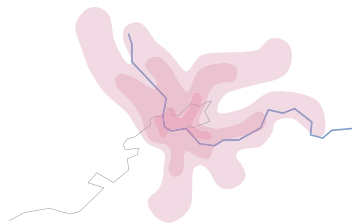
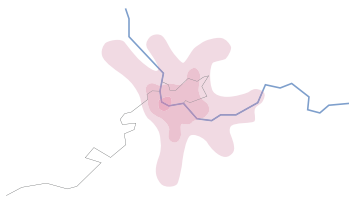
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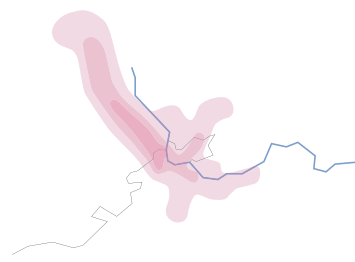
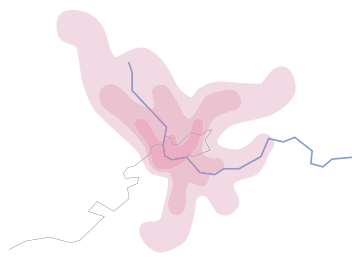
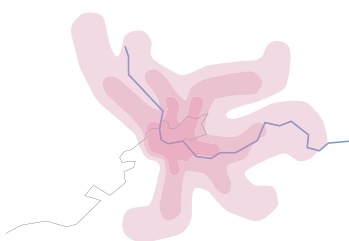
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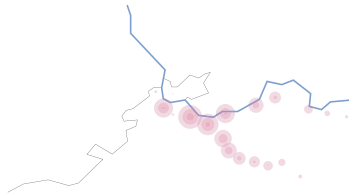
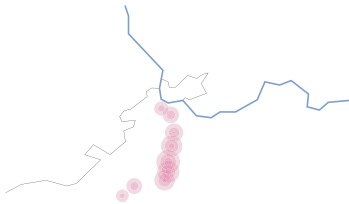
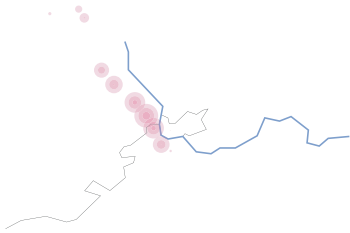
TIME CIRCLE COMPARISON FROM SATELLITE CITIES PARAMETER 10, 20, 30 MIN

St. Louis

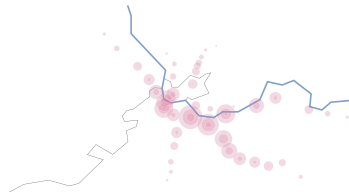
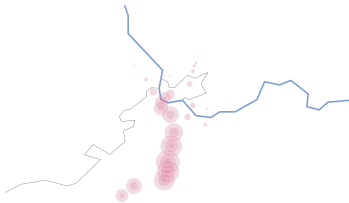
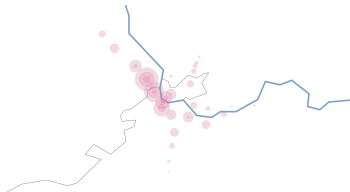
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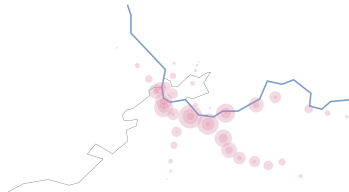
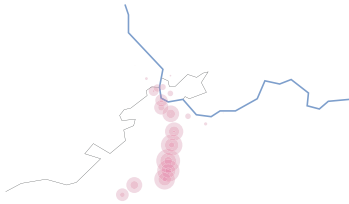
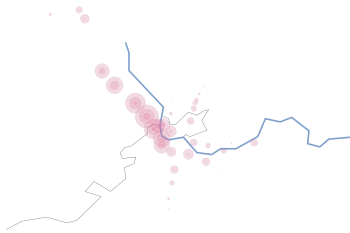
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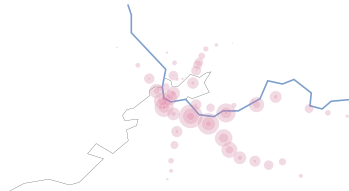
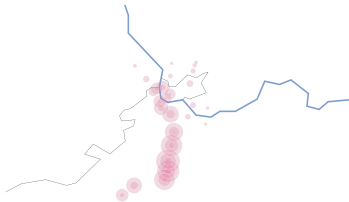
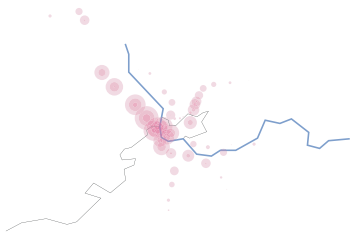
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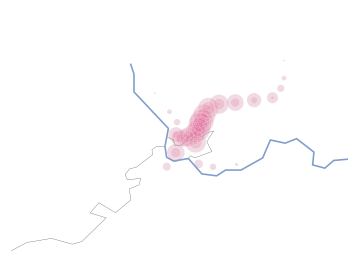
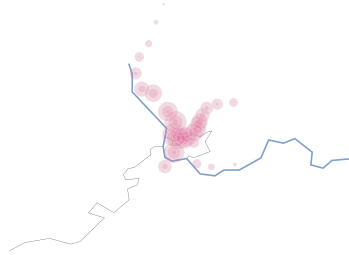
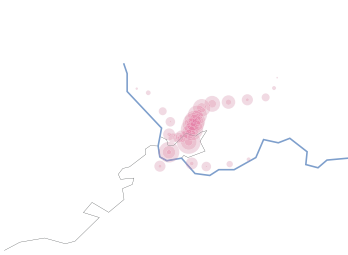
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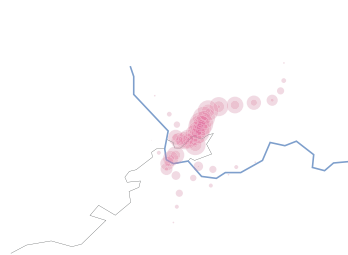
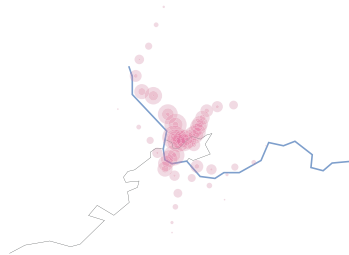
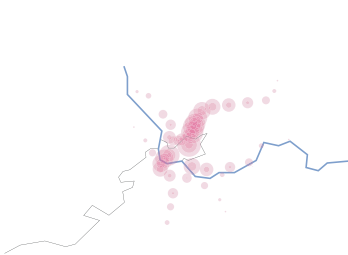
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Weil am Rhein

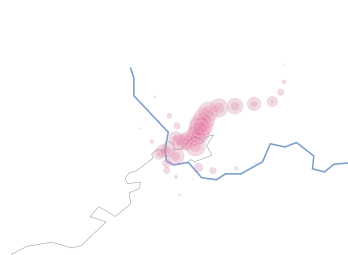
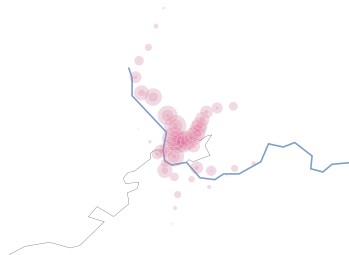
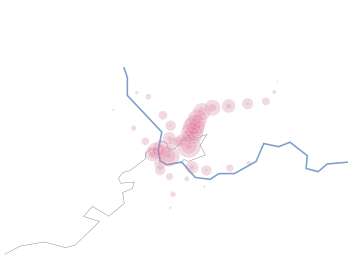
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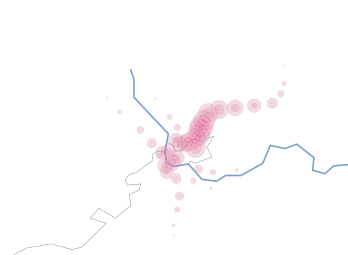
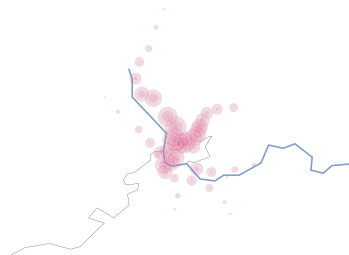
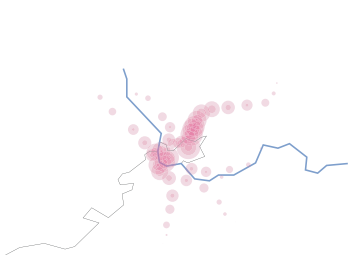
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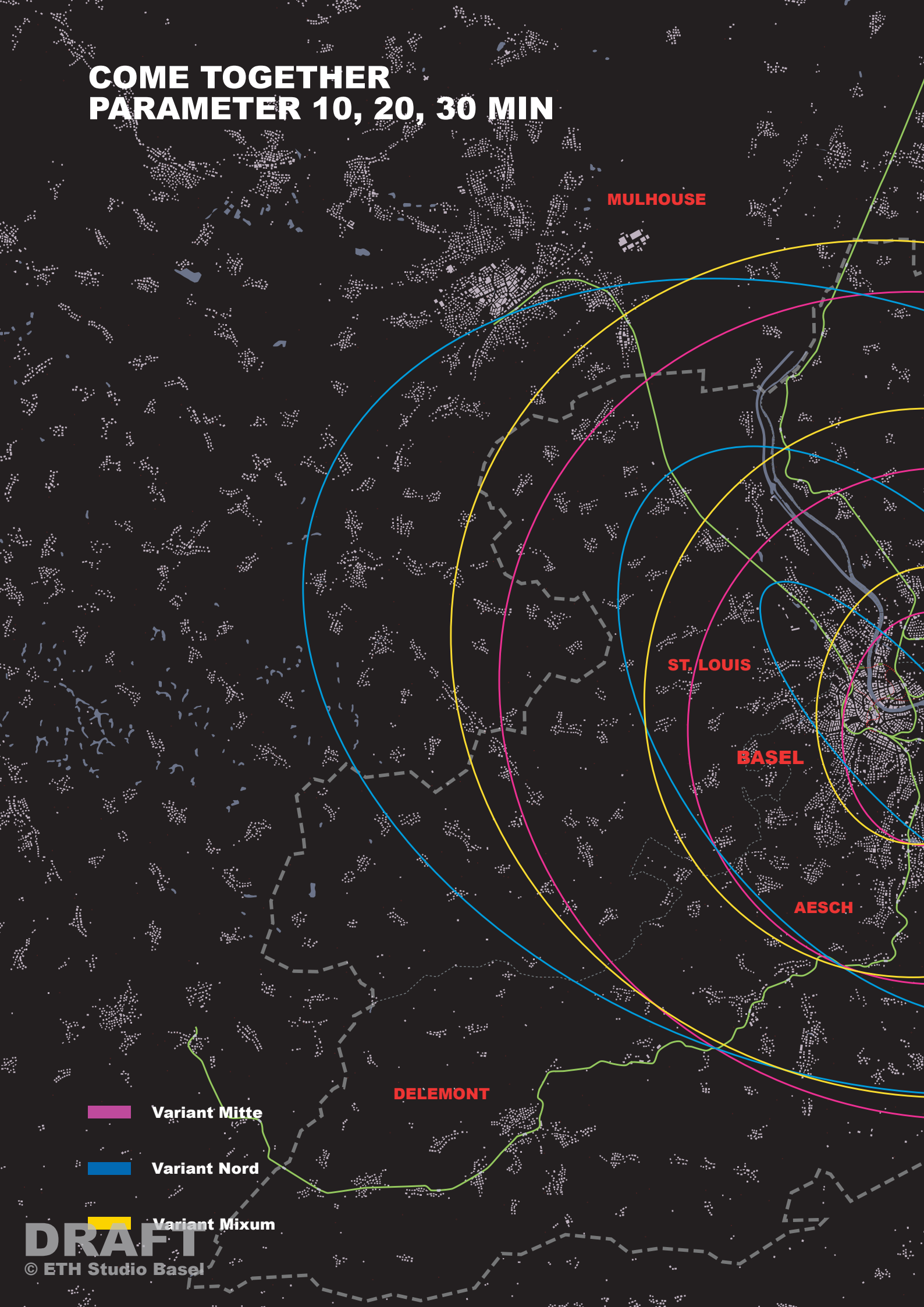


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COME TOGETHER PARAMETER 10, 20, 30 MIN



MULHOUSE

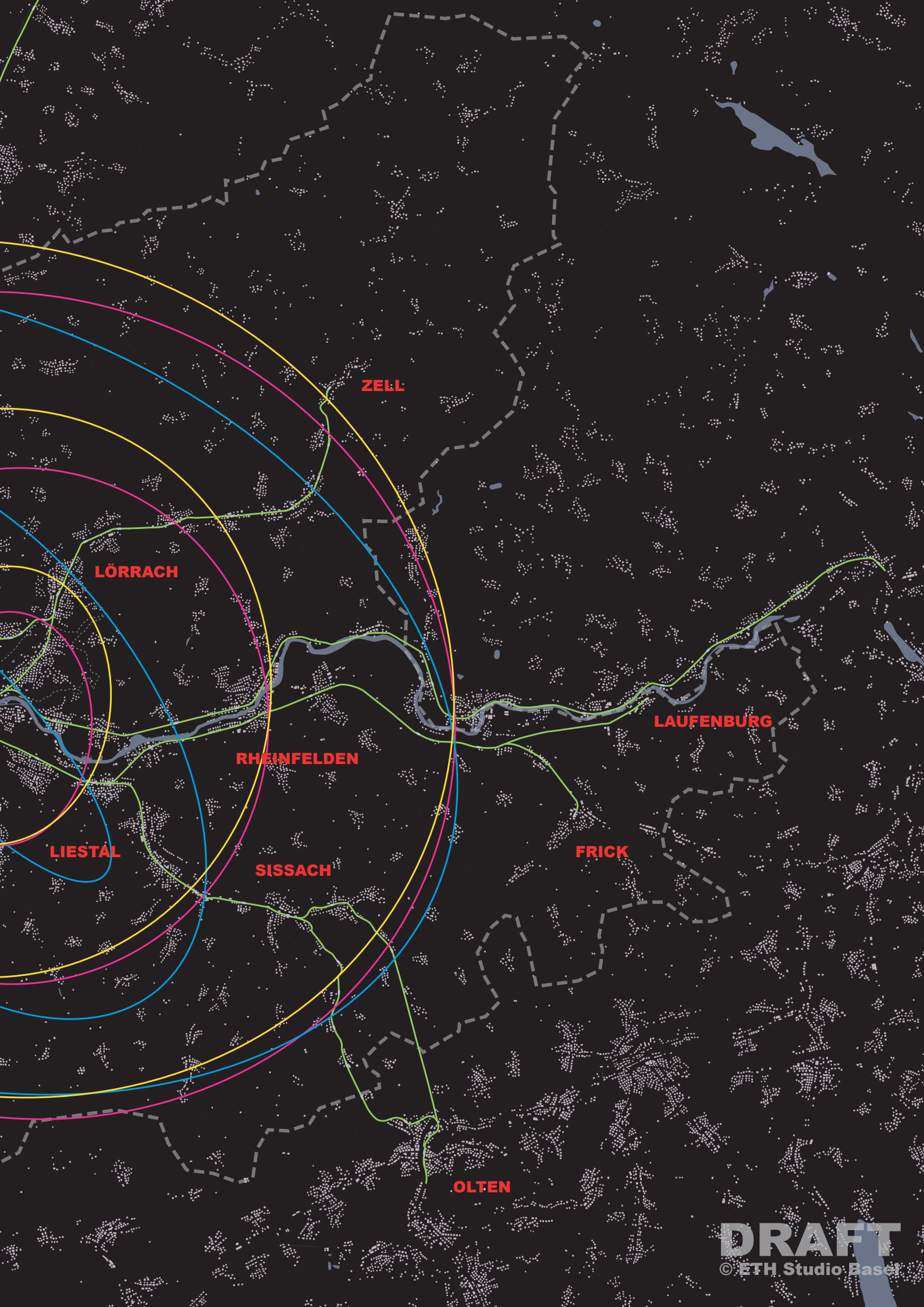
ST. LOUIS

BASEL

AESCH

DELEMONT

-  Variant Mitte
-  Variant Nord
-  Variant Mixum



ZELL

LÖRRACH

RHEINFELDEN

LIESTAL

SISSACH

FRICK

LAUFENBURG

OLTEN



Mulhouse

Euro Airport

Bahnhof Saint.Johann

Basel SBB

Freiburg

Basel Badischer Bahnhof





Container-Terminal Basel

swissterminal

KRUPP

COSCO

COSCO

IAVIS



APPENDIX

INTERNET

General Concept

BAK Basel Economics : www.bakbasel.ch

Metrobasel : www.metrobasel.ch

TAB-ATB : www.tab-atb.org

History of Basel

www.brainworker.ch/Martin-Herzog/Basel/geschichte

Region

Kanton Basel-Stadt : www.basel.ch / www.bs.ch

Kanton Basel-Landschaft : www.bl.ch

Landkreis Lörrach : www.loerrach-landkreis.de

Alsace : www.alsace-cotesud.com

Lörrach : www.loerrach.de

Weil am Rhein : www.weil-am-rhein.de

Ville de Saint-Louis : www.saint-louis.de

Basler Zeitung : www.baz.ch

Traffic

3 Löwen Takt : www.3-loewen-takt.de

Baselland Transport AG : www.bl.t.ch

Basler Verkehrs Betriebe : www.bvb-basel.ch

Distribus : www.distribus.com

History of tram in basel : www.tramoldtimer-basel.ch

Regio Basiliensis : www.regbas.ch

Regio S-Bahn in der Schweiz : www.regio-s-bahn.ch

Regio S-Bahn in Deutschland : www.regio-s-bahn.de

Öffentlicher Nahverkehr im Landkreis Lörrach : www.rvl-online.de

Tarifverbund Nordwestschweiz : www.tnw.ch

Informationsdienst für den öffentlichen Verkehr : www.litra.ch

www.bueker.net/trainspotting

www.onlinereports.ch

Geography

www.geo-bs.ch

Topography

www.swisstopo.ch

Statistics

Bundesamt für statistik : www.statistik.admin.ch

Statistisches Amt Kanton Basel-Stadt : www.statistik.bs.ch

Bienvenue sur le site de la DIACT : www.diact.gouv.fr

Insee : www.insee.fr

Statistisches Landesamt Baden-Württemberg : www.statistik.baden-wuerttemberg.de

Weil am Rhein Wirtschaft & Tourismus : www.w-wt.de

Bundesamt für Raumentwicklung ARE : www.are.ch

www.meinestadt.de/kreis-loerrach

Image Production

Dong Gyu Kim and Libei Zhao

Photography

Dong Gyu Kim and Libei Zhao

Redaction and Layout

Libei Zhao

müllheim bac
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et bad säckingen murg laufenburg lauf
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nkendorf- füllinsdorf liestal lausen ltingen diepfingen sommerau rün
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