

GEFÖRDERT VOM



BlueGreenStreets

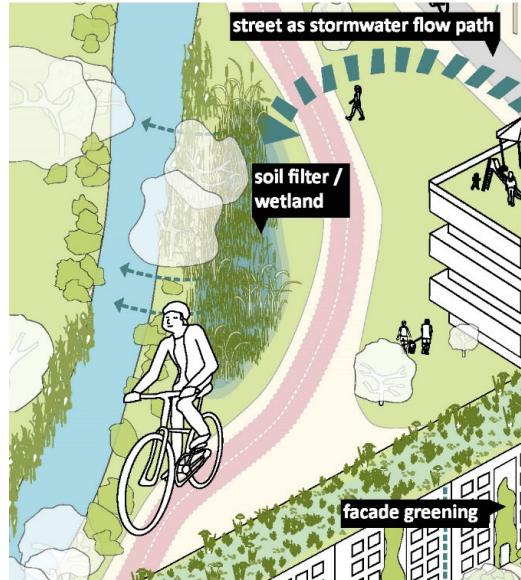
Multifunctional Streetscape Design in Urban Neighborhoods

Presentation to the
MEZINÁRODNÍ KONFERENCE PRAGUE
POČÍTÁME S VODOU 2021
Systém modro-zelené infrastruktury jako investice do měst
9.2.21

Prof. Dr.-Ing. Wolfgang Dickhaut | HafenCity Universität, Hamburg

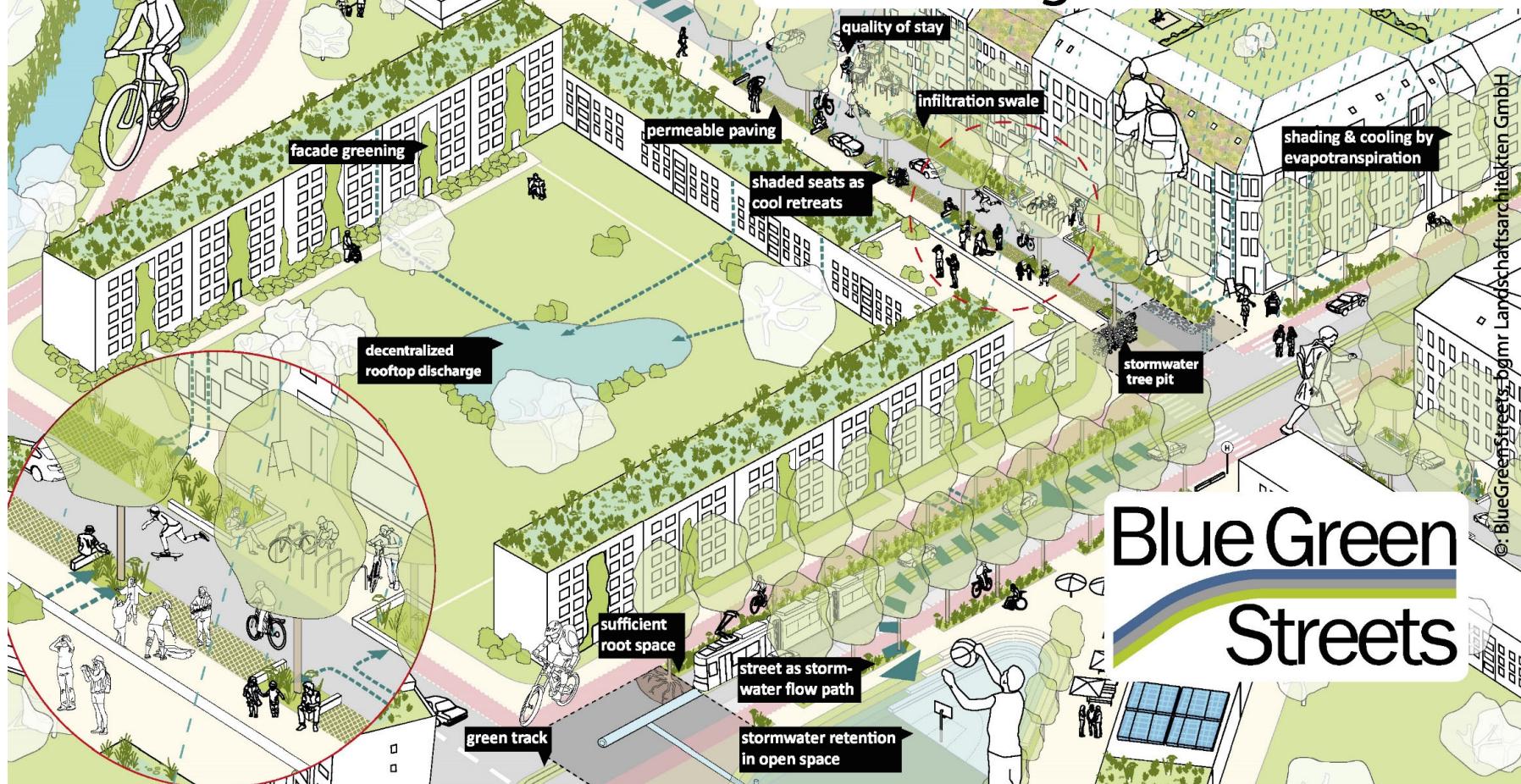


BGS, bgm Landschaftsarchitekten



Prof. Dr.-Ing. Wolfgang Dickhaut (HafenCity Universität Hamburg (HCU))

multifunctional streetscape design in urban neighborhoods



project partners

- Partners universities and companies



HafenCity
Universität
Hamburg



Landschafts
architekten



Universität Hamburg



Sieker
Die Regenwasserexperten



Hochschule Karlsruhe
Technik und Wirtschaft
UNIVERSITY OF APPLIED SCIENCES



INSTITUT FÜR ÖKOLOGISCHE
WIRTSCHAFTSFORSCHUNG



GEO
NET

- Partners in cities

Hamburg

- ❖ Behörde für Umwelt und Energie
- ❖ Bezirksamt Harburg, Eimsbüttel, Altona
- ❖ LSBG-Hamburg
- ❖ Hamburg Wasser

Berlin

- ❖ Berliner Wasserbetriebe
- ❖ Senatsverwaltung für Umwelt, Verkehr und Klimaschutz

Neuenhagen bei Berlin

- ❖ Bauamt, Neuenhagen bei Berlin

Solingen

- ❖ Technische Betriebe, Solingen

Bremen und Bochum



Content of the presentation

1. Targets/Visions of the BGS project
2. Pilot projects in HH
 - Streetscape planning Königstraße
 - Tree pits Hölertwiete



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Thunderstorm in Hamburg - 27.08.2019



9. Februar 2021

Thunderstorm in Hamburg - 27.08.2019



Quelle: www.abendblatt.de

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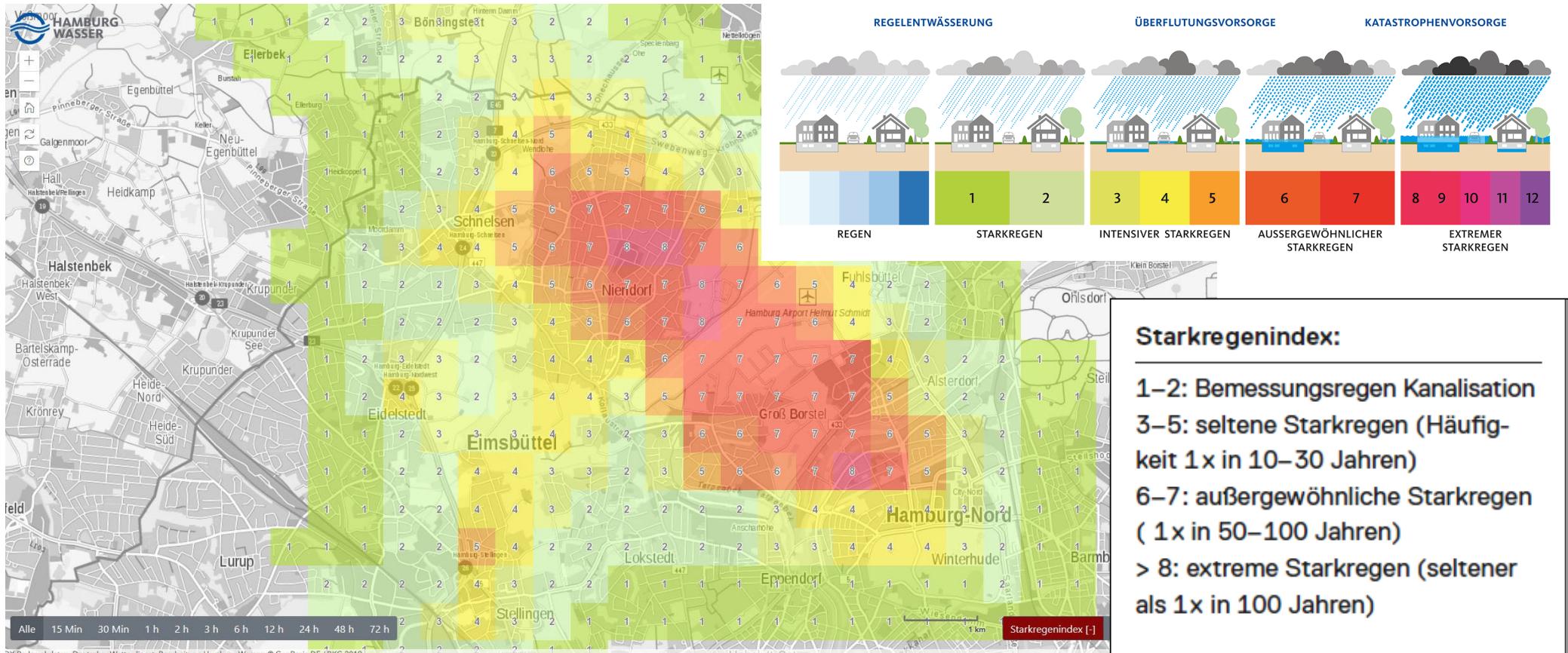
9. Februar 2021

Thunderstorm in Hamburg - 27.08.2019



9. Februar 2021

Blue

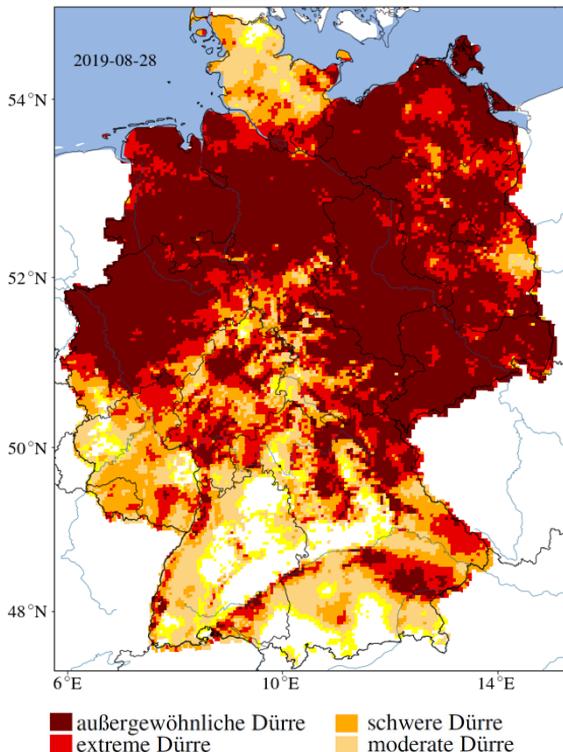


Hamburg 27. August 2019, Quelle: Hamburg Wasser, www.sri.hamburgwasser.de

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Green and Heat

Draught in up to ca. 1.8m deepness



Quelle: Helmholtz Zentrum für Umweltforschung (UFZ)



Hamburg HafenCity 2020



hcu HafenCity
Universität
Hamburg

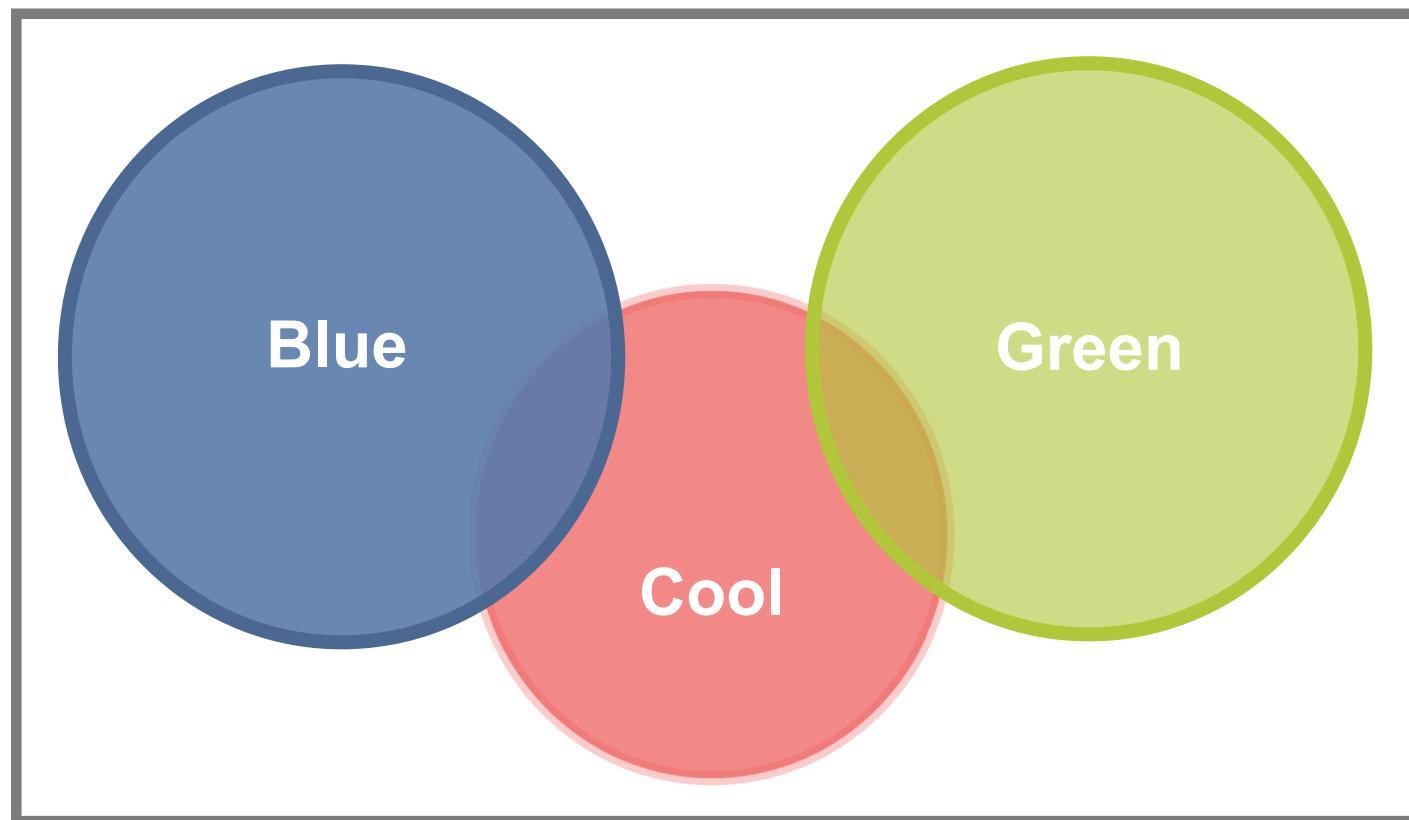
Blue Green
Streets

Target / Vision

„Multifunctional, blue-green streets bring traffic-, water-, microclimate and landscape-related interests together and contribute to climate adaptation as well as for better use possibilities and better quality of sojourn. They consider existing infrastructures and economical frame conditions.“



Targets



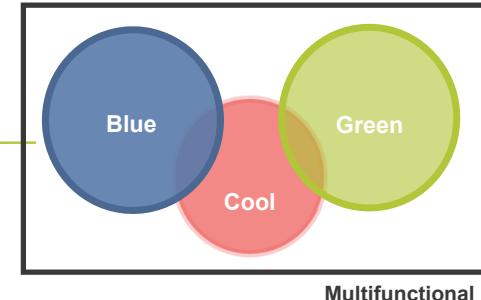
multifunctional

Blue Targets

- Natural water balance
- Protection against flooding
- Climate adaptation

Exemplary:

- Improve water storage
- Enable infiltration
- Disconnect surface from mixed-sewer-systems
- Clean polluted water from streets

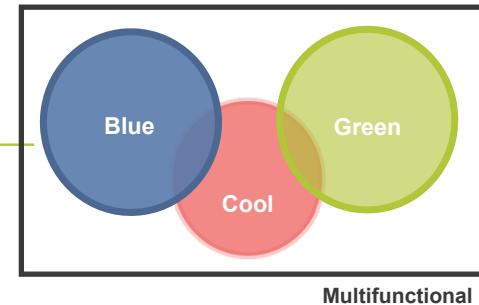


Green targets

- Improve *quality of sojourn*
- Heat protection
- Contribution to biodiversity
- Climate adaptation

Exemplary:

- Unseal surfaces
- Improve the quantity of high-quality landscape
- Increase Evapotranspiration
- Improve vitality of greenspaces

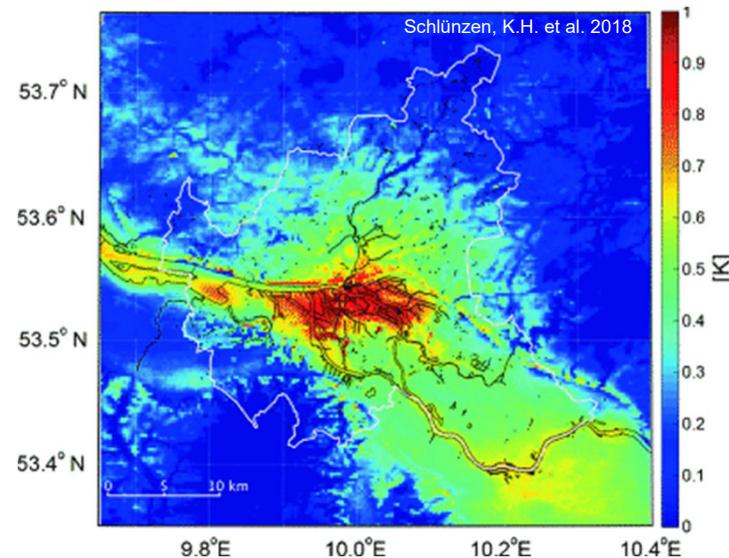
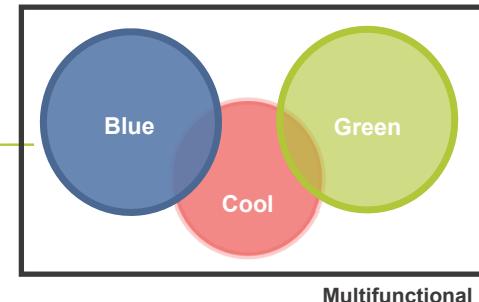


Heat protection

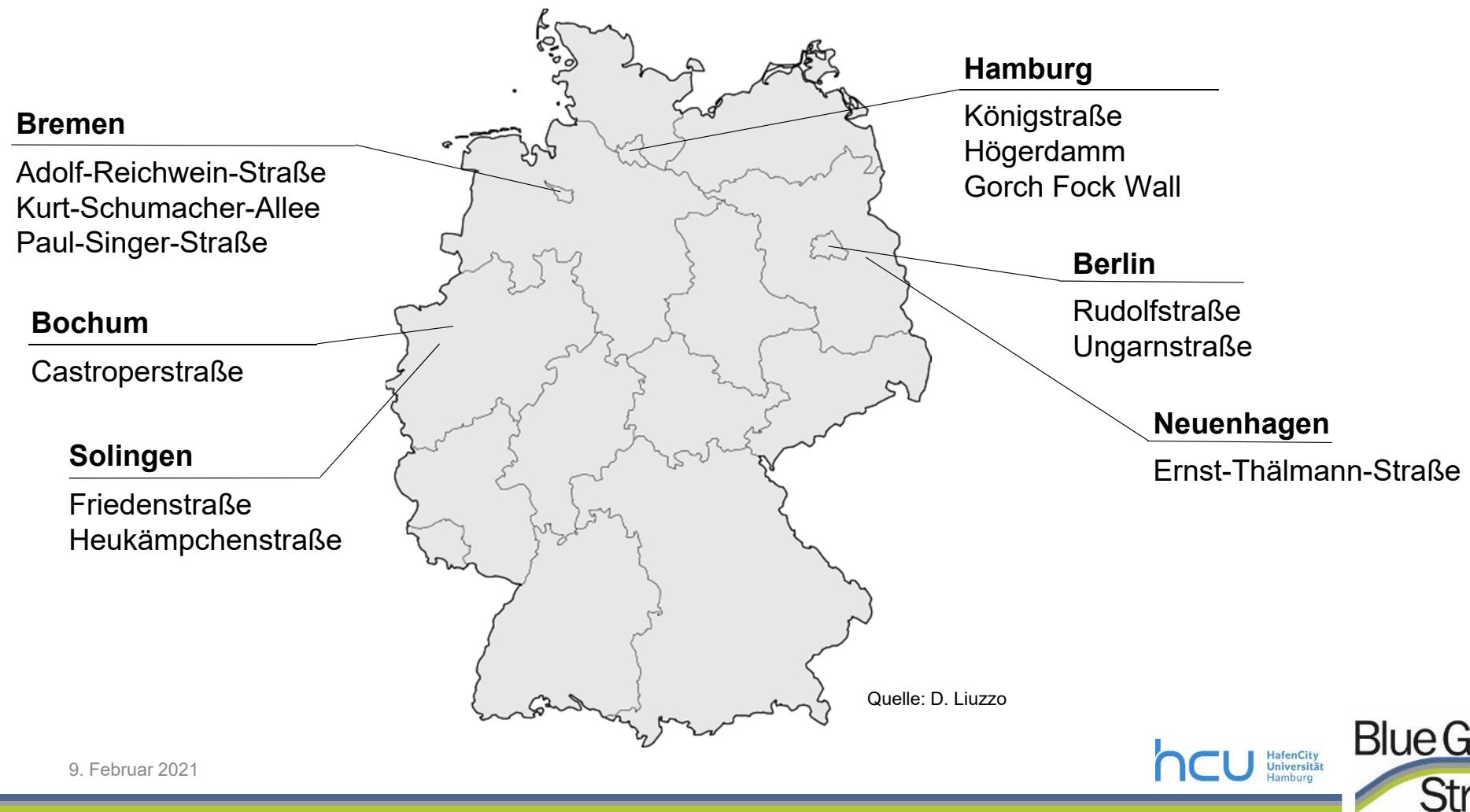
- Thermal well-being
- Health protection
- Climate adaptation

Examplary:

- Unseal surfaces
- Shading surfaces / facades
- Increase Evapotransporation



where? – pilot projects in Germany



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approaches to integrate BlueGreenStreets (BGS)-elements (1)

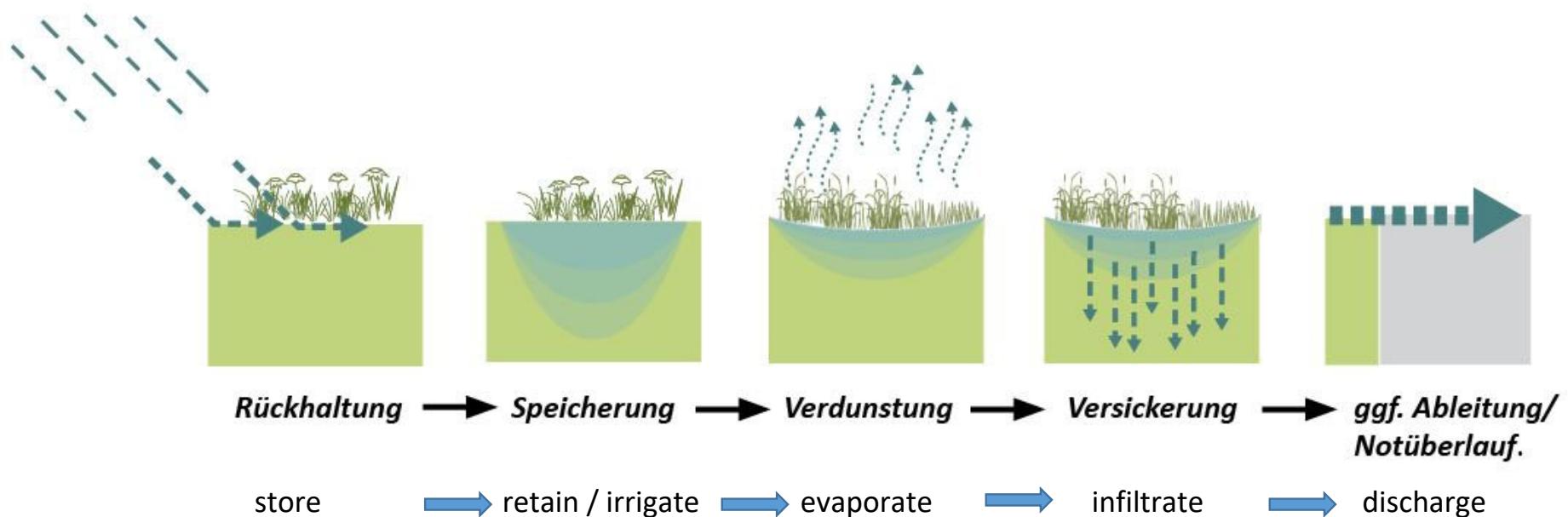
- Create surfaces in streets for BGS, reduction and reorganisation of traffic lanes from individual motor car traffic
- Look for and create potentials for BGS in close by surfaces
- Integrate (small scale) BGS in existing streetsurface



Quelle: HCU

approaches to integrate BlueGreenStreets (BGS)-elements (2)

Cascade of integration of BGS-elements



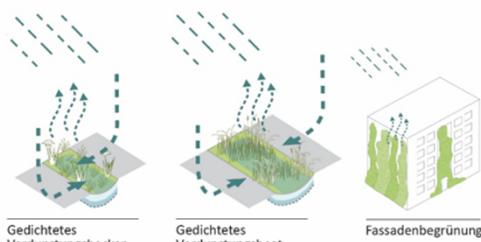
Quelle: HCU

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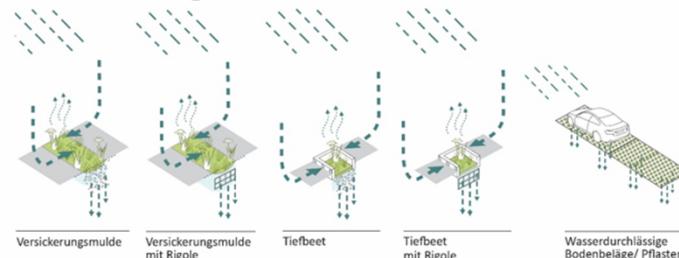
approaches to integrate BlueGreenStreets (BGS)-elements (3)

BGS-elements

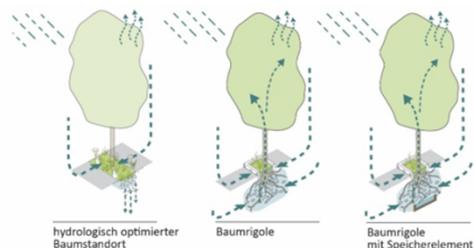
Verdunstung



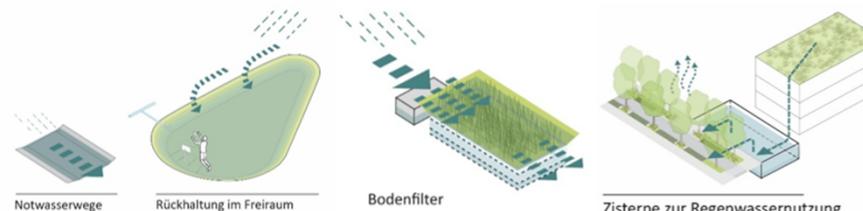
Versickerung



Vitale Baumstandorte



Starkregenvorsorge Integrierte technische Systeme



Aufenthaltsqualität



BGS, bgmr

BGS, bgmr Landschaftsarchitekten

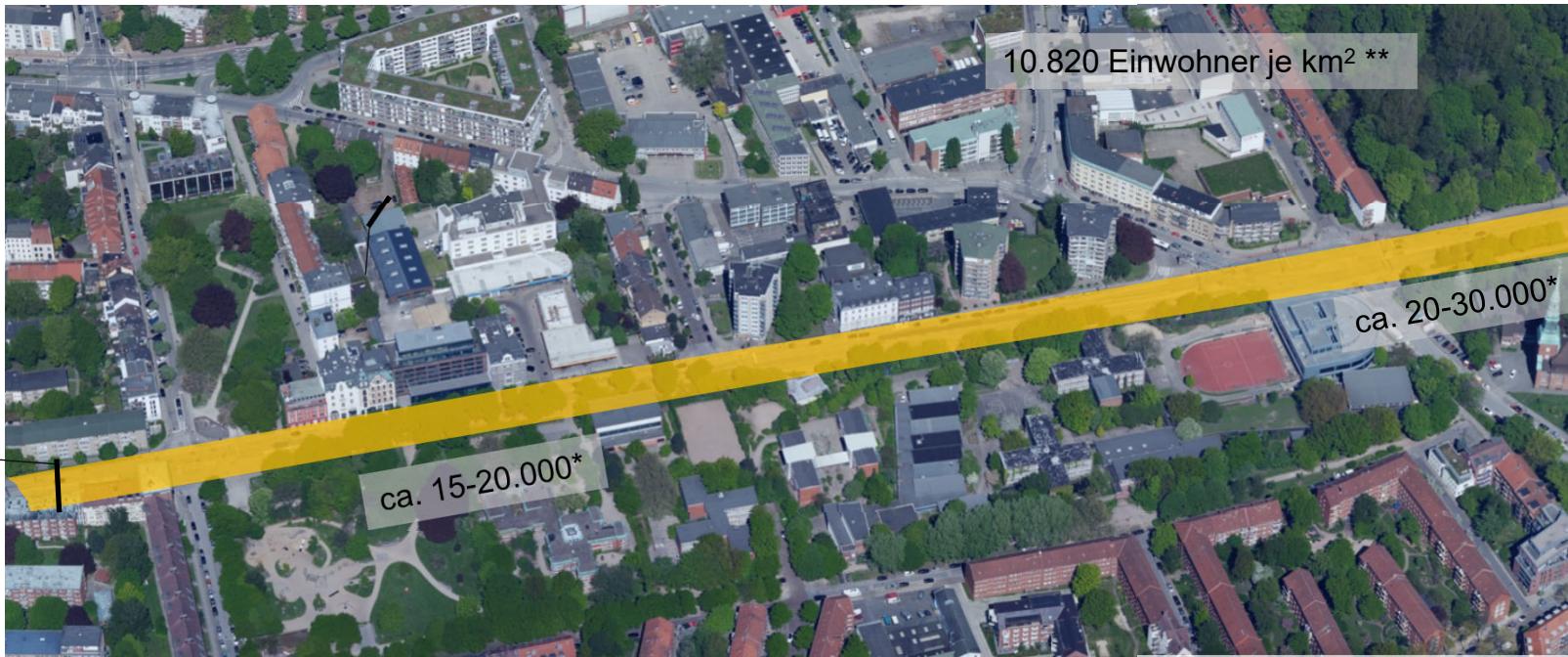
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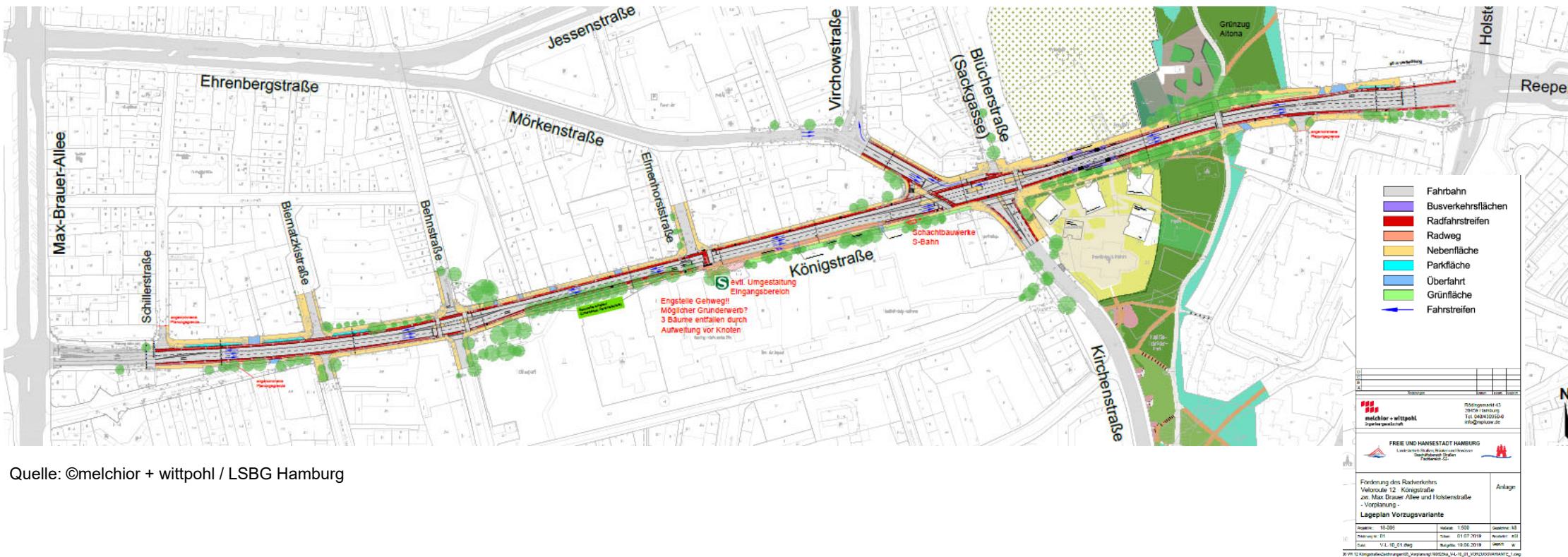
Hamburg: Königstraße

Location and traffic situation



Quelle:
HCU, basierend auf LGV, Hamburg
*Verkehrsmengen DTVw an
Hauptverkehrsstraßen 2014,
BWVI, 2016
**www.statistik-nord.de 2017

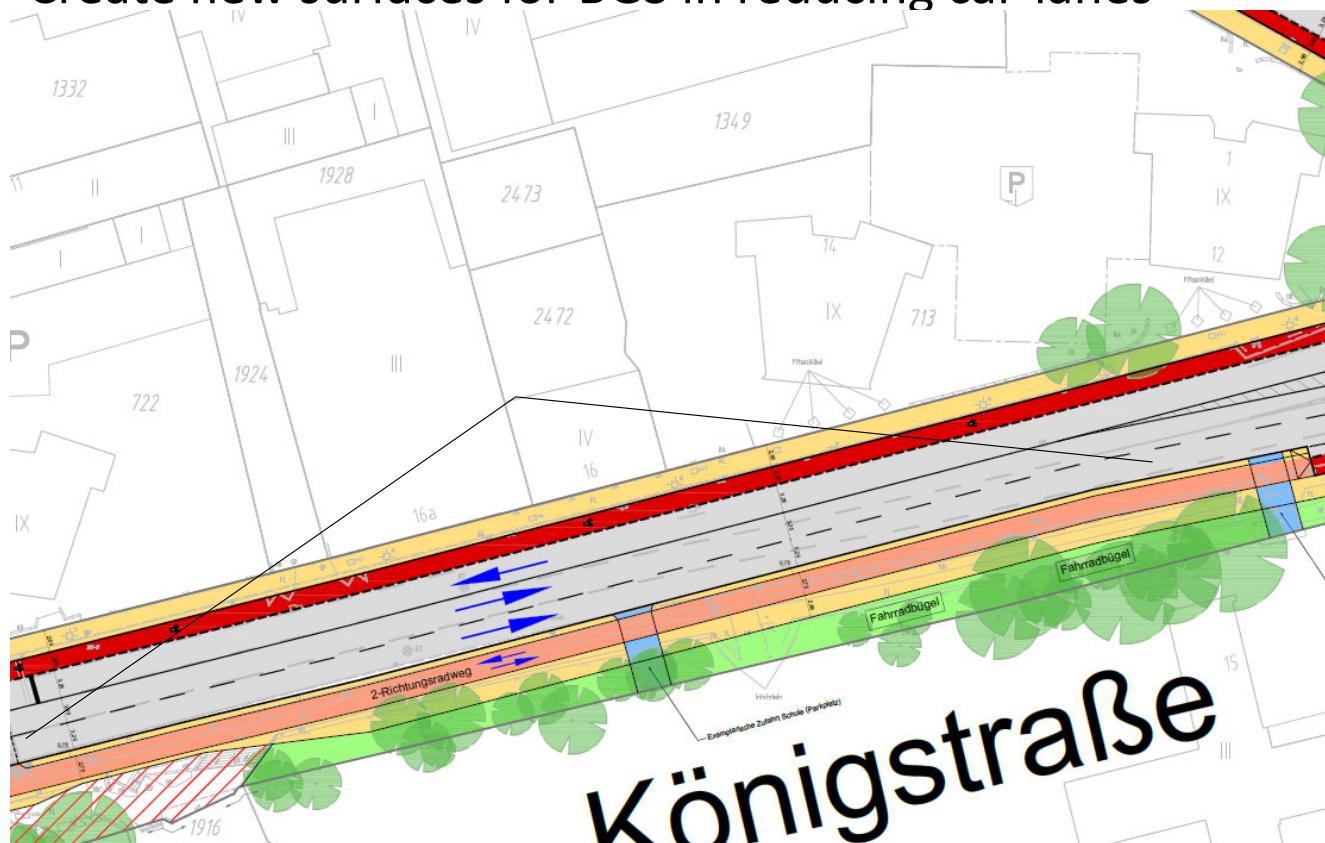
plan for new street design – before BGS starts



Quelle: ©melchior + wittpohl / LSBG Hamburg

BlueGreenStreets – ideas for new concepts

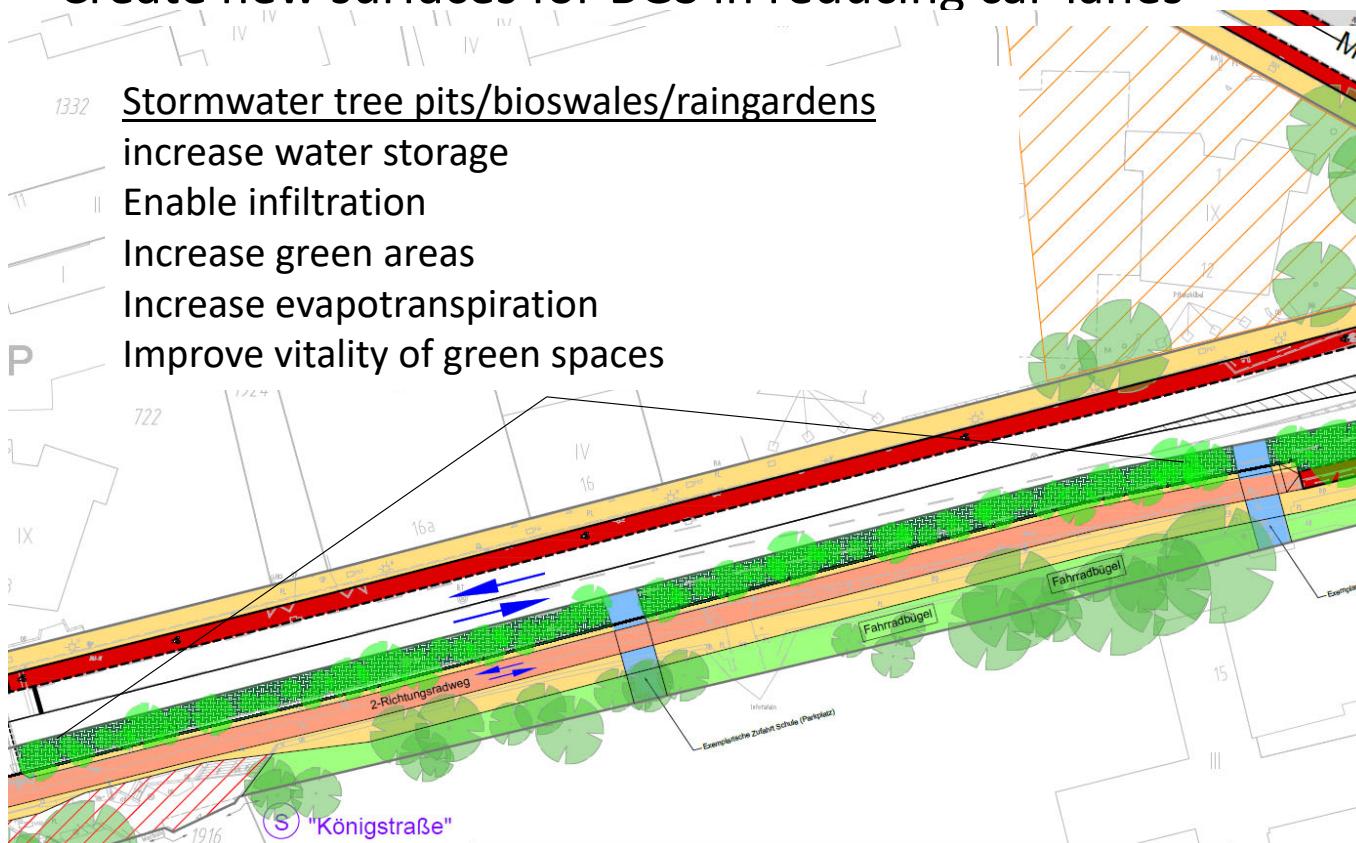
Create new surfaces for BGS in reducing car-lanes



Quelle: ©melchior + wittpohl /
LSBG Hamburg

BlueGreenStreets – ideas for new concepts

Create new surfaces for BGS in reducing car-lanes



Quelle: ©melchior + wittpohl /
LSBG Hamburg

BlueGreenStreets – ideas for new concepts

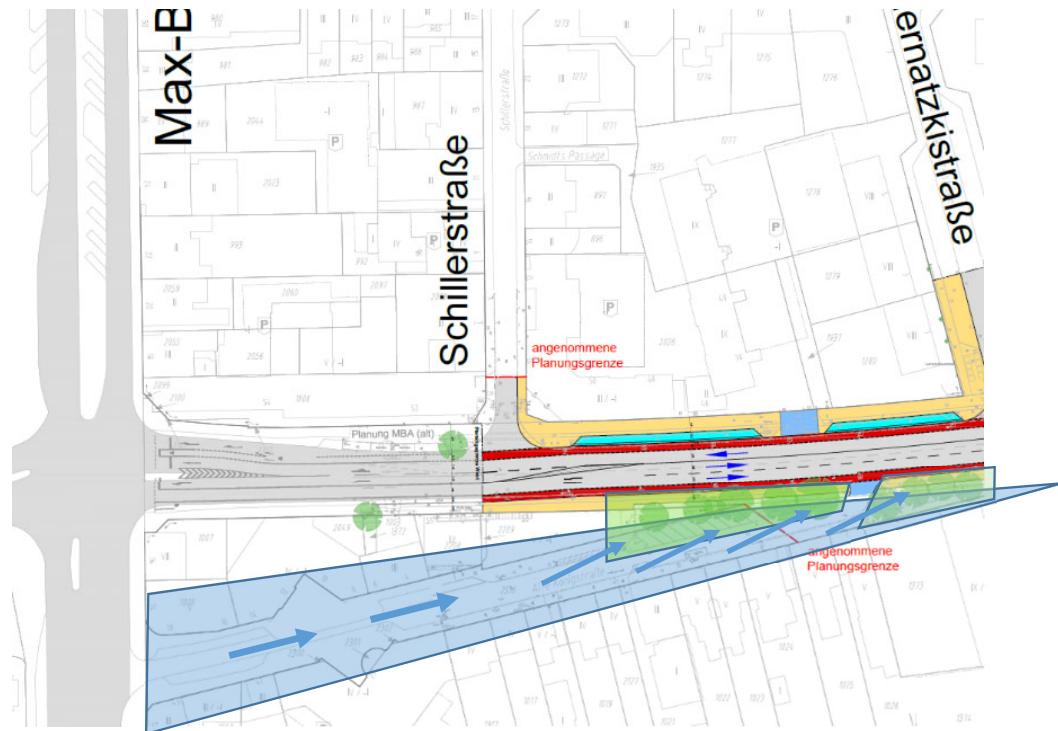
Create new surfaces for BGS in reducing car-lanes



Quelle: © HCU_BlueGreenStreets

BlueGreenStreets – ideas for new concepts

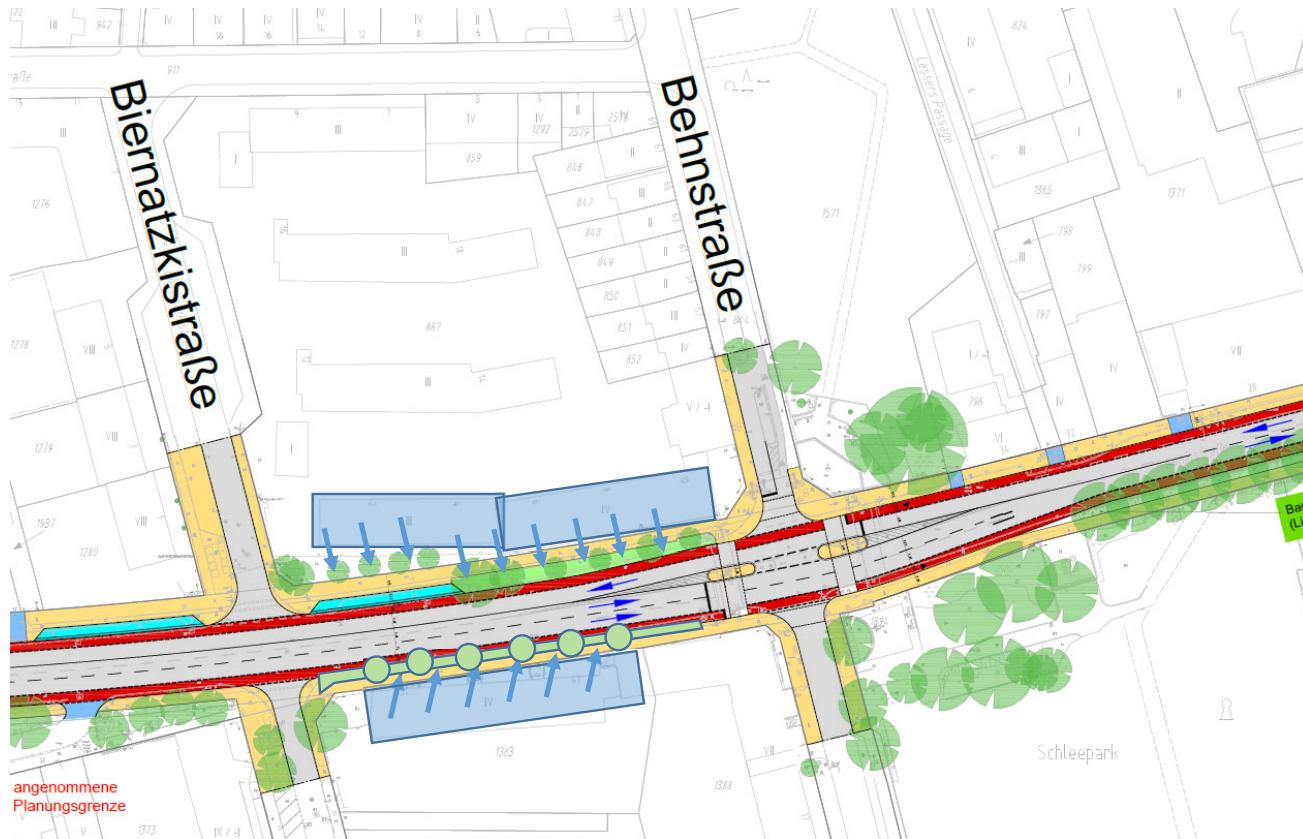
Use potentials for BGS in analysing the nearby surfaces beside the streets



Quelle: ©melchior + wittpohl /
LSBG Hamburg

BlueGreenStreets – ideas for new concepts

Use potentials for BGS in analysing the nearby surfaces beside the streets



Quelle: ©melchior + wittpohl /
LSBG Hamburg

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BlueGreenStreets – ideas for new concepts

Integrate (small-scale) BGS in existing street surfaces



Quelle: © HCU_BlueGreenStreets

BlueGreenStreets – ideas for new concepts

Integrate (small-scale) BGS in existing street surfaces



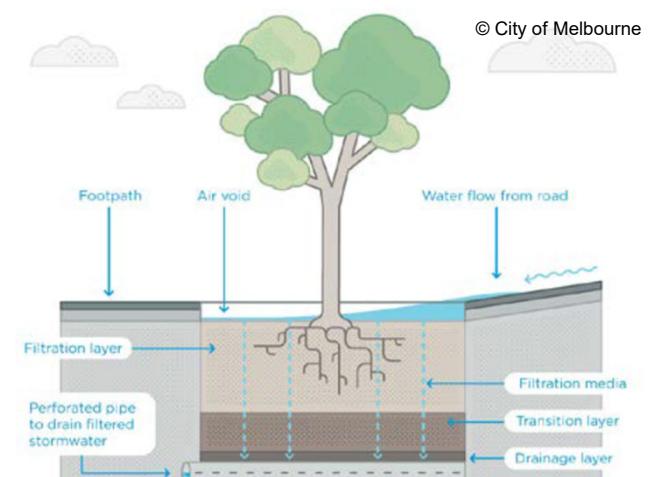
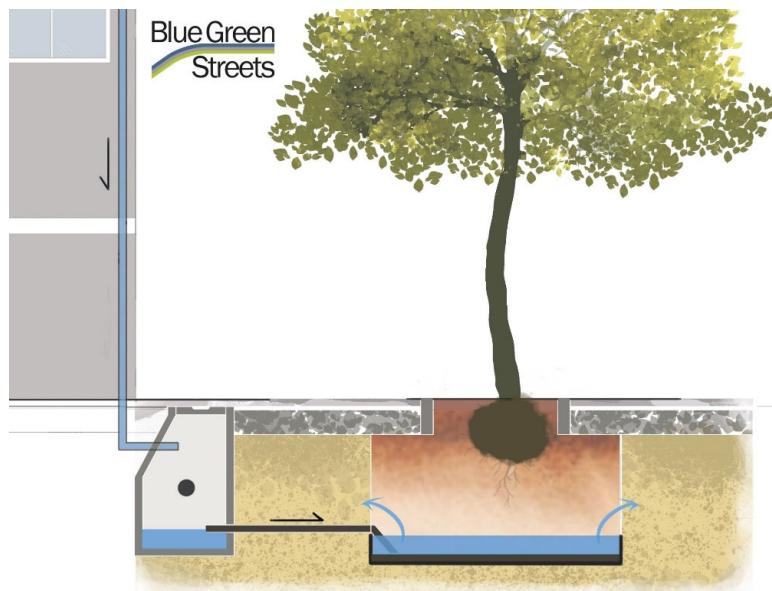
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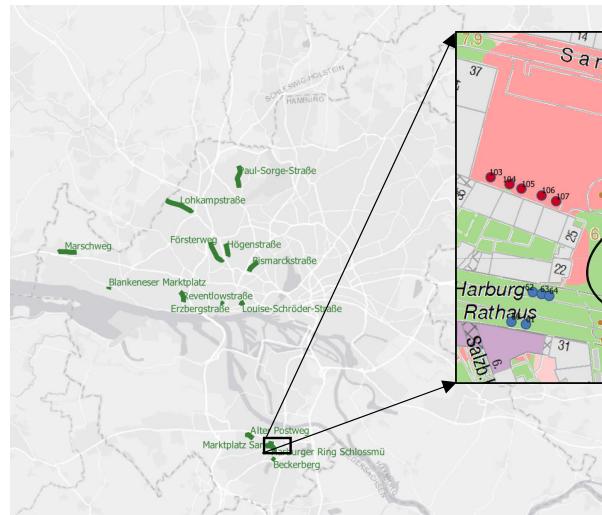


BlueGreenStreets – stormwater tree pits / infiltration pits

1. Stormwater infiltration into tree pits – disconnect roofs/streets/parking lots etc. from sewer system
2. Storage of water in root space – improve water availability



BlueGreenStreets – Tree pits Hölertwiete, Harburg



BlueGreenStreets



Quelle: © The Dirt, Queens Plaza/ Margie Ruddick

contact



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