Levels of spatial planning, Preparatory Land Use Plan, Sustainable Development. The Stuttgart Example

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The Greater Stuttgart Region within Europe

Democratic parliamentary federal republic

16 Federal States (13 „Area“ states, 3 „City“ states)

Germany:
- population: 82 Mio inh.
- density of population: 230 inh./km²
- population in cities: 73 Mio inh.
- Urbanisation: 88.91%
The Greater Stuttgart Region

- 179 Municipalities
- 2.7 mio. Inhabitants (Mumbai Metropolitan Region 18.4 Mio)
- 3.654 km²
- 718 Inhabitants/km²
View on Stuttgart

594,000 inhabitants (Mumbai 12,5 Mio)

460,000 workplaces

Square dimension 207 km² (603 km²) (2914 inh./ km² (20680 inh./ km²))

Altitude above sea-level: 207– 549m (11 m)
Facts and figures

City of Stuttgart
- Centrally Located in Germany and Europe
- Good accessibility to highways, rail network, airport and water route:

Stuttgart Main Station
164 long distance trains p.d.
426 short distance trains p.d.
200,000 travellers and visitors p.d.

Stuttgart Airport
~ 400 take offs and landings p.d.
~ 10 mio. passengers p.a.
~ 20,290 t air freight p.a.

Stuttgart Port
~ 2.7 tons freight p.a.

Source: LHS
Facts and figures

Economic Data
Business Location Stuttgart Region

• About 160,000 registered companies
• 1.5 million economically active people
• GDP: 110 billion EUR
• R&D expenses by the companies: 7.5% of GDP
• High international competitiveness: more than 60% of turnover in manufacturing is generated abroad
• Low unemployment rate: 4.2% (01/2015)
Facts and figures

Important Company Headquarters
Business Location Stuttgart Region
Facts and figures

Basis Public Transport in Stuttgart (City)

- Organisation: Public Transport Authority (SSB), Regional Public Transport Association (VVS)

- Since end of 70ies continuous expansion
- First Light Railway in 1985
- Passengers: ~ 500,000 p.wd.
- LRT: 16 lines, 209 km route-length
- Buses: 54 lines, 672 km route-length
- 815 stops and stations
- 70% of citizens very comfortable with PT

Source: SSB / VVS
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Levels of spatial planning in Germany

Federal spatial planning
(Raumordnerische Grundsätze, Leitbilder)

Conference of Ministers of Spatial planning

State spatial planning
(Landesraumordnungsprogramme und -pläne)

Regional planning
(Regionalpläne)

Local planning
(Bauleitpläne)

Public agencies

Sectoral planning

European Union – European Land use Development Concept (EUREK)
Planning in European Context

Basic goals of principles of countries spatial organisation taking account of European Union spatial policy and setting a framework for the states legal regulations affecting local plans.
Federal spatial planning report
Principles and guidelines for spatial Planning as well as guiding principles for spatial development

Trends der Raumentwicklung

Population projection for Germany

Decreasing regions

Increasing regions
Germany has a decentralized planning system with the planning jurisdiction on the municipal level (local planning autonomy – but municipal planning shall be brought into line with the aims of planning on state and regional level).
System of planning in Germany

State level
- State Development Plan
- State Landscape Program

Regional level
- Regional Plan
- Landscape Framework Plan

Municipal level
1. Urban Development Strategy
2. Land Use Plan
3. Urban Framework Plan
4. Local Development Plan
5. Green Structure Plan
6. Local Urban Design Plan
7. Special Orders
8. Application for Building Permission

City-wide planning area
Representation of the desired spatial and structural development for the territory of the state. The plan includes comprehensive, statewide aims of spatial planning for 1110 municipalities within 12 regions.
Scale 1:900 000
Plan covers the entire state of Baden-Württemberg
Regional Planning Act
State Planning Act
System of planning in Germany

- **State level**
  - State Development Plan
  - State Landscape Program

- **Regional level**
  - Regional Plan
  - Landscape Framework Plan

- **Municipal level**
  - Urban Development Strategy
  - Land Use Plan
  - Urban Framework Plan
  - Local Development Plan
  - Local Urban Design Plan
  - Green Structure Plan
  - Special Orders
  - Application for Building Permission

Abb. N. Baumüller
The Regional Plan is subdivided into the following parts: goals, basic principles, recommendations and written statements for the development of settlements, green belts, and infrastructure. It outlines the regional structure of land uses and governs the spatial order to coordinate the development of settlement and recreational uses with transportation and infrastructure networks and public facilities. An underlying basic planning principle is the concept of development corridors.

Scale 1:50 000
Plan covers the Greater Region Stuttgart (3654 km², 2.6 Mio Inh.)
Legal basis:
Regional Planning Act
State Planning Act
It constitutes the link between the state’s perspectives for development and the special local decisions in the context of urban land-use planning.
Regional plan

Guideline for urban development of 179 municipalities
Classified street network
Classified public transport network
Regional Green Corridors terminate local decisions by state planning law
Preparatory Land Use Plan
Flächenutzungsplan

Objective and content
German municipal planning (Bauleitplanung) consists of two levels of planning: preparatory land use planning and legally binding local development planning at the single lot level. The Flächenutzungsplan (FNP, F-Plan) "Preparatory Land Use Plan" prepares and organizes the use of all lots located within a municipality for building and other types of use according to the prerequisites of the Baugesetzbuch (BauGB) "Federal Building Code". Usually, the planning interval is 15 years.

Scale 1:10000
Pan covers the entire municipality of Stuttgart (207 km², 590,000 Inh.)
Legal Basis:
Federal Building Code

§ 5 "Federal Building Code"
(1) The preparatory land use plan shall represent in basic form the type of land uses arising for the entire municipal territory in accordance with the intended urban development which is proposed to correspond to the anticipated needs of the municipality.
Landscape Plan
Landschaftsplan

Objective and content
The Landschaftsplan (LSP) “Landscape Plan” implements the aims of nature protection and landscape conservation and thus adds these components to municipal urban development and land use planning. When the Flächenutzungsplan was updated on July 18th 1996, the Municipal Council simultaneously decided to draw up a new Landschaftsplan. The Landschaftsplan supplements and counterbalances the provisions of the Flächenutzungsplan and elaborates on landscape as a natural life resource. It covers both settled and non-settled areas, as well as areas zoned for nature protection.

Essential statements of the current Landscape Plan draft (for example, the identification of areas with insufficient green spaces, the designation of green corridors within built-up areas, of landscape development areas, and of zones for mitigation measures, allotment and market-gardening) entered the Flächenutzungsplan that is now binding in effect.

Scale 1:10000
Plan covers the entire municipality of Stuttgart
Nature Protection Statute BW
System of planning in Germany

State level
- State Development Plan
- State Landscape Program

Regional level
- Regional Plan
- Landscape Framework Plan

Municipal level
- Urban Development Strategy
- Land Use Plan
- Landscape Plan
- Urban Framework Plan
- Local Development Plan
- Green Structure Plan
- Local Urban Design Plan
- Special Orders
- Application for Building Permission

City-wide
City-wide
planning area
planning area
planning area

Abb. N. Baumüller
Local Development Plan
Bebauungsplan

Objective and content
The Bebauungsplan (B-Plan) “Local Development Plan” / “Legally Binding Land Use Plan” / “Zoning Map” is the second, legally-binding level of German municipal development and land use planning (Bauleitplanung). It is derived from the Flächennutzungsplan “Preparatory Land Use Plan” and safeguards the socially equitable use of land for the good of the general community.

Whereas the Flächennutzungsplan contains the general guidelines for the urban development of an entire municipality, the B-Plan particularizes the plan at lot level and makes it legally binding.

According to the prerequisites of the Baugesetzbuch (BauGB) “Federal Building Code” as of August 2004, an Umweltprüfung (UP) “Environmental Impact Assessment” (EIA) has to be conducted during B-Plan preparation. It identifies the expected impact on the environment, described and evaluated in an Umweltbericht “Environmental Report”:

Scale 1:500 – 1:1000

Territory covered by plan depending on project

Federal Building Code
The Gruenordnungsplan (GOP) “Local Green Structure Plan” / “Open Space Structure Plan” is a non-formalized, supplementary plan of the Bebauungsplan “Local Development Plan”.

According to the state’s “Nature Protection Statute” (NatSchG § 7 Abs. 1 and § 9 Abs. 1), municipal planning authorities are obliged to work on a Gruenordnungsplan as soon and as far as necessary to adopt, complement, alter or override current local development plans.

**Scale 1:500 – 1:1000**

**Territory covered by plan depending on project, partly exceeding the B-plan Territory**

**Natural Protection Statute BW**
Levels of spatial planning in Stuttgart
From State spatial planning to municipal land use and development planning
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### The challenges and future tasks of urban development in Stuttgart

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Urban Sprawl Stuttgart

Growth of the Urban Area – problem with land consumption

Section 1(5) Federal Building Code:

...Land shall be used in a manner which is both economical and considerate exploitation of land..
Luftbild Brugger
Scale 1:10000
Plan covers the entire municipality of Stuttgart (207 km², 580,000 inh.)
Legal Basis:
Federal Building Code

§ 5 “Federal Building Code”
(1) The preparatory land use plan shall represent in basic form the type of land uses arising for the entire municipal territory in accordance with the intended urban development which is proposed to correspond to the anticipated needs of the municipality.
Master Plan: Rail Systems
Explanatory Statement

Land Use Plan 2010
Guideline:
Compact - urban - green

- relation development in brownfield areas to greenfield sites 4:1
- high density, mixture of functions and revitalization of the polycentric structures
- landscape: protect green areas, develop a green-network through the brownfield-areas
Preparatory land use plan Stuttgart
„compact – urban – green“

Protected open areas
7 Naturschutzgebiete
nature reserves  1,362 ha   6.6%
27 Landschaftsschutzgebiete
landscape conservation areas  6,715 ha  32.4%

(Quelle: Landeshauptstadt Stuttgart / LUBW, 2007)
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Sustainable Management of Building Areas Stuttgart (NBS)

Between 2001 and 2003 the City of Stuttgart developed a “NBS” Management-Tool to support the inner urban development. The result was an information platform of all inner urban potential sites under the “Sustainable Management of Building Areas Stuttgart” (NBS) within the framework of a pilot project.
Sustainable Management of Building Areas Stuttgart (NBS)

- Since 2003 inventarisation of potential building areas providing a city-wide overview
- Internet based information platform continuously updated
- Strategies to promote revitalization of brownfield areas
- Concept to promote sustainable development on the base of the Land Use Plan Stuttgart

ca. 350 potentials for inner urban development of about 500 ha (1235 acres)
Types of areas in NBS

Type I: traditionelle Baulücke
- empty lot
- inner zone
- has never been built-up before
Example: Am Rührbrunnen

Type II: Brachflächen
- brownfield site
- Areas no longer used / lying idle
Example: former sugar factory

Type III: untergenutzte Grundstücke.
- developed on a low level
Example: Department of Town Cleaning
Types of areas in NBS

Type IV: ungenutzte Betriebs-Reserveflächen
reserve on developed real estate
Example: Plieninger Straße

Type V: Umnutzungs-, Konversionsflächen
conversion area
Example: freight depot Feuerbach

Type VI: Neubauflächen FNP Stuttgart
undeveloped real estate
Example: Hohlgrabenäcker
Sustainable Management of Building Areas Stuttgart (NBS)

Nachhaltiges Bauflächenmanagement Stuttgart (NBS)
Research projects to promote inner urban development in Stuttgart
Sustainable Management of Building Areas Stuttgart

Stuttgart 21
Inclusion of Stuttgart’s main station into the European high-speed rail network.

From a 16-tracks terminal station to 8-tracks through station below ground.

Stuttgart 21
S21 100 ha (250 acres)

12,000 Inhabitants
24,000 Workplaces
20 ha (50 acres) Park extension

Stuttgart 21
Stuttgart 21
... parks will be enlarged by more than 20 ha (50 acres)

Stuttgart 21
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Environmental aspects in spatial planning in Stuttgart
Urban land-use planning
Regional Green Corridors restrict local decisions by state planning law
Water protection
Noise abatement plan
Clean air and action plan/KLIKS

Forecast for annual average

NO₂ (2010)
Unit: µg/m³

≥ 80  ≥ 65  ≥ 50  ≥ 40  ≥ 30  ≥ 20

Legend

Sum of carbon dioxide emissions t/year per km²

Data basis:
Emissions inventory by the State Institute for Environment, Measurement and Nature Conservation Baden-Württemberg 2010

Edition and mapping:
Section of Urban Climatology, Office for Environmental Protection, City of Stuttgart
H. Esser, 2010

STUTTGART

Road network
Climate atlas for the region of Stuttgart

Analysis map

Climate protection
Climate atlas
Public participation
Thanks for your attention!

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