THE COMPONENTS OF A MASTERPLAN

TAEKE M. DE JONG
Department of Architecture, Department of Urbanism
Chair technical ecology and methods
University of Technology Delft
Julianalaan 132, 2628 BL Delft
THE NETHERLANDS
T.M.deJong@tudelft.nl http://team.bk.tudelft.nl

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Abstract
An urban master plan is more than a summary of projects. It should offer a differentiation of form, structure and function to select proper projects to be realised. This chapter shows some Dutch examples and their shortcomings. It makes some proposals for improvement: pointillistic representation of people, scale articulation and shaping diversity to achieve spatial identity at every level of scale.

1 Introduction

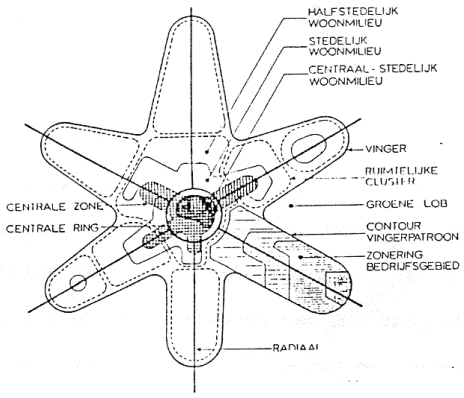
Master plans in The Netherlands have a frame of R=3km, a grain of r=300m and a plan horizon of 10 years containing projects to be realized within 3 years[1]. Their composition exists of components R=1km (districts, villages, city parks, large industrial or rural areas) and crucial details r=300m (neighbourhoods, district parks, projects)[2]. Components could differ more or less, giving more or less freedom of choice for

settlement within the region. Their intended difference can be explained by drawn characteristic details, their connection by connecting details. Marking details label the component by uniqueness making orientation easy. Details can be even smaller than r=300m if their importance for the plan is as significant as a component or if they act as a point of crystallisation determining their environment (crucial details). Here we explain some characteristics of master plans by means of historical and more current examples.

2 The content of Dutch master plans

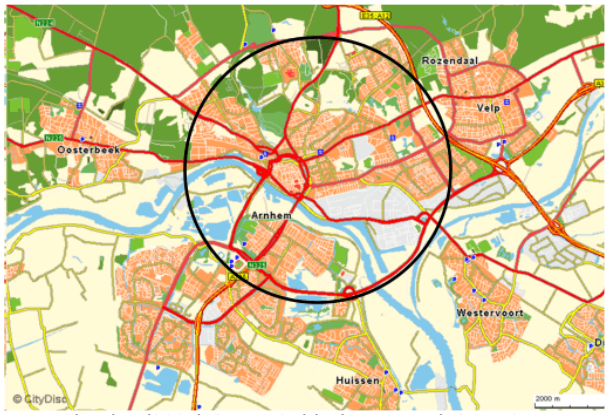
2.1 Projects, models and topography

Some master plans start by projects producing a city map, others by city maps producing possible projects, depending on the level of scale the initiative dominates and the period in history of planning policy. The simplest master plan is a list of urban projects. If I remember correctly[3], the "Structuurplan Arnhem" (1982) was for 90% such a list. The projects had been indicated as numbers in a map and via that number you could look up what kind of project they were: A real estate project, an adaptation of the road, the construction of an industrial area or a recreational facility. I believe they were also characterized when and by whom the project would be carried out and which licenses had been delivered. However, in a small introduction the model of a finger city (vingerstad) was given as a concept (*Fig. 1*). I don't remember more explanation than a built-up outline drawn, vaguely referring to that model[4].



Department Municipal plans Arnhem (1984)

Fig. 1 Finger city model in the Master plan Arnhem 1982



CityDisc (2001) Street Guide (Den Haag) CD-ROM

Fig. 2 Recent topography, with a circle of 3km radius

I do not refer to this master plan to blame the makers, but because it puts two extreme conceptions scientifically side by side: a liberal list with concrete incoherent projects and an harmless abstract model that lacks topography (particularly the river Rhine, the Northern hilly, sandy area of the Veluwe and looking at *Fig. 2* at least one finger). Such a model suggests the society and its living area can be made according to a model. Here suits some suspicion. Does it curtsy a political minority? Is the presented model a nostalgic interpretation afterwards, a memory of articulation by historical topographic constraints, now defeated by private power? Is the majority of inhabitants perhaps too rich or too dependent to accept governmental articulation of private initiatives conquering an area that lost its physical resistance to *keep* its articulation?

2.2 Legend

The model of *Fig. 1 has* some characteristics of a master plan, but it is too rough to be operational, without scale, without details to be found in the project list, each demonstrably supporting the composition as a whole. It *has* a legend (a zoning[5]), but that legend is very general and also gratuitous and harmless: residential areas only different in centrality, business or industrial areas zoned by nuisance at a scale larger than nuisance requires, fingers that need guided imagination to read the actual articulation by green

lobs in the mean time nearly conquered, an inner ring and radials without indicating their growing bottlenecks.

2.3 Form

A legend (implicit or not) is a condition for ‘form’: the state of its distribution in a drawing.
The model *has* some form: the continuous state of distribution of built-up area and its contour. But that is not yet a design. The fingers differ in their sections, but these sections do not differ in identity. The model is not a composition with characteristic details within, and connecting details between the components. It lacks crucial and striking details making the composition coherent as an identity to be recognised as Arnhem. It lacks a connection with the unique topography and history. It is not yet an urban composition in which you can stray looking for old and new experiences by which people and entrepreneurs are attracted to live and work in that particular city.

2.4 Structure

Does *Fig. 1* show structure? I define structure as the `set of separations and connections '. The model shows green lobs separating built-up areas by and urban highways connecting the inner city with the outskirts, but no railways. The connections are what we would call now flow roads[6]. It is a well-known law that perpendicular on the connection separation will occur. That separation is not seen as a problem on this scale (nominally 3km radius). But that very separation causes crucial details in the city, for example tunnels or important bridges (connection by vertical separation). Highways and green intrusions give a very general structure, but the vertical connection with topographical layer, the assumed construction height and necessary slopes is left to the fantasy of the reader.

2.5 Function

Does *Fig. 1* say something about function? In our tradition of urban development, signed by the CIAM, we think the word ’function’ immediately as a distinction of living, working, recreating and traffic and their separation by distance, usually on a larger scale than its argumentation asks. Precisely that happens very rigidly in the model: one finger has been reserved for companies, neatly isolated from living, and a flow road connect them with the inner ring and the outside world. However, in my conception function is ‘working’. Does this model work? Are living, working, recreating and traffic on this scale the best legend entities to understand and improve their mutual functioning? Do the structure, the radial connections and the tangential separations by lobs within the form of a finger city bring more symbiotic value? The model is actually without people and just there starts each working: `function' says implicitly `function for people'. Where are the people?

3 Density and intensity

3.1 Real size density as spotted form

A comparison of 4 alternatives for Almere Pampus[7] (*Fig. 3*), indicates residential areas in dots with a surface 1000 inhabitants in the Netherlands need on average as floor space (approximately 30m^2, so 1000 inhabitants need a spot of R=100m). *Fig. 3* does not yet draw a form determined by borders, but within the main articulation of its distribution it still allows many possible bordered forms.

Normalization of 4 design visions into variants of 50 000 inhabitants in a square of 10kmx10km

Zero variant | TKA 'living' | Hosper 'recreation' | H+N+S 'nature'

Fig. 3 De distribution of inhabitants in four variants for Almere Pampus (1 spot is 1000 inhabitants)

3.2 Representing varying density without boundaries

Point maps reflect density variably independent of their boundaries. In *Fig. 3*, you can measure, with a mask of 1km^2, the variable inhabitant density everywhere by counting the number of the dots within the mask, and that number varies to the place of the mask. In contrast to the full coloured areas with density by colour, it does not depend on a border and area. Full coloured density images do not give a direct impression of the varying living environment. Dot maps keep the middle of a table and a map. They are fast to draw using statistic data within each neighbourhood, municipality or COROP-area[8] by putting them into the map with the correct numbers roughly visualising the built-up area.

Directly reading the supporting capacity for facilities
Then you can directly read how much carrying capacity there is within any radius for a shopping centre, a bus stop or a road. If you do not know this exactly yet, you can give some tolerances to dots in the guiding text, for example '800-1200 inhabitants', or 'interpretable within 300m from the heart'.

Real area dots indicating high rise building
You can give also a real area to them, so that you get already an impression of the space usage. At the urban level of *Fig. 3*, dots of 1000 inhabitants can be indicated by a radius of 100m, this implies more than 30m^2 per inhabitant or approximately 100m^2 floor area for a family. This means, that the urban space for parks, cemetries, hardening, companies, offices, schools, shops etc. must lie somewhere in between the dots, even if they are not drawn. If there is no space for them, the dots should overlap each other indicating high rise solutions. You can use to add other differently coloured dots for employment, distribution or other quantities (water, green, paved area).

Taking more surface into account on a higher level of scale
At a regional level 10,000 inhabitants can be indicated by circular dots[9] of 1000 m. radius, 1000 inhabitants with a circle of 300 m. radius, because that is approximately the average surface of urban area you need in the Netherlands for that amount of inhabitants (approx. 300m^2 per inhabitant). If the circles overlap, then it is immediately visible you have a higher density than at average in the Netherlands.

Dots subdivided into smaller quantities or the reverse
You can subdivide a dot with a radius of 100m in 10 dots with a radius of 30m and a dot with a radius of 30m again in 10 dots with a radius of 10m if you know the distribution more precisely. This way you get a pointillistic reproduction, which in phases will represent more and more the assumed reality until it seems a photographic screened reproduction. It is then clear to everyone how global, in which phase of the design, you are designing. You divide the colours of a programme as a discrete state of distribution concerning the plan area, before you will draw borders.

Representing transitional stages
By mixing dots with different colour, you can make vague transitional stages, which are difficult to explain while drawing borders. You do nothing else than designing a presupposed or afterwards read-off and therefore potential programme. When you draw the separating borders and linear connections in your pointillistic representation. You start to articulate, give structure, delimit the components of your

composition, localise crucial details. Then dots can solve in full coloured areas of the correct area and contents.

High rise visions
Urban concentration, nationally so frequently argued, leads to plans with more high rise. Both The Hague[10] and Rotterdam[11] have separate high rise visions, but their status is unclear. The students of the current generation see the construction height a much more important role in the town picture for construction at the level of a master plan, than usually expressed in the master plans of the large cities[12].

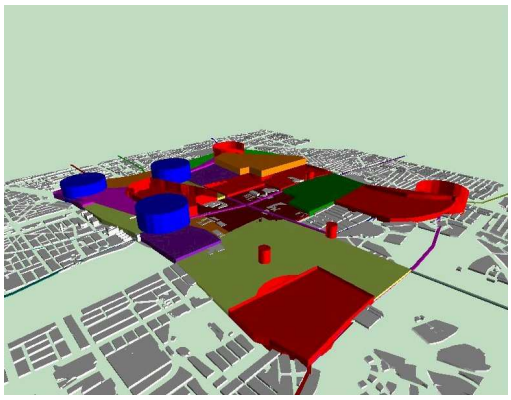
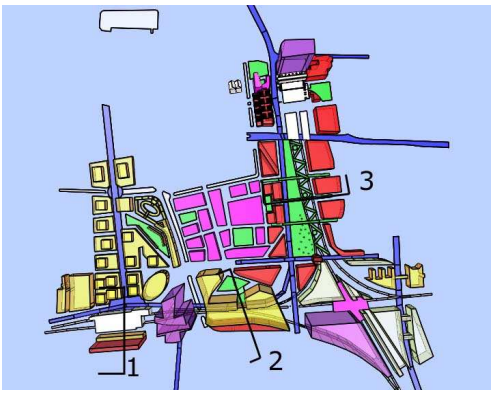


Fig. 4 A possible city profile for Den Haag



Anjelica Cecilia 2003 graduation project
Fig. 5 A High fence around the inner city

3.3 Urban intensities

People in plans
It is difficult to understand the functioning of master plans without seeing where people stay, walk, drive, work and recreate, how much there are, and when they are there. For this reason, at the development of the computer game Momentum[13], we made a moving dots map of people in Amsterdam during the week: the "pulsation of Amsterdam". We had several colours for people who are sleeping, working, recreating, schoolboys, house holders and so on. In the morning, the employees subdivided themselves firstly on the screen, then schoolboys an the students came, than people who went shopping and so on. At night, almost everyone was at home. Only in the Centrum, in some companies and parks you saw still some dots. In the weekend, the city was used very differently from during the week.

Intensity of use
The shortage of imagination of urban functions on the scale of a city is also expressed in the overstrained expectation of urban liveliness (intensity) in suburbs by design. In student plans, it is frequently represented too much people in the peripheral public space, but a global sum[14] proves me that you must be economical with the crowd pullers to get some lively places in the city. And to feed that, you need still a lot of quiet suburbs in the conurbation.

Empty streets
That calculation goes approximately this way. According to the ground usage statistics of CBS[15] we have approximately 1 billion m^2 movement area, whereas our population of 16 millions is on the street at the most half an hour per person per day. This means, that you, through the day on 100m^2 public area, see someone driving or walking approximately one minute within a quart of an hour. Assume that you call a public space as urban if you come across someone for one minute long on 100m^2 each minute (urban intensity). How much public space can be then urban?

Stealing liveliness
You must make almost 2000m^2 street elsewhere quieter for 100m^2 urban intensity, but not too quiet, otherwise people cannot come to the urban space you want to make urban. That ends up then on 5% of the paved area. If you divide 3% of it concerning the districts, you keep still 2% for the concentration of urban crowd pullers. You should not subdivide too much; because you lure more people to the house with

bigger free choice-serving centres. You can at most try to make the public space so attractive, that people exchange the street to their television for a little bit longer than a half hour per day. Can a master plan contribute to that, or should you trust the architectural development?

3.4 The distribution of green

Parks

Let's take once our most famous master plan before the term existed, the general development plan of Amsterdam[16] (AUP, 1935) (see *Fig. 9*). It is again a finger city, but this time with another scale (R=10km) than Arnhem (R=3km). These are therefore substantial different types of finger cities. Arnhem didn't need extra town parks because of its scale and topography of green lobs. The green area of the city on the scale of Amsterdam has been divided within the large built-up areas as some big areas, but they do not seem to cooperate a lot with the built-up area to give its own identity to the each new district. Nothing is, for example, more beautiful than the contrast of urban concentration points with green harbours of relaxing[17], but that must be designed on this scale.

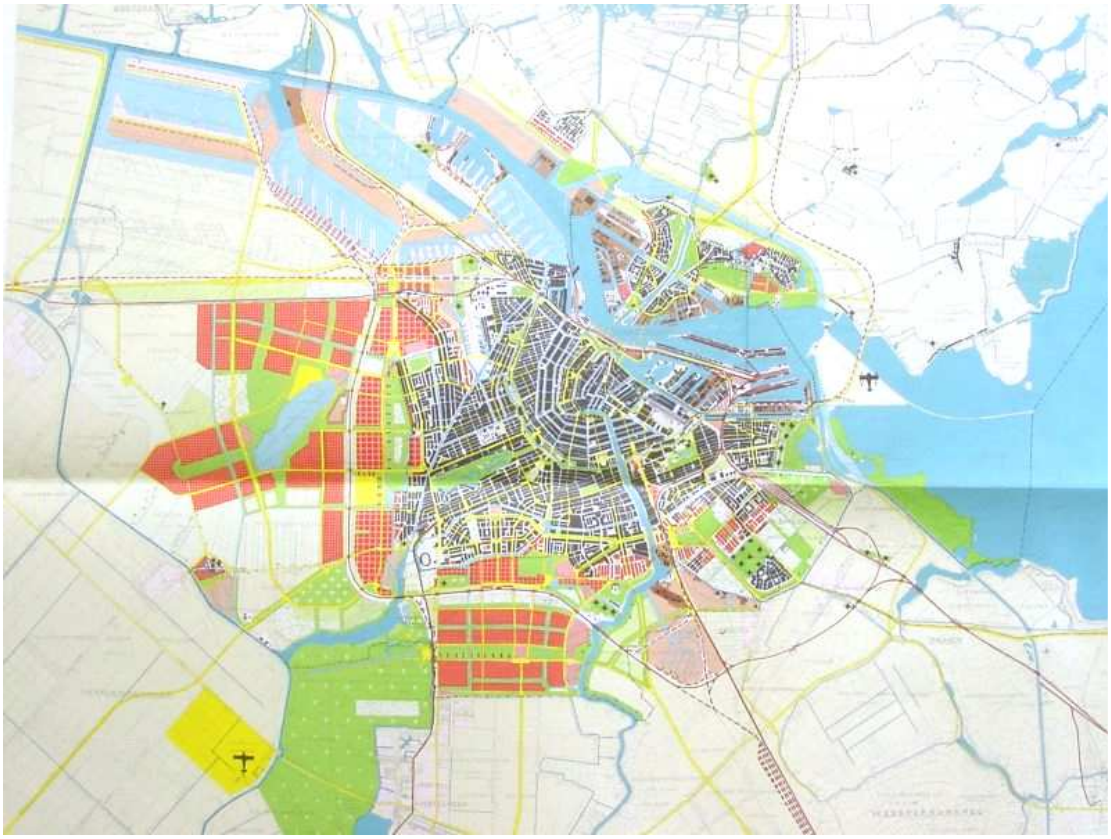


Fig. 6 The general development plan (AUP) Amsterdam (1935)

Small green in the neigbourhood or large green far away

That brings me on the dilemma whether you should spread out the available greenness in the city, so that it is daily accessible for everyone, or on the contrary, concentrate, so that the inhabitants can imagine themselves every now and then in a large green area with several recreational and ecological possibilities for an hour out of urban living.

The standard inbetween solution
The model in between these two[18] is a scale articulated distribution of neighbourhood parks (100m radius) for daily use, district parks (R=300m) for the jogging, town or city parks (R=1000m) for the weekend etc. (to see Fig. 7).

	Inhabitants	**m R=**	**m^2 total**	**including m^2 green**	**m R=**	
Conurbation	1.000.000	10.000	300.000.000	30.000.000	3.000	City landscape
City	100.000	3.000	30.000.000	3.000.000	1.000	City park
District	10.000	1.000	3.000.000	300.000	300	District park
Neighbourhood	1.000	300	300.000	30.000	100	Neighbourhood park

Fig. 7 Uniform dispersion of accessible green area per level of scale

Green surface per person
If you design the dispersion of green according to this model, then everyone has a neighbourhood park within 200m, a district park within 600m, a town park within 2km and so on (see *Fig. 8*).

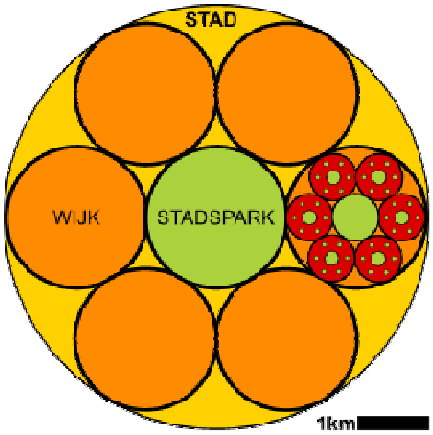


Fig. 8 Model green dispersed equally per level of scale

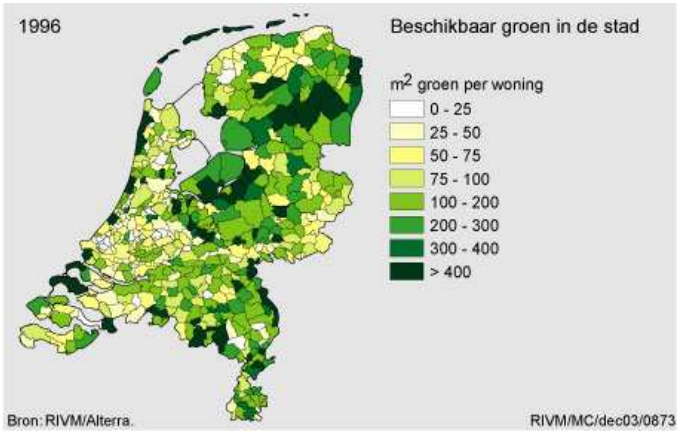


Fig. 9 Available urban greenery per dwelling

The green area then covers approximately 10% for each order of scale or 30m^2 per inhabitant. However, that number varies by municipality (see *Fig. 9*), as well as the house occupation by which the number of inhabitants is divided into the number of houses. So 10% green per level of scale and the associated accessibility in the large cities are not feasible. You do not live for the green in a big city after all. The total green area can be concentrated in larger or deconcentrated into smaller entities. That determines the variation in living environments (identity) of cities substantially.

Comparing the green of master plans
Master plans can be compared according to this standard background. Look for example at the plan of Amsterdam, it has then the centrum, the old city within the moats, a range of 1km with less green. If you involve the '20-'40 belt, then the city has a radius of 3km with districts of R=1km. The total agglomeration with recent R=3km parts of town covers a range of R=10km including the post-war extensions, the Amsterdam forest and the Water land. It is not difficult to compare the green surface per component with the former green standards. Amsterdam compensates the standard dispersion of small green areas with large entities in the periphery.

4 Sectors and components

4.1 Maps of sector demands

The previous master plan of Amsterdam[19], the present city plan for Amsterdam[20] (see Fig. 10) and the last spatial plan for Rotterdam[21] (see Fig. 11) have numerous new sector wish maps like for environment, historical-cultural values, recreation, living. Obviously they can no longer be summarised in one map.

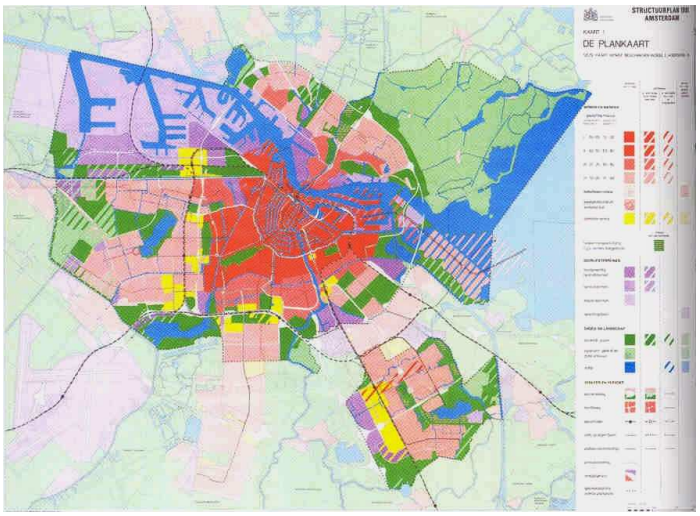


Fig. 10 City map Amsterdam 2003

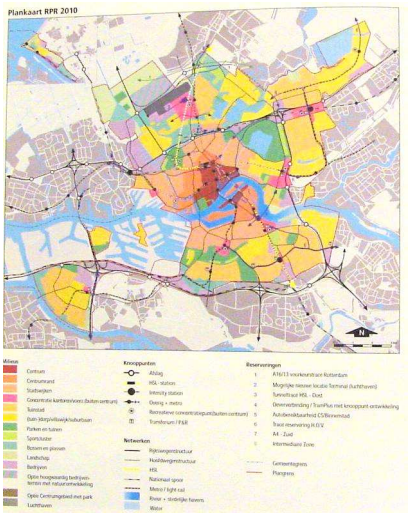


Fig. 11 Ruimtelijk plan for Rotterdam 2001

Problem owners of the master plan

The new map of The Hague[22] (see Fig. 12) was not yet a formal master plan, but it was surrounded by studies such as those of the chamber of commerce Haaglanden[23] (see Fig. 13), which show the need of a master plan.

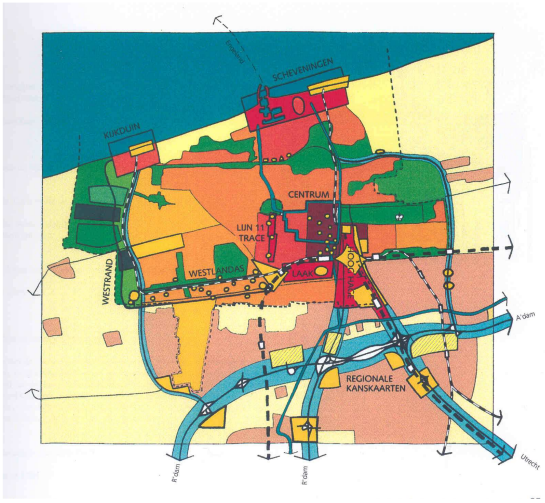


Fig. 12 The new map of The Hague

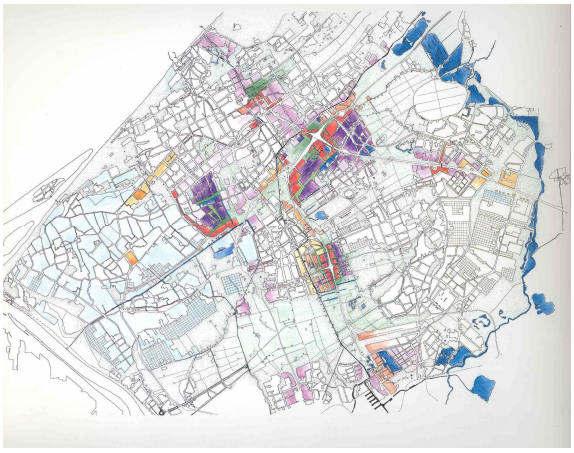


Fig. 13 Schouders onder Haaglanden

4.2 Large master plans going into detail

In plan documents on agglomeration scale, big cities need to go more in details. The project organisation (see Fig. 14), strategy (Fig. 15) or identity (Fig. 16) is obviously more easily to represent on a larger scale than in a total map.

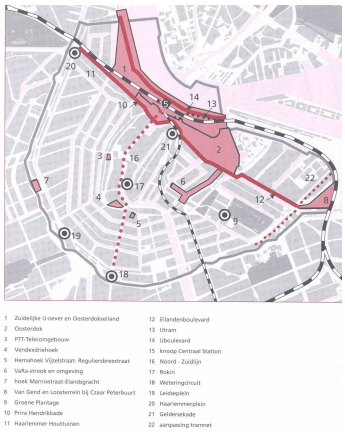


Fig. 14 Projects of Amsterdam

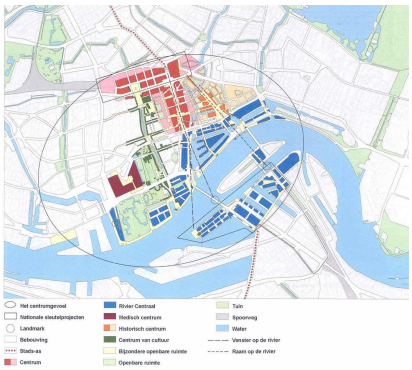


Fig. 15 Strategies for Rotterdam

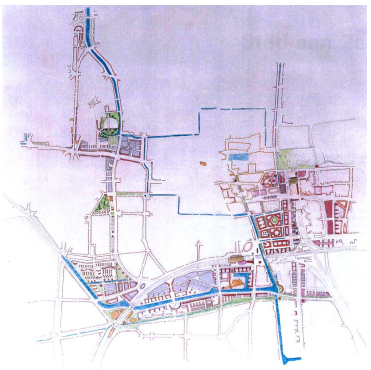


Fig. 16 Identity provision of The Hague

4.3 Connections

Dominance of connections

By the increase of car traffic after WWII, the connections have become dominant in each master plan. The distribution of inhabitants (see Fig. 17) is the origin of the city, the support for their facilities, work, shopping and recreation. The connections and the technical equipment derive their use from that distribution and therefore they must be traced back to it.

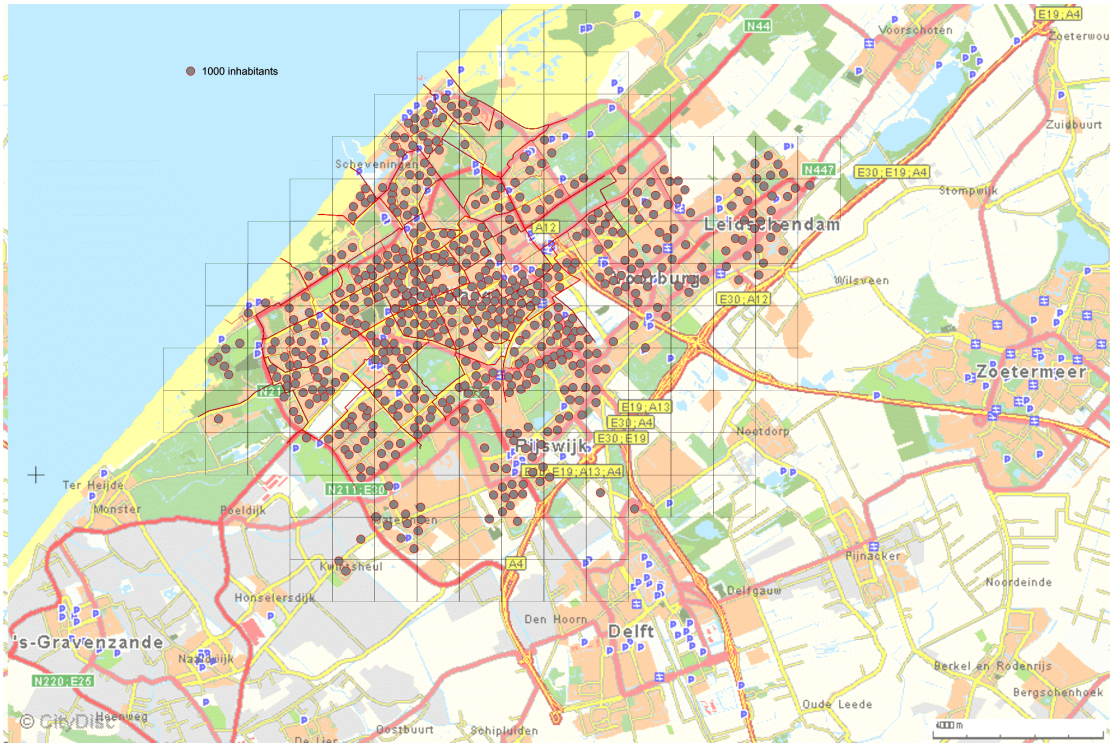


Fig. 17 The Hague, distribution of inhabitants in R=100m spots of 1000 inhabitants (30m^2 pp)

Calculating the demands

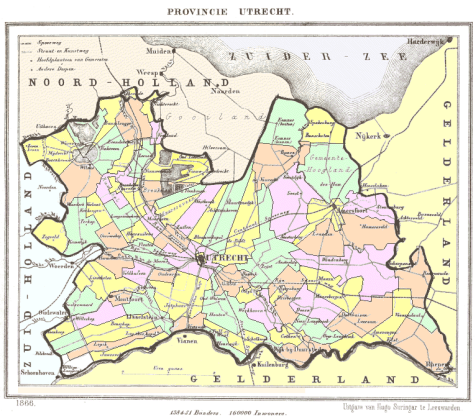
You can try to model such points as origin and destination (by means of locations of work, distribution and recreation), to coordinate the road network on the resulting flows.

Intuitively predicting connections

However, the topographical map simply shows that the Netherlands at average has got a district - or country road each kilometre and a highway every 30km. In urban areas, the meshes has been filled in further by neighbourhood roads and residential streets, whereas every 3km a city highway seems necessary a and every 10km an orbital highway. Where they miss between the 3km city highway and 30km regional highway probably traffic jams appear[24].

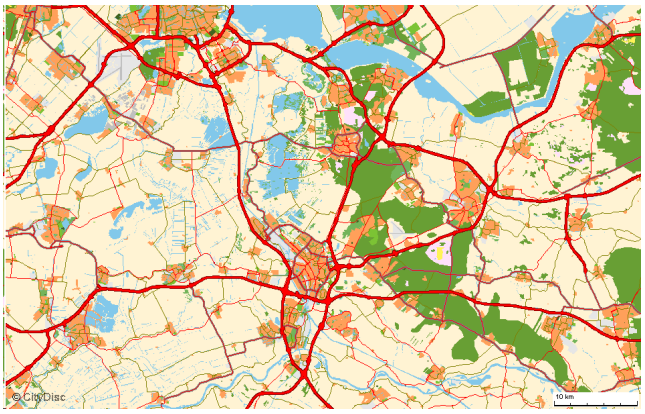
From radial into grid

Utrecht was a spider in the radial net (see Fig. 18) for centuries, the larger ride lengths were demanded after WWII, the increasingly passing and continuing traffic tangents (see Fig. 19). They make from our city country a grid system in which the grid with mesh width of 3 and 10km seems to be missing or not yet complete.



Province Utrecht (1866)

Fig. 18 of radials in 1866 …



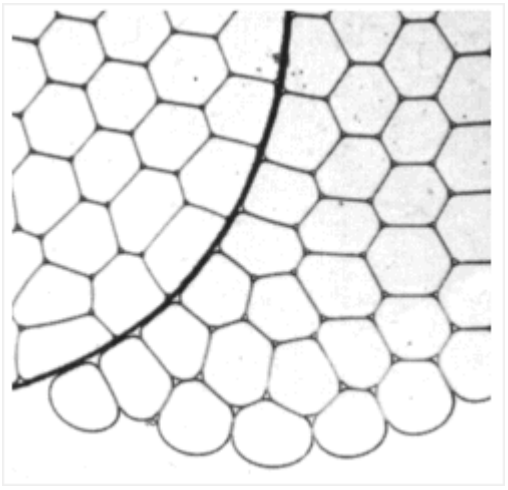
CityDisc (2001) street guide (Den Haag) CDRom

Fig. 19 via tangents to a bigger scale grid.

Now, cities themselves (Utrecht in *Fig. 19*) are captured as flies in the peripheral meshes of a larger network. The more distance a city keeps from the central agglomeration (Amsterdam, to left in *Fig. 19*), the more orthogonal seems the grid (network city). The question is, when the central conurbation will transform from spider to fly in a continental metropolitan net themselves.

The logic of orthogonal grids

That a radial-hexagonal screen transforms through passing traffic to a tangential-orthogonal screen, you can see easily by the analogy of a thin low soap bubbles as a result of a long hair (see *Fig. 20*).



Hildebrandt and Tromba (1989) [25]

Fig. 20 right angled by long lines

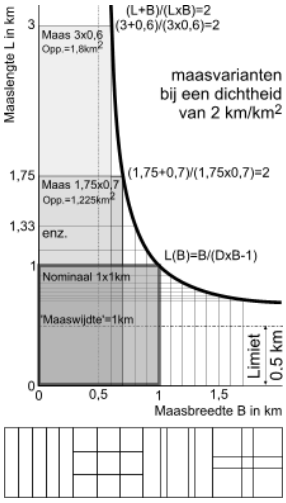


Fig. 21 meshes with the same network density

Although a hexagonal grid has the least perimeter/area proportion from the viewpoint of investing in public space, in many respects an orthogonal pattern fits better in urban development[26]. An orthogonal grid does not need to exist from squares (elongated rectangles are often profitable). You can abstract from the form by expressing the network density (km/km^2) in nominal mesh width M of a rectangle with the same network density (see Fig. 22).

Road hierarchy
This way, every road hierarchy gets a range of mesh widths, with a factor 3, earlier observed as optimum scale step to several criteria (Nes and v. d. Zijpp, 2000). In the same time it is the average distance between junctions to the same order. This hierarchical range applies also on the wet (water) infrastructure. So, the number of crossings as a result of interference between both kinds of networks is easily to outline in different alternatives of mesh form.

Network density km/km^2	Mesh width M if square km nominal	**Name(wet)**	**Name(dry)**
0,07	30	river	regional highway
0,20	10	brook	highway
0,70	3	race	city highway
2	1	canal	district or country road
7	0,3	ditch	main street
20	0,1	trench	street

Fig. 22 Names of the network orders

A wet peat area continues its grid hierarchy into the level of canals, a clay area into the level of ditches and a sandy area or city stops by water courses. That makes the soil type globally readable from the topographical map. For its dry opening-up, the rural area goes this way to the road, the industrial area to the main street, the residential area to the street.

Comparing connections of master plans
Now, you can compare the network orders of master plans to the degree of deviation from this model. The detailing of road profiles can be compared according to the Principle of Durable Safe to the degree in which the slow traffic is separated from the fast traffic (in residential area not; at area connecting roads well, however, on the lines, but not on the junctions, at flow ways everywhere). Generally the slow traffic determines the urbanity. Separation of traffic types such as service roads, bicycle - and walk paths, or even separately provided more radial networks for slow traffic and public transport are therefore pre-eminently point of assessment in the master plan.

Components in a composition
They determine which areas of the conurbation, town quarters, districts or neighbourhoods, get an urban intensity experience as central or peripheral, where the next urban component starts, where its border lies, recognizable by urban connecting details, and existing or randomly designed architectonically or civil technical crucial details. Its structural identity is determined by variation and selection in general accessibility (distance, connection) or specific accessibility (for example for the car) with respect to the model average.

4.4 Regional context

Mobility within 30km
Within the region (R=30km), approx. 95% of the mobility unrolls and there lies - among the international border of three-quarter of an hour live-/work distance - also the most freedom of choice in residential environments. For this reason, regional scenarios determinate the master plan as ‘project’ in the regional plan. Here also, the probable, desirable and possible state of dispersion of the inhabitants is a useful starting point. It determines the variation in feasible network densities and, in consistency with the topography, an important part of the identity of the residential environments between which occupants can choose.

Freedom of choice between residential areas
For example, in these dispersion perspectives (see Fig. 24), you can localise administrative, cultural and economic concentration points directly by means of the expected carrying area within 10, 3 or 1km radius.

You can adapt (tailor) the meshes of chosen nominal orders of connections and a standard dispersion of green in consistency with stations for the public transport more in detail (de-tailing).

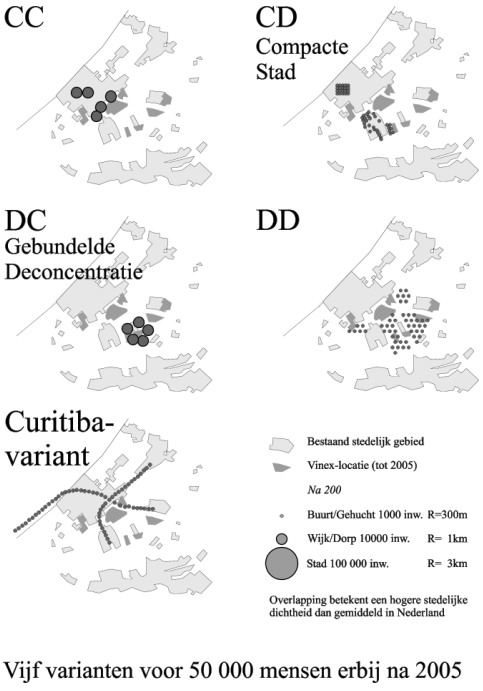


Fig. 23 Theoretical spacing possibilities for 50,000 inhabitants

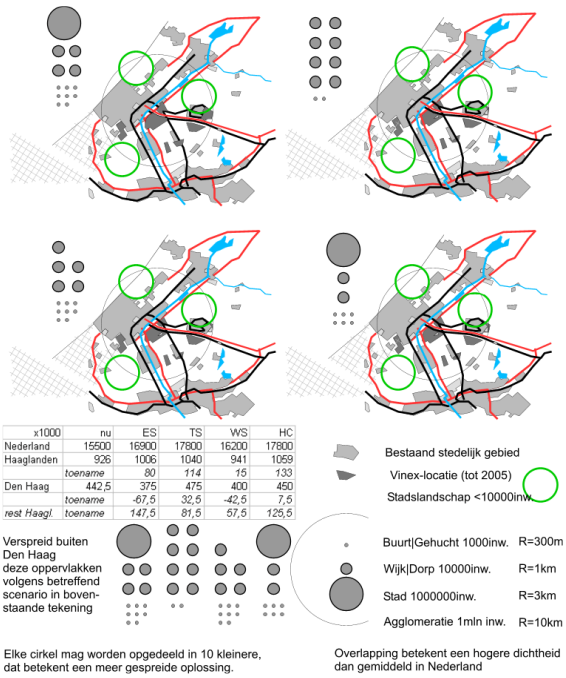


Fig. 24 Increase to several numbers of inhabitants outside The Hague according to scenarios(1997) ES: European City; T: Tourist City; W: Residential City; HC: Haag-City

Influence of many levels of scale
The regional perspectives can not be separated from regional and national perspectives within which the district has a task. The regional identity demands a clear vision on regional (R=100km) and national (R=300km) specialisation[27] for the representation and marketing, like governing board, culture and economy respectively is the task of The Hague, Amsterdam and Rotterdam. Now one is able to characterise the North-wing of the Randstad as the 'region of imagination' and the south-wing as the 'region of realisation', so that Delft can take the realisation of imagination: Delft Design.

4.5 Scale articulated identity

Each component into own identity
A physical identity determination of components and details is reached in a regional perspective. Those components and details demand however each separately development in mutually, but externally coherent and internally consistent urbanist's conception which can continue inspiring as an agenda for the details.

Which differences?
In a brave attempt to reconstruct the conceptions of residential areas in The Hague, graduate student Koekoek[28] has established fictitious guidelines for the new districts and neighbourhoods: "Make them different". More of the same does not offer freedom of choice, but residential areas must also remain recognizable as Dutch, typical for The Hague and for Leidseveen. This scale sensitivity of identity for the first time became clear in the image quality plan for the district Baarsjes (Amsterdam)[29]. This district had to remain typically Baarsjes, but also typically a component of the zone '20-'40, typical from Amsterdam,

typical Dutch. These are several, difficultly defined types at different levels of scale, based on each time other urban characteristics.

Difference and level of scale
Identity is the degree in which something remains the same, but at the same time differs from the rest. Differences from the rest at district level assume internal homogeneity, but not in everything, because one lower scale order poses the same scale paradox. For their parts, neighbourhoods should also get their own identity, differences from the other neighbourhoods with conservation of some internal homogeneity etc. That is possible only by choosing other urban identity variables at each level of scale. Only this way one gets a balance between recognizability and surprise, conventional usability and freedom of choice. For that purpose especially the vague urban quality requirements over long periods must remain controllable and therefore measurable. That seemed an illusion, until graduate student Stolk[30] ensured an opening. He made 12 vague urban qualities measurable, introduced controllable standards and made a balanced design for Almere Hout. With this attempt, the ideal of planning urban values on the level of master plans ever outlined by graduate student Dieters[31], came nearer.

Characteristic details
Dieters (1995) compared master plans of two cities comparable in size: Apeldoorn and Maastricht. She laid down the identities of both cities with some characteristic details within the built-up contour (see Fig. 26 and Fig. 27).

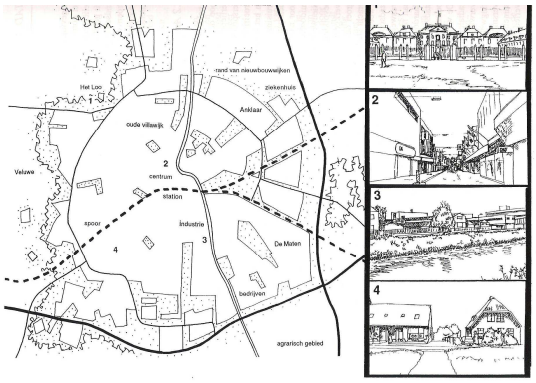


Fig. 25 Characteristic details *Apeldoorn*

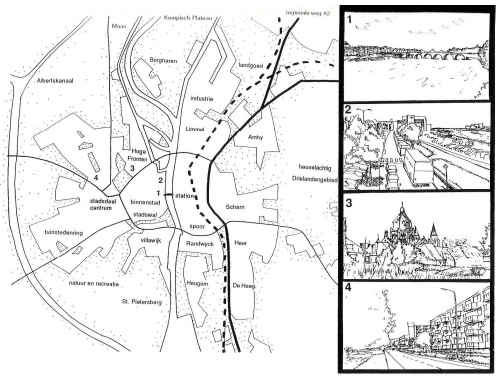


Fig. 26 Characteristic details *Maastricht*

Dieters 1995 graduation project

5 Conclusion

An urban master plan is more than a summary of projects. Of course, realising such a plan requires realising projects but a master plan should offer selection criteria for these projects: local identity and quality. So, an overall plan should give any place identity (difference from the rest, continuity in itself) and quality (a balance between recognition and surprise, repetition and diversity). If any place should be surprising *and* recognisable it needs to show something of its own and something of its neighbourhood, district, town, conurbation, region and even nation. It is the task of the designer to choose design means (variables) to define that internal continuity and external difference at every level of scale. If places do not have identity, why should you settle just there and not somewhere else? It seems you have freedom of choice then but which kind of freedom is that if it is everywhere the same? It has to be different to get a real freedom of choice. Difference is also the very basis of functional differentiation, efficient task division. Differentiation is the best strategy if you can not predict the future. And, you can not predict the future as long as you believe in freedom of choice, in particular for future generations. Biodiversity has been a risk-cover for for life in evolution: there was always a species to survive unexpected disasters. So, if you can not predict the future, a robust plan diversifies.

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1 In this Article ‘R=3km’ means that the frame (the biggest measurement of the discussed object) has a radius between 1 and 10km. The expression r=300m, means that the grain (the smallest detail) has a radius between 100 and 1000m. This range is *named* by its semi logaritmic middle in the range {... 1, 3, 10m...}. So it is a ‘nominal measure’. The plan horizon of 10 years is also meant nominally as a period of 3 up to 30 years, a ‘3 year project’ is realized in 1 to 10 years.

2 Components form in area therefore approx.1/10 of the composition, details approx. 1/100. This means that a structure plan has the resolution of a rough sketch.

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5 A zoning is a series of adjacent entities in a drawing with any value increasing.

6 A term to indicate the category of the roads where slow and fast traffic must be separated from CROW (1997) Handboek Categorisering wegen op duurzaam veilige basis. Deel I (voorlopige) Functionele en operationele eisen. (Ede) CROW, en CROW (1999). Duurzaam Veilig - De volgende stap. (Ede) CROW.

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8 An area used in The Netherlands for collecting statistical data.

9 A circle avoids every suggestion of direction. That was for example the famous blocks map from the Second Note spatial scheduling(Tweede Nota Ruimtelijke Ordening), annoying for the designer eye.

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