Typology of shopping areas in Amsterdam

Akkelies van Nes
TU Delft, The Netherlands
a.vannes@bk.tudelft.nl

Abstract

This contribution is meant to identify the different types of shopping areas in Amsterdam For this purpose it tries to assess what their spatial configurable features are and how they relate to urban scale in terms of local areas, the entire city and its region.

A comparative account of Amsterdam's shopping areas in the 1930's as well as today allows for a classification of their various types and sets out in what ways they came into being. In particular the location patterns of shops are compared with configurative analyses of Amsterdam's street grid.

In the first instance the paper claims that a shopping street's degree of *connectivity* to a city's street grid on both a macro and on a micro scale determinates the location of different types of shopping areas. Moreover, the types of shopping areas depend on *transportation* modes and the density of the surrounding area's street grid. The way people shop and the way sellers try to reach their potential customers depend on the *spatial configuration* of an urban grid. The most integrated streets on local and global urban scales have the shortest topological distance from the whole built environment. On which *urban scale* potential customers move and live conditions in a specific manner the types of shopping areas and the *kind of urban centrality* they depend on.

1. The spatial interchange between the seller and the buyer

Shopping is a specific type of economic activity that is supposed to take place in urban space. The relationship between the seller and the buyer consists in a process of acquisition. The seller earns money by selling objects or services to customers and the buyer acquires an object or a service from the seller for some physical or social purpose.

What are the consumers interests when shopping? On the one hand shopping consists in acquiring objects and services necessary or sufficient for the preservation of the consumer's *physical* existence, i.e. goods such as food, clothes, shelter and health. On the other hand, goods acquired by shopping pertain to the necessary or sufficient conditions of the consumer's *social* existence. Physical and social needs are not separated issues. The same good, object or service may answer to both of them. Hence, a clarification of types of shopping areas based on physical and social needs is difficult matter.

Sellers seek for an optimal location in order to reach as many customers as possible with the purpose of profit maximising. A location's value for the seller thus depends on various parameters such as the types of objects and services offered, prescribed or natural limits for the objects' consumption, trends in society, changes in taste, the areas in which potential customers move and live.

If shopping consists in the acquisition of goods by consumers for private purposes both with regard to their biological as well as cultural existence, how then is shopping organised

spatially within an urban grid?

In essence the potential customer is not only an inhabitant of a place, but also a visitor. Now, from a functional point of view a visitor does not dispose of a private space in the vicinity. A visitor orientates him self somehow in urban space in order to find his preferred shopping areas. He chooses the easiest orientable routes through a street net. Information about how inhabitants and visitors move through urban street nets seems to be essential for sellers in order to reach both types of customers through optimal public location.

How does urban scale determinate interaction between sellers and customers? In which way people perceive the built environment in terms of suburbs, city centres and urban areas depends on transportation modes and speed. How a city centre, a suburb or an urban local area can be reached in a particular amount of time affects urban scales. Conversely, in which way a built environment encourages the most efficient transportation equally seems to depend on a street net's scale. In old historic city centres it is most efficient to use a bike or to walk, while in some post war suburbs the use of a car is most efficient. Thus scale can be and in the present context is understood in terms of transportation modes and accessibility.

Thus shopping is an economic activity essentially relating to the consumers' spatial behaviour in a built environment:

Firstly, shopping has to be temporally efficient. For most people the amount of time usable for shopping seems to be limited. It requires at least a small amount of time necessary to find the relevant shops inside a built environment. This condition results in short distances between sellers' and buyers' locations and in an effective organisation and usage of transportation.

Secondly, shopping has to be socially efficient. A shopping area must have aspects of choice attraction in order to allow customers to invest into their social position.

Thirdly, shopping must be economically efficient. The customer seeks for the best buy or value for money. Comparison of what different sellers offer requires short metric distance between different sellers.

Finally, shopping has to be spacio-temporally efficient, i.e. the distance between buyers and sellers has to be optimal in terms of transportation modes, location and the buyers' movement through public urban space.

2. Types of shopping areas and the kind of centrality

If shopping depends on customers' movement pattern, what kind of spatial configurable features of the urban street net determinate the location of shopping areas? Earlier research shows that shops tend to locate themselves along the most spatially integrated streets (Hillier and others 1993, p. 31) and in streets with a high degree of connectivity to its vicinity (Hillier 1999, p. 110-113).

In the author's PhD thesis *Road building and Urban Change*, the relationship between configuration and location pattern of shops was investigated closely. If a new road project changes the optimal grid conditions for a shopping area, it affects the location pattern of shops. This research shows how sensitive shops are for larger configurable changes of a street grid. Moreover, the study shows how car-based and pedestrian-based shopping areas depend on global and local integration and local grid conditions (van Nes 2002, p. 297-303).

However, these researches do not answer the question how different *types* of shopping

areas search for an optimal location in an urban grid. This article aims at clarifying these aspects through the study of shopping areas in Amsterdam. Its subsequent analysis will serve as an example for an identification of spatial features of the different types of shopping areas.

There are many types of shopping areas in Amsterdam. Independent of urban scale, the different types of shopping areas can be generally grouped in two categories concerning their location pattern. The first group relates to the linear pattern of shops. In this case the shops tend to be located in the traditional urban areas. Shops are located along certain streets. Shopping in these streets is most efficient by foot or on bicycle. Some of these shopping streets are only accessible for pedestrians.

The second group relates to the clustered pattern of shops. In this case the shops tend to be located in post war urban areas where the buildings do not shape urban blocks. The shops are clustered together and have a convex location pattern in short metric distance to one another. Some shopping areas have copied the narrow labyrinth of the historic street pattern. Some of them are only indoor and only accessible during the shops' openings hours. These shopping centres are mostly car-based.

The size of both the linear and clustered pattern of shopping areas depends on the urban scale of a built environment's street net and on the scale of the urban areas they intend to serve.

3. The meso pattern of Amsterdam

Amsterdam has a large historic urban centre. After the Second World War the city grew significantly. The use of private cars was taken into account in the planning of post war dwelling areas. Hence, Amsterdam disposes of all types of shopping areas. A systematic registration of the location of shops in Amsterdam in 1936 and today was carried out. Simultaneously, Amsterdam's street grid was analysed with the help of the space syntax method.

Figure 71 shows a global integration analysis of Amsterdam in 2002. The black lines show the most globally integrated streets. The global integration core is on the highway standard ring road, which have no direct connections to its surroundings. Therefore no shops are located along it. The old historic centre is globally segregated, while it is locally integrated. Figure 71 (below) shows a local integration analysis of Amsterdam, where most of the locally integrated shopping streets are highlighted in black.

There are almost no changes in the location pattern of shops in the historic centre since 1936. As illustrated in figure 72 the location pattern of shops has a linear pattern in the central areas, while it is clustered in the post war areas. In the post war dwelling areas the local shopping centre complies with the highest locally integrated streets.

Another way to study the topological depth of an area in relation to the whole city consists in marking the main routes through a city. They can be identified from a tourist map over a city and its region. In the Guide Michelin, for example, these routes are highlighted in order to inform strangers for way finding through a city. Inhabitants use these roads regularly. Stephen Read uses the concept "middle scale network" or a city's "super grid" for these main routes (Read 2003, p. 209). In her studies on the Dutch town Leiden, Camelia Kusumo used the integration gradient in order to identify the natural middle scale network (Kusumo and Read 2003, p. 18).

Figure 72 (below) shows Amsterdam's middle scale network marked in black. The

Figure 71: Global and local integration analysis of Amsterdam

Figure 72: Location pattern of shops and Amsterdam's middle scale network

middle scale network is defined as the set of main routes through and between urban areas. In historic city centres the middle scale network goes *through* different urban areas, while in post war areas it goes *between* urban areas. If one marks all the streets directly connected to the middle scale network in grey and the remaining streets in light grey, the results indicate the degree of connectivity to the vicinity. As can be seen in figure 72, shops are located along the main routes with high connectivity to the vicinity.

The analyses of the meso scale can not explain the correlation between local and global integration and the location pattern of shops along the street Kalverstraat. It has relative low integration values on both a global and a local scale, but a high degree of connectivity to its vicinity.

An opposite example is streets providing high integration values, but with no shops located along them. The reason lies in their low degree of connectivity. An example on a street like this is Keizersgracht. Even though there are correlations between integration values and the dispersal of shops, a 2 steps analysis provides a better explanation for the shopping streets' optimal location in an urban street net.

4. The micro pattern of Amsterdam

A 2 steps analysis can illustrate how an optimal location depends on short metric distance to all potential customers in an area and a shallow topological structure of the grid of a shopping area's vicinity. Several streets in Amsterdam's shopping areas have been analysed. The degree of connectivity, seen together with a presentation of local and global integration, provides a clear identification of the various typologies of shopping areas.

Figure 74 shows 2 steps analyses of various types of pedestrian based shopping centres. In general the local food shop or the corner shop is meant to serve inhabitants in its close vicinity. It is the smallest type of shopping area in a city. Often one or two other shops are located in the vicinity. It depends on the size and compactness of the area shops intends to serve. The kinds of items these shops offer can vary. The smallest ones are for example the kiosk, the corner shop, the tobacco and newspaper shop or the video rental shop. These kinds of shopping areas are mostly pedestrian based. In a dense urban area one has to change direction mostly once from the street where one lives in order to reach the corner shop. It seems that high density of an urban grid is a feature for a successful location of a corner shop.

The local urban shopping street, however, tends to serve a smaller, densely populated urban area. In these streets one find in addition to the food and flower shops e.g. a pharmacy, a hairdresser, and a bakery. The local urban shopping street is mostly pedestrian based and is located in urban areas with a dense street net. Often one has to change direction two times from the street where one lives in order to find the local urban shopping street. Westerstraat, as shown in figure 3 has the purpose to serve the Jordaan area. It is located metrically in the middle of the Jordaan area and it covers the whole area 2 topological steps away.

Generally speaking, an area-shopping street is both car and pedestrian based and it is located within a dense street network with surrounding dwelling areas. In the case of Amsterdam, the area-shopping streets tend to have trams running through them. Some local shopping streets tend to be main routes from the suburbs to the city centre. In this way sellers reach both locals and through travel customers. Shops tend to be located on the parts of the main routes with dense street connections to the vicinity. Kinkerstraat

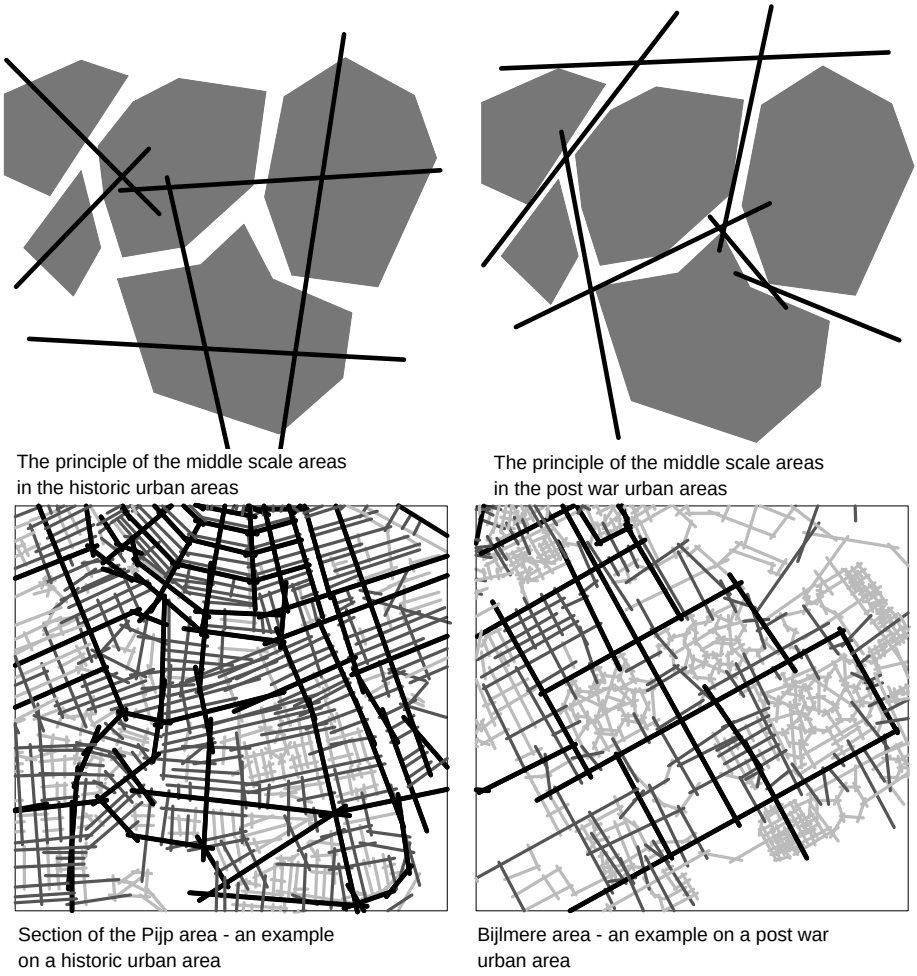

Figure 73: The middle scale network in pre- and post war areas

represents a case of area shopping streets, were most of its vicinity is covered 2 steps away.

In Amsterdam some streets and squares have everyday market activities. It seems that the pedestrian-based outdoor market attracts customers from an area larger than the area-shopping street. They seem to be located one topological step away from main streets, because of the lower rental prices along these streets than in main streets.

The main shopping street tends to serve the whole city. The offered main items are fashion or leisure related. Individual shops and larger chain stores are located in these streets. In many cities these streets are mostly pedestrian based. Whether they do depends on the size of the city they have to serve and the width of the main street. These shopping areas are mostly located in the historic city centre because the urban grid is denser and fine grained in these areas than in other modern urban areas.

The main street Kalverstraat covers most of the central core 2 steps away. The Centuurbaan provide high local and global integration values as well as a high number of connected streets in a short metric distance to its vicinity. In fact, this street covers several dwelling areas. While Kalverstraat is the visitors' main street, the Centuurbaan is the inhabitants' main street.

There are specialised shopping streets were one can find several shops specialised in one particular kind of objects or services. One street can be the street where one find mostly antiques, while others can be specialised in electronics, furniture, arts and crafts, or expensive design clothes. Even though these shops are competitors, they tend to be clustered together in the same street. This is due to the kind of products being sold. Customers want to compare what other shops offer before they decide to buy.

Nieuwe Spiegelstraat offers antiques, arts and crafts. It is located one topological step away from the Rijksmuseum. Even though they serve customers on a regional base, their spatial location refers to a local scale - in streets with dense connections to other streets in their direct vicinity.

Nightlife streets tend to be streets where cafés, pubs and discos are located. Mostly they are located in the back streets of the main shopping streets. During daytime the cafés are open, while at night the discos and pubs give life to these streets. These areas are both pedestrian and car based and they serve a whole region.

Figure 75 shows 2 steps analyses of various types of car based shopping centres. A local shopping centre is meant to serve modern planned dwelling areas. The shops are clustered together and surround an open square intended for urban activities. In these areas one finds e.g. food shops, a flower shop, a perfume shop, a local hairdresser, a restaurant, a local post office and a bakery. These centres are mostly car-based. Local shopping centres are an older type of post war shopping centres. Even though these local shopping centres are smaller in size, they seem to have a larger local catchment area than the area shopping centres.

In a car based area shopping centre one can get almost everything. However, they are in a walking or bicycle distance for the dwellers in its surrounding Post War areas. In most cases they are located along both locally and globally integrated streets.

The regional car based shopping centre is located close to the highway net and tends to serve a region. One can get more or less everything in these centres. Even though these centres serve a regional area, they still have a strategic local position in its area in order to reach all kinds of potential customers. For example Amsterdam Oostport shopping centre covers most of the Bijlmere area.

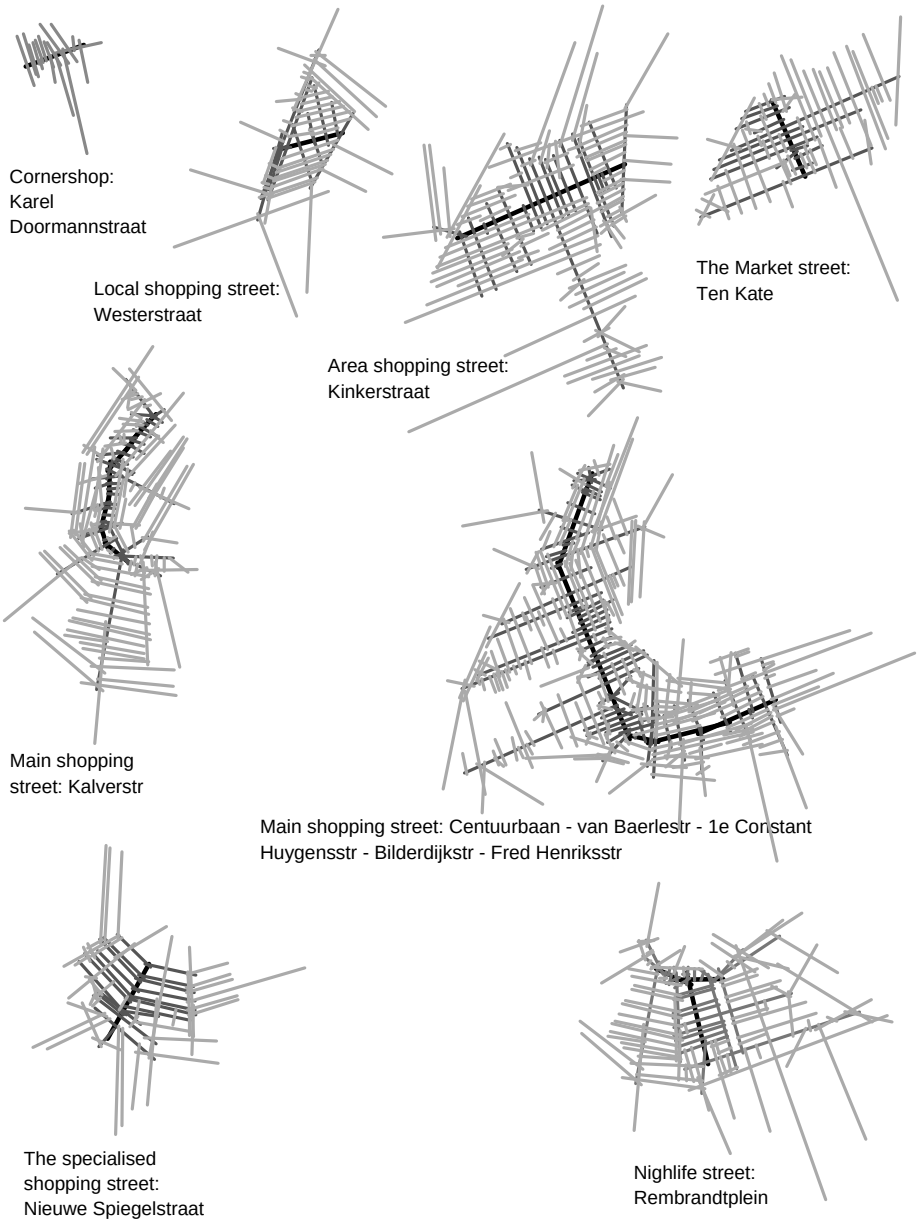

Figure 74: Typologies of pedestrian-based shopping areas

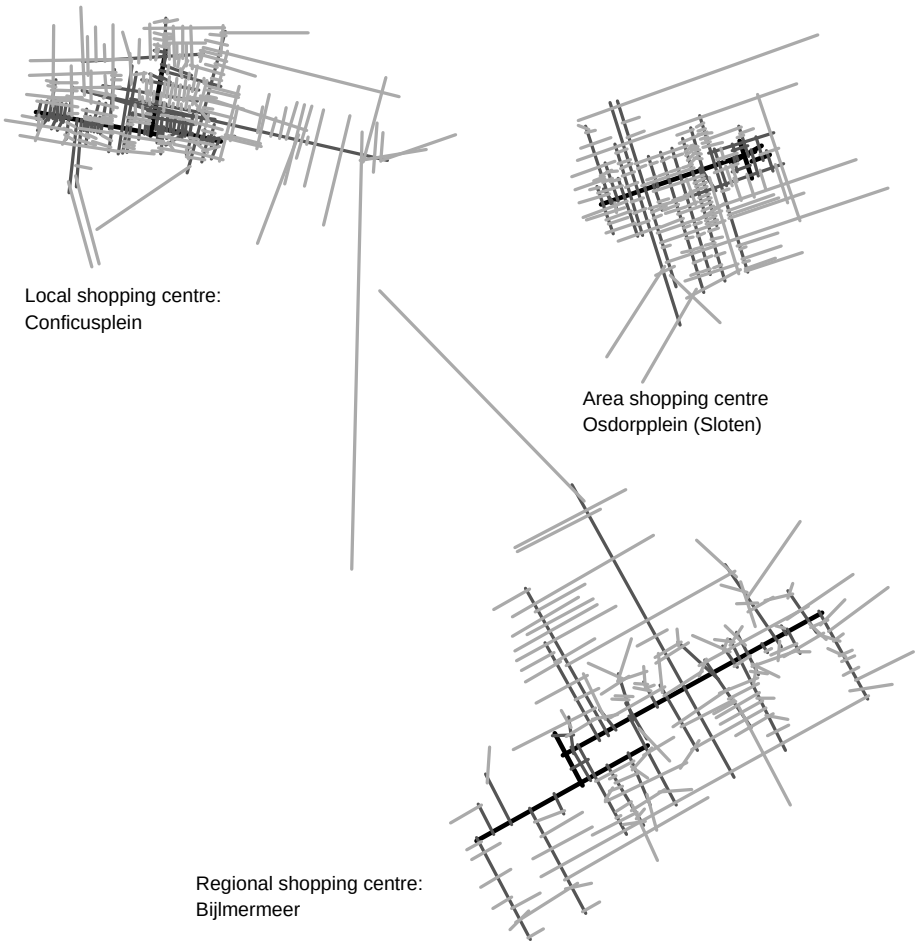

Figure 75: Typologies of car-based shopping areas

4. Features of vital shopping areas

The present study of Amsterdam's street grid suggests that high connectivity or high density of the street net is a condition for vital shopping areas. The type of shopping area depends on the degree of connectivity on a meso or a micro scale. The car based shopping activities in Amsterdam seems to depend on the meso scale connectivity, while the pedestrian based shopping activities seem to depend on the micro scale connectivity.

Shopping areas' size depends on the urban scale as regards the compactness of the urban grid of streets the shopping areas want to serve. Its size seems to result from the following factors: A shopping street's or a shopping centre's degree of connectivity to its vicinity, its strategic, topological and metrical location in an area, and its location in a city as a whole

The higher the density of streets in the vicinity, the more intense the shopping street in terms of number and variety of shops. On the city scale, the main streets and the area shopping streets are located along the highly locally integrated streets. Similarly, these streets have dense connections to other streets in their close vicinity. It follows that the more local a shopping street or centre is, the greater the density of streets in a short metric distance in the local catchment area. A combination of these two scales must then indicate a highly vital shopping street or centre. Oxford Street in London is an example of this kind.

What can we then say about future shopping areas? So far, changes in transportation modes contribute to new types of shopping areas. Shops seem to adjust their location to the way people move through public spaces - it is by foot or with private or public transport. On which speed people travel by private transportation or locally based public transport modes determines on which urban scale sellers try to reach potential buyers. It all seems to depend on connectivity - both on the local and meso scale in a built environment.

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