

The tourism interaction system: a new approach on the geography of inner city tourism¹. (not assigned to any session yet)

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Abstract

The invisibility of urban tourism and the near impossibility of demarcating it within an inner city is a major problem for the research discipline.

The tourism interaction system is a systematic approach of looking at a tourism location as a material and symbolical spatial entity – nucleus and marker. The tourism place is influenced by forces external to the tourism interaction system, but is also affected by the way several actor groups intervene in the production process of tourist space. Also the tourist modifies the material location by being there and using it, but also by interpreting it as a destination, worthwhile to visit.

An inner city is a continuity of sights, streets, squares that can be seen as tourist interaction systems on themselves, but within the urban tourist system those locations do not operate independently. The inner city can be viewed as a potential surface, where the different elements of the tourist interaction system interact.

The different element of the tourist interaction system were collected and analyzed in de medium-sized historic City of Ghent, Belgium, with the use of Geographic Information Systems and multivariate data analysis. Not only locational data were needed about the supply elements of the tourism system, but also about the spatial behaviour of tourists and types of activities undertaken. The data were integrated in a georelational database and used as an input for point pattern analysis and cluster analysis. Map interpretation of the results provides an insight in the diversity of the inner city as a material and mental tourism space and offers a useful starting point for decision making and visitor management.

Keywords: urban tourism, Geographical Information Systems, spatial behaviour, Ghent

Introduction

Tourism within an urban setting has deemed to be a difficult research discipline, caused by the demarcation problems in tourism supply and tourism demand. The tourism industry cannot be regionalized in the same sense as the steel industry, tourist facilities cannot be isolated like shoe shops, nor can tourist districts be delimited like CBD's (Ashworth, 1989). The major problem in studying the geography of urban tourism in a supply oriented way is that a tourist not necessarily confines him/herself to the use of the core elements of the tourism experience (Jansen-Verbeke, 1986), like churches, museums, sights. To a large extent, the tourist is behaving in a manner little different from a resident in the consumption of many publicly or privately provided facilities, thus a definition of a tourist facility solely

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based on supply characteristics poses problems. An inventory of all urban facilities used by tourists would include most of the city's services, while the inclusion of only those facilities dominated by tourist demands would effectively exclude much of the catering, accommodation, shopping and transport sectors which are critical to the tourist experience but for which holidaymakers form a minority of the customers (Ashworth, 1989).

In fact, greater understanding about the functioning of the urban tourism system will be reached when supply-side data are complemented by information on demand and consumption (Pearce, 2001). Such research question shifts the attention from why tourists visit a city, to what they actually do when they are within the urban setting. Surveying the kind of activities a tourist performs can help to fine-tune the kind of urban facilities and services that are most prone to tourist consumption, but does not give insight in the spatial conditions in which this consumption is taking place.

A tourist attraction or location is in essence a system that can only be understood by studying the interface between inner city supply and demand. However, conceptualisation of a place as a tourist product also implies a symbolical and perceptual component (Ashworth & Tunbridge, 1990). By means of tourist information, the tourist industry creates a tourist city as a symbolical entity, in which some sites or districts are deemed worthwhile to visit, while others are excluded. This coding can affect the tourist and his/her behaviour by shaping prior knowledge and influencing the way urban space is interpreted and experienced as a tourist destination (Dietvorst, 1992).

The aim of this study is not only to conceptualize the different ways tourism expresses itself spatially, but also to study the interaction between these different tourism-related aspects. It also aims at developing a methodology to quantify the different spatial aspects of tourism in an indicator set using GIS. It is investigated whether this spatial analysis can provide new fundamental insights about the mechanics of the tourist geography within an inner city. The scope is also to demonstrate how this insight into the urban tourism system can be applied in urban tourism policy and visitor management (Lievouis, 2007).

Tourism interaction system and urban tourism system

In geography, place has a physical/material aspect, but also has meaning, which is a symbolic and interpretative aspect. Place is produced and consumed by specific groups of actors, who are in their turn influenced by it (Knox & Marston, 2003). This double dyadic approach – place as physical and mental entity and actor as consumer and producer – can also be used to deconstruct the tourist place into its essential elements. The idea is also used, albeit not always in an explicit way, in some frequently cited tourism models. In the “tourism attraction systems” model (Leiper, 1990, based on MacCannell, 1976), an attraction is seen as a strong interaction between nucleus, tourist and marker, which consists of physical locational elements, the tourist as an essential actor, but also symbolic/interpretative elements expressed in the informational marker aspect. However, a missing link in the tourism attraction systems approach are groups of actors involved in the production of this marker (narratives, interpretation of the place, cf. Govers, 2005). Also the informational marker concept could be broadened to all aspects expressing the way a place is “read” or “written”. This distinction between material and symbolic tourism space and the way it is also produced by tourist promoters, planners and managers is included in the “tourism transformation model” (Dietvorst, 1995). The synthesis of those ideas and conceptualization within the systems approach, results in the tourist interaction system.

The **tourism interaction system** is an analytical model that serves as a basis for physical data modelling in a GIS environment. As a basic ordering principle for the different thematic and spatial concepts of inner city tourism, a systems approach is used. This means that spatial reality is deconstructed into its essential elements and their properties. Interaction within the system environment is conceptualized, per element, by reserving a set of exogenous properties, influenced by forces exterior to the system. Also each element has attribute groups that indicate interaction with, or are influenced by, the other elements of the system. The system consists of four essential elements, of which two are spatial: the nucleus as an expression of the physical and material aspects of place; the marker as an expression of its symbolic, interpretative, mental aspects. The two other elements are human, with one actor group mainly involved with the consumption of the place – the tourist – and the other mainly by shaping the place and making it conform to tourist use – the supplier. Each of these four elements of the system have, according to the systems approach, certain characteristics that are exogenous of the system, and characteristics that are based upon interaction with the other elements of the system. The stronger the different elements of the tourism interaction system are represented in a certain location, the stronger the tourist dimension of the place can be identified.

Each place can be looked upon a tourism interaction system on its own, but in spatial analytical terms the inner city is also a spatial aggregate of different tourism interaction systems. Each site/location on its own can be seen as an entity with material and symbolic/interpretative aspects, and a place to be influenced by tourists and suppliers or, in turn, influencing their behaviour. However, each site can also be evaluated in a spatial relation within a larger, encompassing study area. The concept of the **urban tourism system** must be perceived as the spatial configuration of tourism interaction systems within the scope of the inner city, in which spatial concentration and networks are very important ordering principles. To this principle of the tourist city as a spatial configuration of forms and functions, reference is also made in the concept of “tourist opportunity spectrum”. This is defined as “the range of opportunities to which tourists have access, including a range of core elements and a diversity of secondary elements and supporting facilities which add to the value of the tourist experience” (Jansen-Verbeke & Lievois, 1999, p. 98).

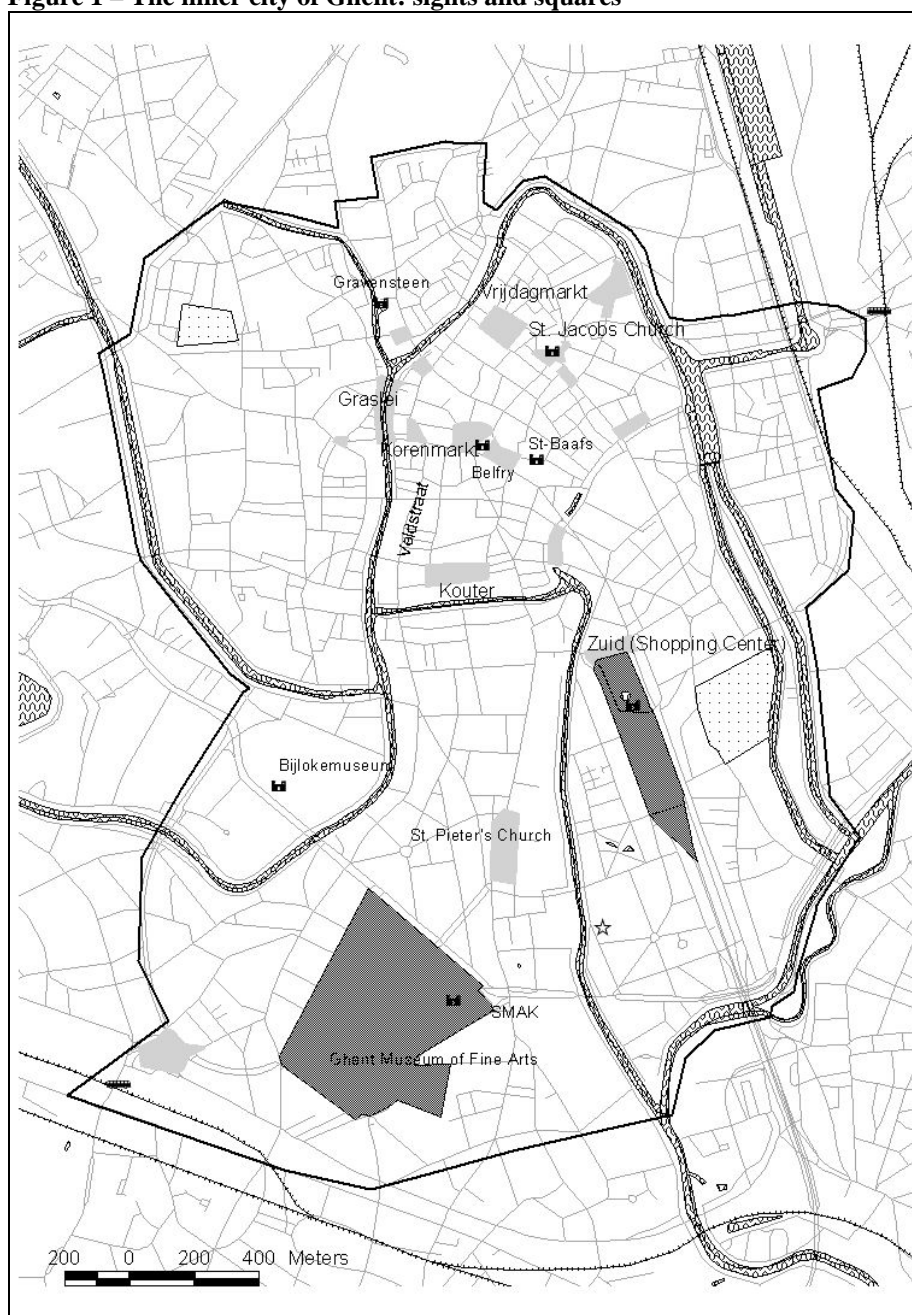
Spatial concentration can be the result of exogenous forces of the urban system as a whole (shopping streets, restaurant/cafe squares, historical conjuncts), but can also be intensified by spatial concentration in tourism behaviour and in concentration of tourism-oriented services (e.g., street furniture, concentration of tourism-oriented restaurants, souvenir shops) (Ashworth & Tunbridge, 1990; Jansen-Verbeke, 1992; Page, 1995). Concentration of the tourist city can also be influenced by a spatial selectivity within the symbolic tourism space: selection of sites, districts, etc., which are mentioned in tourism information, while other locations are left out. Networks can be organizational (strategic alliances between tourism suppliers within the inner city), but also spatial. They can be exogenous to the urban tourism system in the sense that they may be conditional to the internal accessibility of the city, for example transport infrastructure, but not an expression of tourism in itself. Other networks are spatial and specifically tourist in nature, for example tourist signposting, organized sightseeing tours, and most especially the way the tourist him/herself establishes a tourist network by his/her spatial behaviour (Dietvorst, 1995). The aggregation of individual tourist networks can be a very strong indicator of spatial interaction within the tourist city. In this respect tourist networks are interpreted as the outcome of the way spatial interrelationships are constructed within the tourist city, both material and interpretational.

The model presupposes a mutual relationship between place and actor. In the second part of the study only the spatial aspects of the tourist interaction system and urban tourism system are taken into account. This means that only the nucleus and marker elements will be studied, and characteristics that are influenced by tourists and suppliers are considered. Although we are aware that in reality the configuration of urban tourist space also influences the behaviour of tourists and suppliers, these parts of the equation are left out of the empirical analysis.

Case study and data collection

The multitude of different aspects for which data collection was required and the time-consuming and labour-intensive nature of the required techniques, argued in favour of a confinement to one case study: the inner city of Ghent (Figure 1).

Figure 1 – The inner city of Ghent: sights and squares



The city is chosen as an example of a medium-sized historical city. This scale level is important to make the inventory of the tourism indicators feasible, but also to account for enough intra-urban diversity in the analysis. The city council also conducts an active policy in tourist and recreational development. It has fostered different research programs to prepare the document “strategic planning for tourism in Ghent”, but also to enhance fundamental understanding of the way the inner city works as a visitor destination (spatial recreational behaviour of inhabitants, recreationists and tourists). In this latter respect the city council provided invaluable existing datasets and the opportunity for conducting a survey concerning visitor motives, activities and walking routes (Lievoyis et al, 2004).

In order to register the spatial aspects of the supply side of tourism, a combination was made of a dataset on shops and restaurants (available through the city council of Ghent) and information based on tourist guides, maps and websites.

The characteristics of the visitors/tourists were identified by means of a survey (April – May – June 2003). At the end of the day the visitor was asked to reconstruct his/her walking route, including the location and the type of stops. The respondents were also asked about socio-demographic and motivational aspects and to give their views on the most symbolic and attractive places in the city. For the distinction between a recreationist – tourist, a pragmatic approach was used based on the principle of usual environment (OECD, 2001). Two dimensions can be identified:

- Frequency: places which are frequently visited by a person (on a routine basis) are considered as part of his/her usual environment even though these places may be located at a considerable distance from his/her place of residence;
- Distance: places located close to the place of residence of a person are also part of his/her usual environment even if the actual spots are rarely visited.

Thus, visitors outside of the municipality of Ghent with a frequency of visit of less than once a month, were considered to be tourists. For the scope of this analysis, the tourist is singled out of the survey.

Tourism in the inner city of Ghent: findings

- Concentration and centrality of tourist behaviour

The interpretation of the results showed that spatial tourist behaviour is stereotypic, clearly conditioned by the spatial structure of the area and strongly concentrated around the top five important sights and the main shopping streets and restaurant concentrations (Figure 2). It is also very centrally situated in the medieval historic core of the city. Socio-demographic variables are not conclusive in the explanation of the spatial behaviour of tourists. Beyond the core areas hardly any tourist stops are performed (monument visit, shop or restaurant visit).

- Activity structure: Cultural oriented tourists versus shoppers

In the analysis a comparison is made between the activities that were planned on beforehand and effectuated during the visit to the inner city. Sightseeing differs from the visit to museums, monuments and places of interest in the sense that in the first case sights only play a role as a setting for other activities, but are not an activity on itself.

Table 1 shows that sightseeing is the most frequently mentioned tourist activity. This confirms the interpretation that the historical scene is far more important as an attraction factor than the actual range of activities that can take place in this setting. From the survey it also could be concluded that shopping and visiting pubs / restaurants are to an extent an impulsive reaction to intervening opportunities, decided on the spot. However, the location of those activities are strongly confined to a few horeca squares and the most important shopping street (Veldstraat). Visits to a museum or a historical site tend to be anticipated. Since the survey was targeted at the day visitor, little information about evening activities and attendance at cultural performances was given.

Figure 2 - Walking routes of tourists in the inner city of Ghent (n=248)

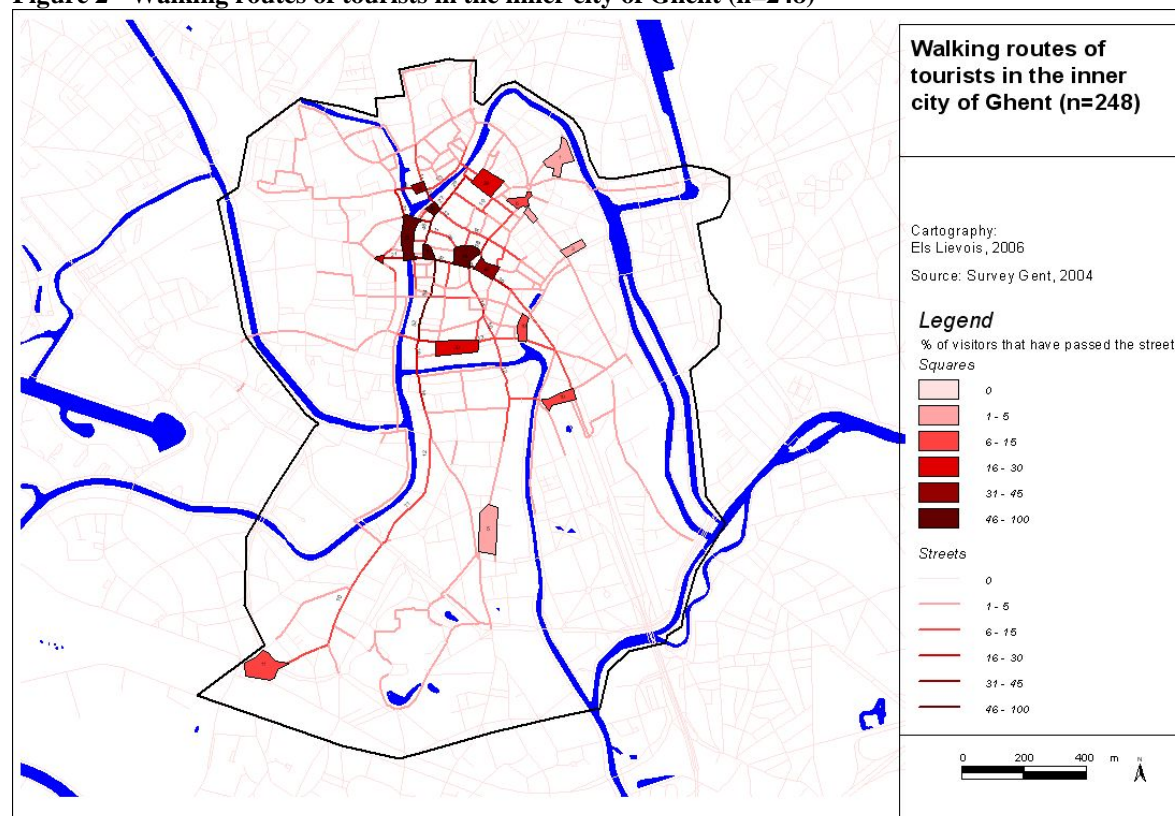


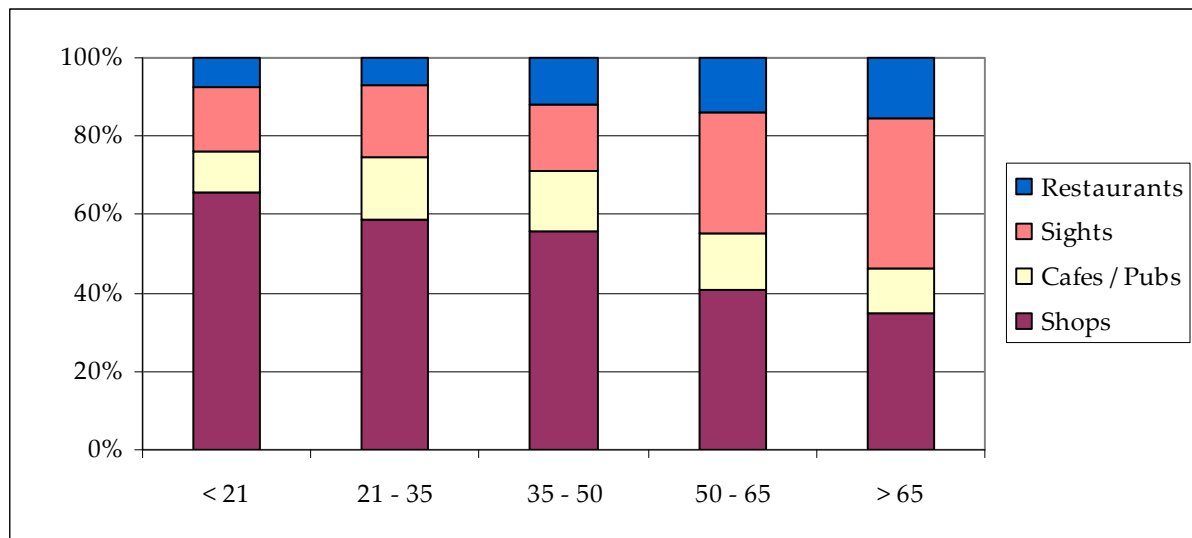
Table 1 – The tourist in the inner city of Ghent: motives and activities (n=275)

	Planned beforehand (%)	Done (%)
Sightseeing	52	59
Non-daily shopping / services	25	45
Dining out / restaurant	27	41
Going to a pub / patio café	30	40
Enjoying the scene	31	34
Visiting museums, monuments, places of interest	28	29
Visiting relatives / friends	5	5
Meeting new people	1	3
Visit a market	1	1
Attending a conference	1	1
Events	1	1
Attending performances: theatre - music - movies	4	1
Other	1	1

Source: survey Ghent, 2003.

If the spatial properties of behaviour are considered into detail, the results indicate that the central area (Korenmarkt) is intensively used by almost all tourists, but that there is a slight but no clear cut difference between two tourist groups, mostly related to activity preferences. Younger visitors tend to visit the city less than once a month and are mainly focused on shopping, whereas first-time visitors are generally older and visit more monuments and museums (Figure 3). This results in a different spatial orientation alongside the central area, since most tourist sights are situated north and the most important shopping street directly south of the Korenmarkt (Figure 1).

Figure 3 – Activity structure according to age (relative proportion of stops per type according to total amount of stops per age category, N=899)



- A spatial hierarchy of symbols

In the tourist city understood as a symbolic and interpretative entity, a spatial hierarchy of places can be noted. There is a core area with a spatial concentration of ‘top attractions’, according to the *Michelin Green Guide*, and appreciated as the most symbolic and attractive spots in the inner city by the tourists (Gravensteen, Belfry, St. Baafs Cathedral, Korenmarkt, Graslei). Clearly these sites are also treated as focal points in the destination tourism planning.

The secondary symbolic layer consists of tourist attractions that are less marked in the international image building and mainly mentioned in promotion material geared to the home market. They are considered as secondary focal points in the destination tourism planning. The third symbolic layer consists of places that are mentioned in local tourist guides only and not included in the local tourist map.

The confrontation between the material tourist city and symbolic tourist city suggests that the spatial behaviour of tourists is concentrated and this correlates with the locations mentioned as the most symbolic and/or attractive. There is not only spatial selectivity among the most important symbols and attractive places (Gravensteen, Korenmarkt, Graslei, Belfry and St. Baafs), but also thematic selectivity. Mostly they are the enigmatic historical buildings and squares, in which cafes, restaurants and terraces could possibly account for maximum attraction (Graslei as the most attractive place in the city, cf. Figure 4). Shopping areas and

streets are also mentioned, but tend to assume a secondary role in tourist imagery about the city.

Figure 4 – The Graslei: most attractive place in the inner city of Ghent (tourist survey, 2003, n=275)



The tourism interaction system: policy recommendations

Formulating recommendations for urban policy and visitor management based on the research results is not always straightforward due to the fact that policy recommendations depend on concrete objectives formulated by the city: what are the directions and goals of tourism development?

The proposed analytical model can be used to gain more insight in the combined presence/absence of different aspects of the tourism interaction system in different places in the city, for example:

- Places where a strong imposition of brand identity (coding, symbolification by suppliers) is not followed by brand image (perception imagery and tourist experience);
- Spots where tourism development efforts (e.g. also by brand identity, inserting it into tourist trails, etc.) are not succeeded by tourist presence or tourist activities;
- Possibly also areas where a strong commodification by the tourist supplier has a negative impact on tourist perception and experience.

A goal of urban tourism development could be to foster overnight tourism by prolonging the average length of stay. A strategy to achieve this could be to develop the secondary areas to enlarge the tourist opportunity spectrum. In this respect, studying the presence of the different elements of the tourism interaction system in a SWOT analysis could be used to evaluate the potential of a selected location. Obviously this analysis will need to be case specific.

- Shopping Center Zuid as an example

Situated southeast of tourist core area (cf. Figure 1), the Shopping Center is a morphological and functional area prone to tourism. It is shown that shopping is an important tourist activity

(cf. Table 1), mostly effectuated in the shopping core area (Veldstraat). The Shopping Center is a popular area for inhabitants and recreationists, but the analysis of tourist walking routes does not show a tourist interest for the area. This is also reflected by and interrelated with the marker aspect of the tourism interaction system, since the area is not frequently mentioned as an important symbol or an attractive area.

If tourism information is considered to account for the brand identity of the area, shopping in general was and is strongly underrepresented in local tourist information (brochures and websites), certainly compared to the attention given to pubs / restaurants. By a stronger focus on shopping areas in tourist documentation, tourist knowledge of shop concentrations could be induced, also the more peripherally located with respect to the tourist core. The aim could also be achieved by integrating them in shopping trails, since Shopping Center Zuid can be reached from the core area along the other, slightly specialized and exclusive shopping axis of the Mageleinstraat – Koestraat – Brabantdam.

It is not clear whether this level of spatial and thematic integration could be achieved for the other secondary areas in the inner city of Ghent. It can also be questioned whether it is realistic to strive at enlarging of the tourism market share by prolongation of visitor stays, based on the fact that tourists tend to consume places rather rapidly and selectively before hopping over to the next destination (Ashworth, 2006).

Concluding remarks

The results of this research into the actual functioning of the urban tourism system, the symbolic connotations and their impact on the spatial behaviour of visitors, open new perspectives for the management of spatial interactions in general, tourism destination and visitor management in particular, and the decision-supporting role of GIS-based spatial analysis. The methods can be used in other medium-sized historic cities, and the patterns and interdependencies can be evaluated according to local objectives of tourist city planning and visitor management. The study can be reproduced in other cities, given the fact that the urban supply structure is at one point available in a Geographical Information System and is regularly updated, given the fact that coding of urban sights, buildings, etc., in local, national and international tourist brochures and websites is monitored and made comparable. However, a research focus on tourists in particular is recommended, since the sample size of this study did not permit a detailed analysis of differences between domestic and external tourism. Moreover, the space paths produced by the survey were confined to a one day period and not for the total length of stay, whereas it is stated that “time spent in a destination area is arguably the single most influential criterion...impacting intradestination movements” (Lew & McKercher, 2006, p. 409).

The most difficult aspect to reproduce and maintain, however, is the tracking of tourist behaviour. Even if technological advancements make it possible to have a more accurate track of individual tourist behaviour and to process it more quickly in a GIS system (cf. Shoval & Isaacson, 2006, 2007), it is nonetheless an extremely difficult task to monitor a representative sample of tourism behaviour within the city. This is due not only to the difficulty of singling out the “typical tourist” from other types of city users, but also to the fact that tourists are hard to “grasp” because of their brief presence and volatile behaviour within the city.

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