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DECIPHERING URBAN LIFE: A MULTI-LAYERED INVESTIGATION OF ST. ENOCH SQUARE, GLASGOW CITY CENTRE

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Keywords

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Abstract

An urban space is a vital stage for social interaction and city life. Measuring the city life is always related to social, economic and cultural conditions of an urban context. Social gathering increases the quality of urban space and improves economic vitality. This paper aims to explore how successful urban spaces could impact the growth and performance of an urban context, not only as a physical urban reality, but also as a generator of social life. Utilising St. Enoch Square as a case study, a multi-layered methodological approach constituted in a series of tools was implemented, including behavioural mapping, visual preference survey, walking tour assessment, contemplating settings, and observing physical traces and by-product of use in order to interpret various forms of experiences that take place. Findings reveal various attributes of St. Enoch Square while highlighting different qualities that promote and support the overall vibrancy of the city life. Conclusions are drawn to emphasise that the physical and spatial characteristics of an urban space are critical factors for maintaining social interaction while creating essential opportunities that support the human experience in the public realm.

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INTRODUCTION: ASPECTS OF URBAN LIFE IN URBAN OPEN SPACES

Over centuries of city development and civic design public spaces have been considered significant components in urban contexts representing the most convenient places for sociability and everyday interaction where their vibrancy and usability depend on the physical quality and structure. Madanipour (2010) states that the richness of the physical quality of any urban open space plays a major role in attracting people and becomes an active built environment for multiple social activities. They have continually mirrored the integration of local cultural, social, and economic aspects revealing their memory, accessibility, and meaningfulness (Butterworth, 2000). Therefore, urban open spaces accommodate the settings and surroundings that enhance people's life and impact their perception, feelings and engagement in city life

Since social interaction is an important human need that when satisfied contributes to personal and social growth and development, public spaces are platforms that hold, generate and enhance this human necessity. Urban spaces are essential elements of urban form that intend to accommodate daily social activities, provide convenient settings, and offer different functions that improve the quality of life within urban context (Tibbalds, 2000). Throughout the history, urban spaces have contributed the most in accommodating various purposes including everyday societal interactions, trade activities, political demonstrations or special events. They have become venues for goods, knowledge, experience, culture, and entertainment. Despite the fact that suitability and functionality of any urban space are dependent on spatial composition and historical aspects; the common denominator is that most squares function as meeting places and gathering nodes in which where people spend time and perform a wide spectrum of activities (Canter, 1977) (Figure 1).

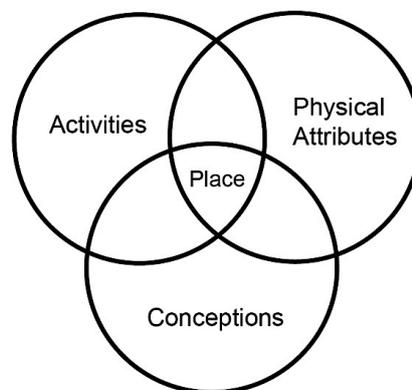


Figure 1. Basic elements of urban place (Canter, 1977).

While people are influenced by their urban environment and related stimuli, this influence takes place at different levels of human experience and has implications on the resulting behaviour. Consequently, researchers have introduced various approaches for defining the factors that determine these influences including perception, suitability of use, and human experience (Woolley, 2003). According to Carmona et al. (2010), there are two dimensions that characterise urban spaces: the first corresponds to the space and its settings whereas the second represents social activities that ensue within it. The two dimensions have a mutual relationship where the physical composition enables the social activity and ultimately the city life as a whole. Additionally, the social dimension is mainly based on the characteristics and quality of an urban space including accessibility, safety and security, proximity, diversity of functions and street furniture. Gehl (2010) indicates that the success of an urban space is strongly related to the level of possibilities for social engagements and the

variety of activities taking place in it. Moreover, Montgomery (1998) argues that the perception of an urban place is a result of people's feeling, sensations, reactions, values and impressions. However, people do not share the same perception of any urban space as this process is subjective and is based on various factors that include age, gender, cultural background, and past experiences. Therefore, the landscape of an urban space could be understood, experienced and perceived, and reacted to differently and in various ways.

Fotis (2015) states that public spaces allow people to meet intentionally or unintentionally within a convenient platform in order to interact, socialise, and share their feelings and experiences. By enabling this interaction, urban open spaces can contribute to the cohesion of communities. Furthermore, cities could not survive without urban spaces in which all kinds of personal, cultural and economic exchanges take place. Therefore, urban open spaces are important places for people to meet and interact, but their significance varies. Along the same line of thinking Amin (2008) argues, and rightly so, any urban street or square will impact on the performance of most social groups and its qualities determine the way in which it is used.

Another quality of urban open spaces pertains to the sense of individuality within collectiveness. Salama and Gharib (2012) note that privacy is, to an extent, a required feeling in public spaces as it reflects natural social behaviour of people's needs. Therefore, applying a range of settings with different layouts in a public place can provide a clear uniqueness of the physical structure of an urban space, offer positive perception and support privacy within social interaction in a public environment. The variety of landscape elements and the spatial subdivisions of a public space help accentuate the contrast with the adjacent surroundings and make it easier for the users to relax. The landscape elements include sculptures and plants; soften the rigidity and solidity of the surrounding buildings that edge urban streets or squares (Remali, 2014) and these can also contribute to the sense of individuality within collectiveness.

Following the work of Krier (1979), the richness of the urban domain is enhanced by adjacent façades that are architecturally subdivided and defined at both the ground and upper floors. This form of articulation promotes visual attractiveness and a comfortable pedestrian scale, which is meaningful and significant for an urban user. Articulation of building volumes and changes in fenestration patterns are effective strategies for diversity of façades while defining distinct modules. The body of literature developed over the past several decades continues to emphasise the relationship of urban landscape and social life and demonstrates the tools that could provide a better understanding of the usability of urban spaces and the way in which it can be improved and enhanced (Gehl, 1987; Gifford, 2001; Jacobs, 1961; Marcus and Francis, 1998; Rapoport, 1990; and Whyte, 1980). Knowledge of urban open space has expanded to include their role, usability and utilisation and has continued to stress the qualities required for a thriving urban space (Lang, 1987; Lynch, 1960; Nasar, 1998; and Rapoport, 1977).

The preceding discussion suggests that studying how urban spaces stimulate urban life continues to be fundamental in interpreting the relationship between users and their surroundings. The paper thus introduces a multi-layered investigation for examining one of the oldest squares in Glasgow City Centre, St. Enoch Square. Methodologically, the investigation is implemented in a number of layers that involve behavioural mapping, visual preference survey, walking tour assessment, contemplating settings, and observing physical traces and by-product of use in order to interpret various forms of experiences that take place. Such a mechanism enables a reflective discernment into the understanding of the fundamental characteristics of urban open spaces that stimulate urban life.

A BRIEF TALE OF ST. ENOCH SQUARE

St. Enoch Square is a public square located on the south side of Glasgow city centre at a central location where two important pedestrian streets meet, Buchanan Street and Argyle Street. It also links the city centre with banks of River Clyde. Prior to 1780s, St. Enoch Square was only a grazing area for sheep (Pollard, 1994). Initially, Buchanan Street was the dominant axis that stretches between the Merchant City and Blythswood New Town and links two major public spaces at that time, which are: Enoch's Yard and Caledonia Square. Enoch's Yard or St. Enoch Square as it is called today became a pivotal link between a riverside chain of diverse public places and the city centre (Reed, 1993) (Figure 2).

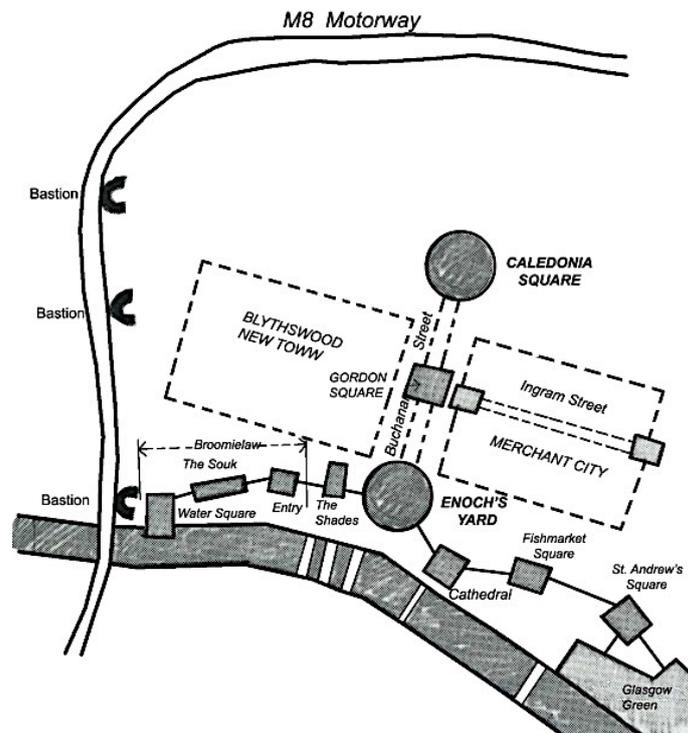


Figure 2. St. Enoch Square within Glasgow city centre in 1780s
 (Source: based on Reed, 1993).

During the decade of 1780s the square became a sacred ground accommodating a chapel and last resting place of St. Enoch (St. Thenew), mother of St. Mungo (the Patron Saint of Glasgow). In 1790 the grounds of the square were paved with stones, and the chapel was expanded to a larger church. In 1876 St. Enoch Railway Station was opened and three years later a hotel with 200 bedrooms was constructed as the most imposing structure in Glasgow (Senex, 2016). Both the station and the hotel were among the first buildings in Glasgow to be lit by electricity. However, St. Enoch church was demolished on 1926 in order to develop a bus station and a car park. In 1974 the hotel was removed in order to use the site as a car park until 1985 when construction works commenced to build St. Enoch Shopping Centre (Jones, 2010). (Figure 3).

In recent years Glasgow has established its new role as an important post-industrial European city and has become a vibrant hub for trade, education, culture, and arts. Despite urban sprawl, social segregation, and car dependency (Frey, 1999) the city displays a great deal of spatial and formal consistency, which makes it a thought-provoking place for urban exploration. Amongst the developments that took place over the past two decades were the

refurbishment of St. Enoch Shopping Centre in 2005 and the renovation of St. Enoch Subway in 2015 as part of the urban challenge to modernise the square and the city centre.



Figure 3. The evolution of St. Enoch Square from 1782 to present
(Source: 1, 2, 3 Jones, 2010, and 4 Authors).

METHODOLOGY

The study employs a multi-layered investigation mechanism in order to assess the way in which St. Enoch Square in its current form stimulates urban life. The analysis is based on both quantitative and qualitative procedures with the aim of interpreting the relationship between the physical composition and social activities. In order to reach a comprehensive understanding on the usability, efficiency and perception of St. Enoch Square, the investigation mechanism represents an assessment framework, which is based on tools derived from earlier studies that engage with the field of environmental psychology.

Constituted in a series of tools the mechanism includes behavioural mapping (Sanoff, 1991), visual preference survey (Nasar, 1988 and Rapoport, 1990), walking tour urban space assessment procedure (Salama and Azzali, 2015), contemplating settings (Salama, 2012), and observing physical traces and by-product of use (Zeisel, 1984) in order to construe various forms of experiences that take place within the square (Figure 4). The first layer involves behavioural mapping that provides a better understanding of how users engage with the square, the amount of people passing through or using the space, and the variety of activities they perform. The visual preference survey is undertaken to divulge how those who live, visit, and work in St. Enoch Square perceive it within its urban context. The walking tour assessment focuses on examining and assessing functional, social and perceptual attributes of the square. Contemplating settings procedure captures spontaneous situations of human behaviour that takes place in the square. The observation of physical traces and by-product of use is undertaken to examine various types of use that enable the verification of key outcomes of implementing other tools.

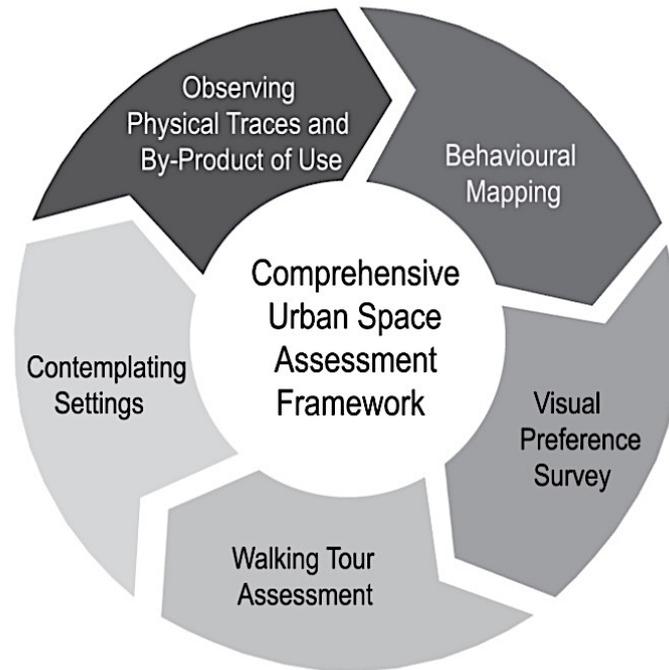


Figure 4 Comprehensive investigation mechanism for assessing St. Enoch Square (Source: Authors).

DISCUSSION OF TOOLS AND KEY FINDINGS

Behavioural Mapping

Given the scale of St. Enoch Square mapping was conducted by a team of three researchers at the same time while enabling effective observation of users and the range and type of activities. The study classifies urban users of the square into three categories: singles (male & female), couples (mixture & unisex), and groups (mixture & families). The categories were observed during their moving/dynamic and stationary/static activities at two different times of the week; midweek and weekend. Specifically, observations were conducted in the morning (10:30-11:30am) and afternoon (2:30-3:30pm) of the same representative days. It is recognised, however, that the profile of users and use within the space may vary if the observation was undertaken using other representative days or other times.

Although various types of use within St. Enoch Square operate and are available throughout the week, there are different degrees of variations of pedestrians' flow, type, and density. Principally, the analysis unveils that the space is more vibrant during afternoons than mornings for all types of users. However, there are only minor variations in the total number of groups and couples who use the space during weekends. While the analysis demonstrates that liveliness of St. Enoch Square during weekends is relatively high, it is noticed that intensity of use increases in afternoons and decreases in mornings. It is also observed that moving activities are very similar during a weekend morning and a midweek afternoon (Figure 5, Tables 1 & 2). The vibrancy of stationary activities follows the same pattern of moving activities, where the amount of people performing stationary social interaction in weekend decreases considerably during midweek. Apparently, both walking and stationary activities decline at the morning times.

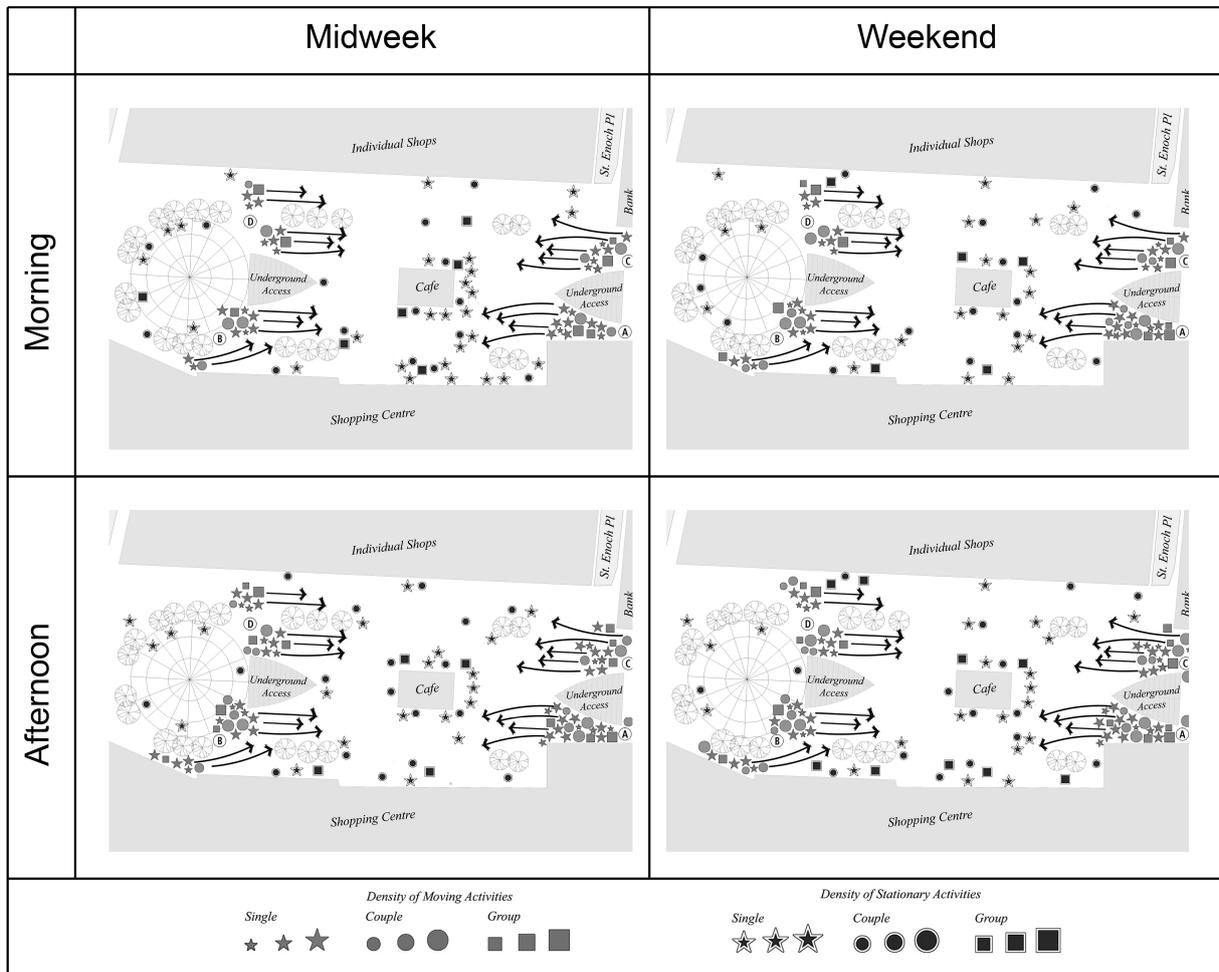


Figure 5. Moving and stationary activities in midweek and weekend during mornings and afternoons (Source: Authors).

Table 1. The total number of urban users according to social groups (Source: Authors).

	Midweek				Weekend			
	Group	Couple	Single	Total	Group	Couple	Single	Total
Morning	468	300	538	1,306	720	408	605	1,733
Afternoon	660	472	743	1,875	724	520	817	2,061

Table 2. The total number of urban users according to type of activities (Source: Authors).

	Midweek		Weekend	
	Moving Activities	Stationary Activities	Moving Activities	Stationary Activities
Morning	1,306	164	1,733	288
Afternoon	1,875	193	2,061	374

Visual Preference Survey

A photographic attitude survey was conducted to examine the way in which different types of users perceive St. Enoch Square and its spatial and visual qualities. This was part of a larger study that included examining user perception of nine spaces within Glasgow city centre (Salama, Remali, MacLean, 2017). The sample of users was randomly selected from the domestic urban users who visit St. Enoch square and the city centre of Glasgow on a daily

basis, the majority of which were known to the research team. Four categories of age groups were identified based on 35 responses out of 60 potential participants who received the survey questionnaire. They were divided into 16-25, 26-35, 36-45, and 46+. These age groups represent (37%), (14%), (09%), and (40%) respectively, and were further divided into two groups, males (51%) and females (49%) as shown in Table 3.

Table 3. The overall profile of respondents to photographic attitude survey (Source: Authors).

Group of Respondents	Categories	Number	Percentage	Total
According to Age	16 - 25	13	37%	100%
	26 - 35	05	14%	
	36 - 45	03	09%	
	46+	14	40%	
According to Gender	Male	18	51%	100%
	Female	17	49%	

Participants were given a week to respond to the survey and were offered the opportunity to contact the researchers for any clarification needed. The assumption was that all participants have experienced Glasgow city centre. Participants in the survey responded to the images of each space using polar adjectives that best describe it. The survey also included questions that enable the identification of the space as a most liked, most visited, most passed-by, and that which represent the city. Paired adjectives that demonstrate included the following:

- inviting/uninviting,
- iconic/ordinary,
- distinctive/indistinctive,
- vibrant/boring,
- urban/peripheral,
- familiar/unfamiliar,
- pleasing/unpleasing,
- restful/stressful
- usual/unusual,
- complex/humble and
- inspiring/uninspiring.

The analysis reveals that both genders consider that St. Enoch Square is characterised by urbanity, vibrancy and familiarity (Figure 6). This can be attributed to its qualities in terms of accommodating historical features or important buildings, or diversity of land uses. However, the Square is identified by a considerable percentage of males and females as ordinary and this is possibly a translation of its general spatial and architectural qualities. In addition, females believe that St. Enoch Square is unusual and distinctive, while male comprehend the Square as humble and indistinctive urban space (Figure 7). The majority of females perceive it as neutral in terms of invitation, simplicity, inspiration and being pleasing. This can be attributed to the degree of intensity of use and the crowding levels that characterise the space. Yet, the majority of males perceived only two attributes as 'neutral': restfulness and distinctiveness. This clearly corresponds with the essential characteristics of the Square as a transitional space that interconnects the busy urban life of the city centre and the river.

St. Enoch Square provides a direct connection with the city's Golden Z as the busiest shopping hub. This is coupled with hosting a direct access to one of key entrances of St Enoch shopping centre and accommodating a wide range of cafés, restaurants and shops. The survey, however, reveals that none of the age groups have expressed any degree of

likeability to this square. Inconsistent with the results of the mapping analysis which demonstrates intensive use, the Square has received a negative visual preference in terms of overall daily visiting. As well, none of the age groups have expressed any feeling toward St. Enoch Square as a preferred urban space to visit or as a destination within the city centre of Glasgow.

Only two age groups, 16-25 and 46+, identify St. Enoch Square as the most passed-by urban space in the city centre. This reflects that the primary use of St Enoch Square is more of a pedestrian route rather than a destination space. Surprisingly, the Square has received no response as a representative urban space for the city as a whole, even though it is one of the urban spaces that have evolved over two centuries and has witnessed many historical events and urban developments.

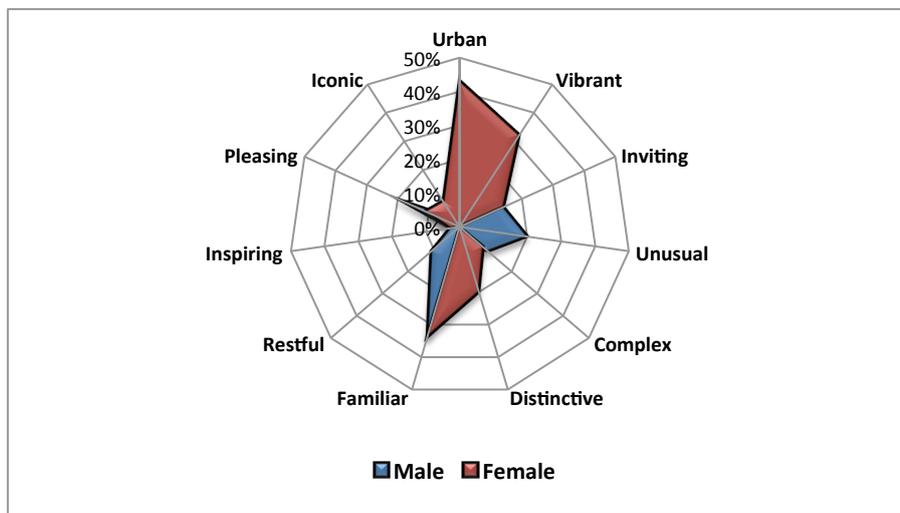


Figure 6. Positive qualities of St. Enoch Square as perceived by male and female respondents (Source: Authors).

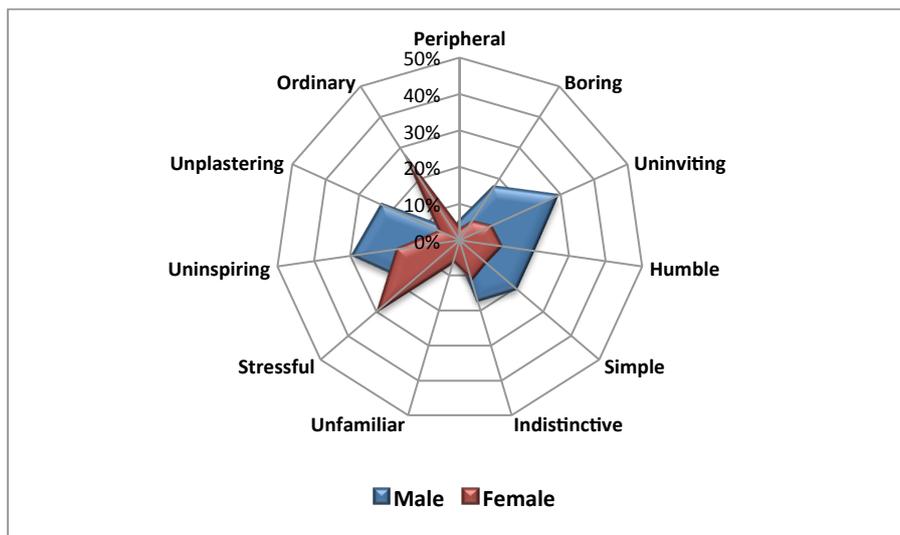


Figure 7. Negative qualities of St. Enoch Square as perceived by male and female respondents (Source: Authors).

A Walking Tour Urban Space Assessment Procedure

Following earlier scholarly explorations conducted in other contexts (Salama and Azzali, 2015) as well as for nine key spaces within Glasgow City Centre (Salama, Remali, MacLean, 2017), this layer of investigation includes an examination of functional, social, and perceptual attributes through a walking tour assessment procedure designed to facilitate a deeper understanding of St. Enoch Square. A tool is devised in terms of three checklists underlying three major sets of attributes namely: functional, social and perceptual. Each set includes 12 factors with a scoring system and a four-point scale, where scores are assigned against each factor in terms of degree of appropriateness. Scores are then averaged to reach a collective score for each set of attributes. The total 36 factors stem from urban literature and are developed to reflect the quality of an urban space underlying the three sets. It is recognized that some factors underlying one set of attributes may overlap with factors underlying another. In essence, this ensures a process of verification; that if one factor is misinterpreted in the scoring of one set, such a misinterpretation could be corrected when assessing a similar one under another set.

Functional Attributes: This set includes factors relevant to variety of uses; ecological quality; formal quality; accessibility; space subdivision; legibility; definition; richness of visual experience; richness and diversity of landscape elements; robustness and adaptability; proximity and continuity; and spatial quality. All indicators of this set have received highly appropriate scores. This is due to the fact that St. Enoch Square accommodates a wide range of uses and contains adequate street furniture that contributes to a variety spectrum of small settings (Figure 8). The square has clear and well defined boundaries and is legible and these qualities make it distinguishable with flexible access and connectivity. Although a mixture of eclectic architectural vocabulary edges and defines the Square it still demonstrates richness of visual experience and spatial and formal quality. The urban space's size, proximity to important attractions and its overall physical structure make it easy for adaptability, resilience and robustness. This confirms why the Square is one of the main urban spaces within the city centre of Glasgow that holds a range of markets and occasional events throughout the year and in essence demonstrates the key role functional attributes play in enhancing its usability. Receiving highly appropriate scores in these functional attributes clearly corresponds with the analysis of behavioural mapping and demonstrates the fundamental nature of these as indicators in stimulating urban life.

Social Attributes: This set encompasses factors or indicators that pertain to sense of interaction; inclusivity; diversity of age groups; diversity of activities; ethnic diversity, efficiency of use, functionality; reachability; accessibility for users with special needs; human scale, and harmony. The assessment reveals that all social attributes of St. Enoch Square are highly appropriate (Figure 9). The space is easily reachable by many options of public transportation in addition to accommodating a subway station within its premises, two main routes of buses pass by and two train stations are located within a very short walking distance; Central Station and Argyle Street Station. Since the Square is pedestrianized and is paved by one level of stone, it is easily accessible from the surrounding urban context for all types of users irrespective of their age or ability. This demonstrates that as an urban space, it is harmoniously integrated to the adjacent built environment in which mainstream pedestrian movement of the public is enhanced by the city's golden Z, diversity of activities, and efficiency of use. Social attributes demonstrate that St. Enoch Square is an intimate urban place that serves diverse groups from different ethnic backgrounds while offering sense of inclusivity by varied arrangements of street furniture elements. This enables settings to manifest, which fulfil the sense of human scale. Notably, the study conveys that

when social attributes are highly appropriate they help develop a general sense of social attachment to the physical place.



Figure 8. Space subdivision and diversity of use in St. Enoch Square (Source: Authors).



Figure 9. Vibrancy and diverse social experiences at different times of the day (Source: Authors).

Perceptual Attributes: This set includes key attributes related to suitability and desirability; relaxation and comfort; human needs for regular use; safety and security; memory; cultural diversity; attractiveness; noise acceptability; identity and history; distinction and recognition; night engagement, and density of users. The overall assessment of perceptual attributes of St. Enoch Square resulted in 3.02 score. The observation shows that it provides a sense of relaxation and comfort for all users where the feeling of privacy and personal distance are respected and valued. For the research team, this urban space independently delivers a memorable and attractive architectural character along with spatial experience. The square reflects, to some extent, the city's identity by accommodating the historical buildings and major buildings such as St. Enoch Shopping Centre, which consequently make it recognised as a unique destination within the city centre of Glasgow. It is important to note that cultural diversity, suitability, acceptability, and addressing user needs are clearly the most important perceptual attributes that contribute to enriching St. Enoch Square for social activities (Figure 10). In contrast with the photographic attitude survey results, attributes that pertain to history, memory, attractiveness and distinction have contributed to the recognition of the space as one of the most successful urban nodes within the city centre of Glasgow.



Figure 10. Efficiency and possibilities for various behavioural opportunities (Source: Authors).

After conducting the assessment of the 12 indicators of each set in St. Enoch Square, the survey conveys that as an urban space, it is highly appropriate (Table 4) as it has received a score of 3.37 in total with functional attributes receiving the highest scores of 3.60 indicating high degree of appropriateness followed by the social attributes that scored 3.50 while perceptual attributes received 3.02. Palpably, the overall results provide a clear evidence of how the Square operates and how various attributes contribute to its success.

Functional Attributes	Variety of Uses	Ecological Quality	Formal Quality	Accessibility	Space Subdivision	Legibility	Definition	Richness of Visual Experience	Richness & variety of Landscape elements	Robustness & Resilience / Adaptability	Proximity & Continuity/ Need	Spatial Quality	Total Average/space
Scores	4.00	3.25	3.75	4.00	3.50	3.75	3.75	3.50	3.50	3.50	3.75	3.75	3.60
Social Attributes	Sense of interaction	Inclusivity	Diversity of Age Groups	Diversity of Activities	Ethnic Diversity	Efficiency of use	Functionality	Reachability	Accessibility	Accessibility for Special Users	Human Scale	Harmony	Total Average / Space
Scores	3.75	3.25	3.25	3.25	3.50	3.25	3.25	3.75	3.75	3.50	3.50	4.00	3.50
Perceptual Attributes	Suitability and Desirability	Relaxation and Comfort	Human Needs	Safety & Security	Memory	Cultural Diversity	Attractiveness	Acceptability	Identity & History	Distinction / Recognition	Night Engagement	Density of Users	Total Average / Space
Scores	3.25	3.50	3.00	3.00	3.25	2.75	3.00	3.00	3.25	3.25	2.50	3.00	3.02
≤ 1.00 (Highly Inappropriate)		> 1.00 – 2.00 (Inappropriate)				> 2.00 – 3.00 (Appropriate)				> 3.00 Highly Appropriate			

Table 4. Scores received by various types of attributes which characterise St Enoch Square (Source: Authors).

Contemplating Settings

St Enoch Square is one of the busiest places in Glasgow city centre. Having a closer look at key identified settings within the space was an important process through which the research team can develop important impressions and assessment of the degree to which the space meets needs and expectations of those who use it, whether as a destination or as a pass by connecting space. By contemplating it is meant that the observer puts a conceptual and mental effort in interpreting the setting. This involves translating key behavioural phenomena such as privacy, territoriality, personal space, personal distance and turn them into concrete terms through description and analytical interpretations of what is observed. While many settings were identified and analysed as part of examining the spatial qualities of St. Enoch Square, four settings are selected to represent various actions and activities within the space

(Figure 11). The contemplation involves the development of statements that aim to answer the question: *Who is doing what, where, how, for how long, and with whom?*

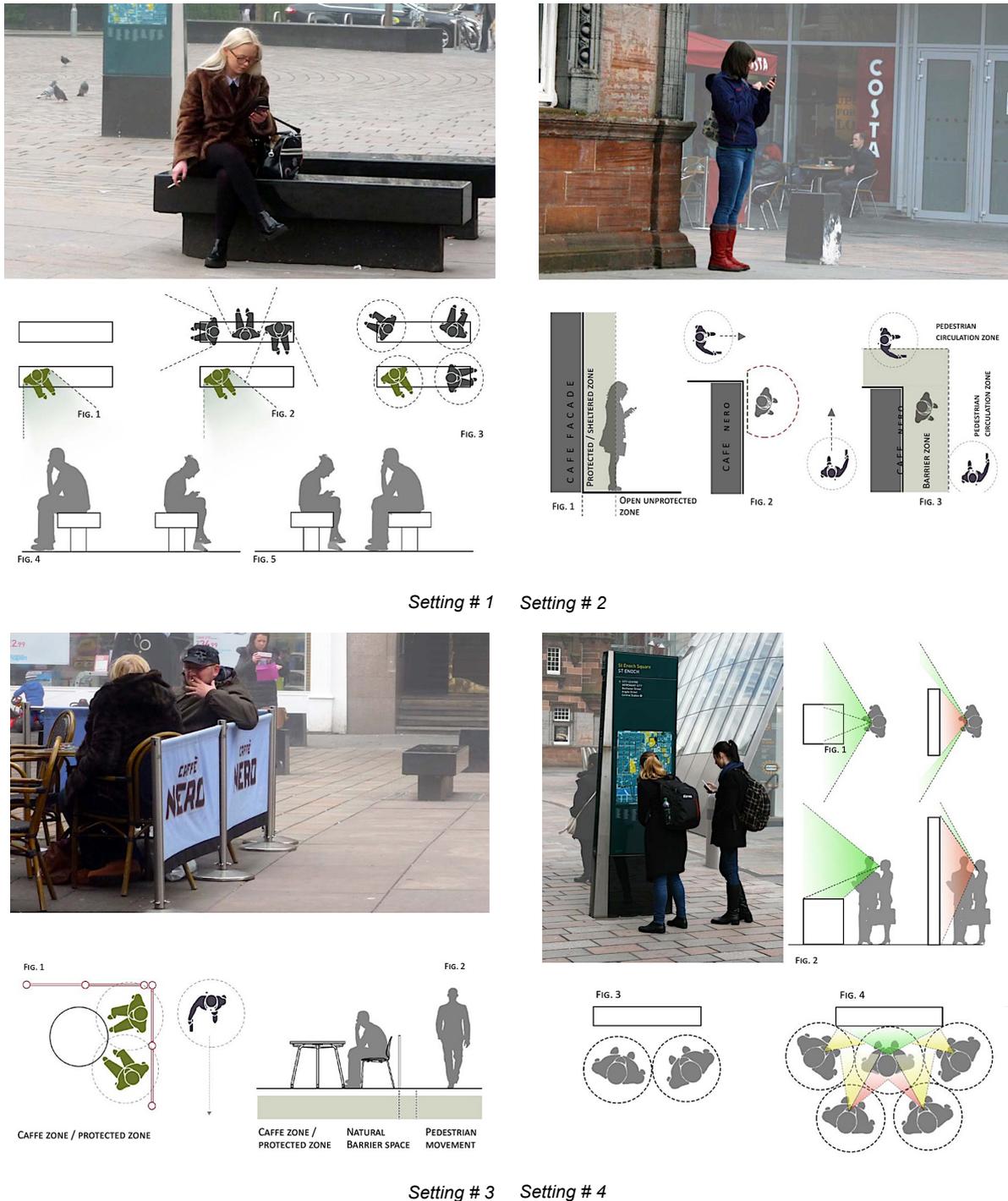


Figure 11. Settings that represent different actions and activities performed by the users of St Enoch Square (Source: Authors based on Scola et al. 2016).

Setting #1 which continued a fairly long period of time illustrates a single female sitting on street furniture while undertaking several activities (smoking; texting; waiting/resting). The

street furniture consists of two identical benches positioned on a close distance from each other, but allowing for sufficient personal distance. The person's position is on one side of the bench closer to the edge, which reveals there is no interest in establishing ownership over the bench. Her purse is attached to her arm instead of left to rest down which suggest that she may leave soon. Her back is turned against the second bench indicating that she does not welcome interaction with people potentially sitting there. Notably, if other individuals sit on the bench next facing any direction her personal space will not be invaded. One set of two benches provides sufficient space and distance for four individuals to sit in without intruding each other's personal space. In setting # 2 the nature of the activity is very different where a female is standing while undertaking a short period activity. Her attention and head position is turned towards her phone and the surrounding context is not of much interest. The visual connection with the pedestrians ahead is partially broken but can be regained easily. Her back is turned against the café wall using it as shelter, i.e., her position next to a wall provides sense of protection and partial isolation. The café's wall is further used as a solid barrier between her and the flow of pedestrian movement. It appears that her preference for this location is that it prevents her personal space from being infringed by those passing by in a close proximity.

Setting # 3 demonstrates a common activity that takes place in the space on a daily basis. Two individuals are sitting at a coffee table outside a brand coffee shop. They are positioned in close proximity and the personal space is small. The setting thus suggests that they are interested in the conversation which the positions their backs suggest no interest in the surrounding scene. The boundaries of the setting are clearly identified and are used as café signboard as well as barrier between stationary and moving activities. Despite the fence's height is only 60cm, it provides an excellent barrier and offers a feeling of protection from the open area. On the other hand the setting # 4 illustrates a setting that involve two passing by females standing in front of information post. While one of them is focusing on the 'you are here map', the other is using her cell phone. The two females are positioned in close proximity, which suggests that there is familiar relationship. Their position within the setting indicates that strangers would be unwillingly moving in close proximity in order to gain visual contact or access.

The analysis of the preceding four settings serves as only example of a broad range of settings that offer various functional and behavioural opportunities. it demonstrates the way in which interactions between people and the physical aspects of a setting takes place. The variety of physical objects and street furniture items provide a range of possibilities for engagement. The analytical reflection and contemplation delineates that various physical elements ranging from furniture to building walls play essential part in the behaviour and the overall comfort level of users.

OBSERVING PHYSICAL TRACES AND BY-PRODUCT OF USE

Due to its key position within the city centre and its close proximity to pedestrian streets with heavy pedestrian traffic, thousands of people pass through St. Enoch Square on a daily basis. Being one of the most relative spaces in Glasgow, St. Enoch Square is expected to meet the demands of a large number of daily users and to adequately address the needs of both passing pedestrians and those living or working nearby. This expectation can be met by efficient urban landscape and street furniture design that help enhance the environment by meeting diverse requirements. Furniture items and products, which are generally accessible for public use within the urban space, were examined as part of an observation study (Scola et al, 2016) (Figure 12). Key items assessed were assessed according to their number, physical condition, maintenance, product design, usability, functionality, accessibility, comfort

level, and aesthetics. This was followed by examining the relationship between the products and users and how street furniture affects the pedestrian behaviour enabling an additional layer of understanding the Square.

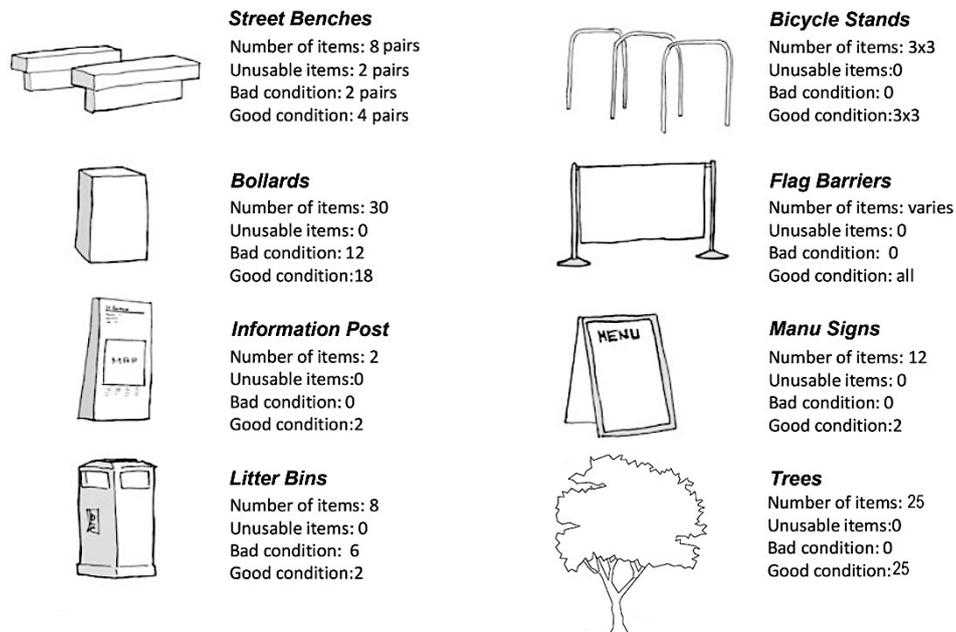


Figure 12. Identified furniture items and products in St. Enoch Square (Source: Authors based on (Source: Authors based on Scola et al. 2016).

Street Benches are located in close proximity from each other. While all the benches are clad with marble, there exist two types, one with curved edges and another with sharp edges. The curved ones are large and form a circular setting while the sharp edged ones positioned in two paralleled rows along the movement flow. The benches that are located along the shops are more likely to be used than those that are positioned adjacent to the cafés and restaurants. The benches are used most of time for seating and resting with intensity of use during lunchtime. The positioning of the benches emphasises the pedestrian movement pattern within the square. The benches are adequately placed in pairs allowing pedestrians to sit in privacy while at the same time offering opportunity for socialization. While the overall number of benches within the Square appears to be adequate, the choice of material does not seem to be so, especially in terms of comfort, colour and surrounding context. No rain drainage solution was provided and the surface is often wet, an aspect of discomfort in the space given the rainy Glasgow weather.

Bollards are designed in two different shapes and colours. The metal ones are placed in front of entrance and exit of subway station, while the marble ones are shaped a square adjacent to the brand café. The metal ones appear to be elegant in a sense and match the iconic glass and entrance canopies and therefore the spatial quality of the square is enriched. The marble ones are designed to support the social activities within the square but in fact their location is not well integrated within the square layout.

Information Posts appear in excellent physical condition. They are designed to allow more than 3 people to study the 'you are here map' without interrupting each other's personal space. The map size appears to be in adequate size and is legible and easy to read.



Figure 13. Various types of use of bollards in St. Enoch Square (Source: Authors).

Litter Bins are distributed throughout the square in different shapes, sizes, colours and material resulting in a wide range of heterogeneous street items and unattractive scene. Additionally, they do not seem to be well maintained with the majority of bin units is damaged, full or very dirty, aspects that do not contribute to the needs for public hygiene.

Bicycle Stands appear to fulfil their main purpose and are heavily used during the day. The location could have been more effective in terms of visual connection and rain protection. The bicycle stand consists of three to four units located with 1 m separating distance. The height seems to be adequate for locking the bikes without bending over to a low level. The overall number of stands seems to be insufficient to meet the demand especially during lunchtime in weekdays.

Flag Barriers are used by most of the cafes and restaurants within St. Enoch Square. They are used as signage to advertise the café; to outline the open café zone outdoors and to separate it from adjacent cafés and the pedestrian movement. Flag barriers are commonly used by all cafés and restaurants resulting in a sense of uniformity.

Menu displays and signage are part of space furniture with a strong presence in the Square as a traditional method of advertisement for catering places. As such, they attract the attention of pedestrians, for a shortstop and look. As the majority of signs are located within the pedestrian circulation zone, they become a focal point for many users to stop around them for a short and quick conversation.

Trees in St. Enoch Square appear to reduce the hardness of the surrounding buildings and add a natural feel to the spatial quality of the square. They are arranged along the movement paths and their position and size make them recognisable. The number of trees also appears to be very reasonable enhancing movement and stationary activities within the square.

Overall, the square has important features that serve the needs of users including benches, bicycles stands, bollards, litterbins and trees. However, there is a substantial a number of street furniture items that do not adequately fulfil the requirements of a public nor it corresponds to the value and history of the Square.

CONCLUSION

St. Enoch square is an urban space within Glasgow city centre which integrates different architectural vocabularies that have evolved throughout its history since 1780s. Using contemporary technology and emerging design trends resulted in the introduction of new shell structured glass entrances to the subway station; two sculptural access points developed in a style influenced by the classical style of the surrounding buildings. The evolution of the Square through time involved dramatic transformations in its use, from a market place, to a sacred ground, to a car park, to an urban node and a transitional space. Given its central location and that it accommodates the subway station as well as one of the largest shopping centres in the centre of Glasgow, the Square continues to demonstrate the presence of a dense urban life with a variety of restaurants, cafés and local shops surrounding it and where people can have many shopping, dining, and socially engaging opportunities.

The comprehensive multi-layered methodology applied in this study enabled various forms of understanding and deciphering urban life as portrayed in the Square. Behavioural mapping offered a better understanding of how users engage with the square as individuals and in groups, the amount of people passing through or using the space, and the variety of activities they perform. With a focus on females and males perception through verbal description of the qualities of the Square, the visual preference survey revealed an overall understanding of how St. Enoch Square is perceived by those who live, visit, and work in it and within its urban context. The walking tour urban space assessment offered a systematic examination and evaluation of functional, social and perceptual attributes of the Square which received highly appropriate scores indicating the overall success of the Square as an urban open space. Contemplating settings procedure identified spontaneous situations of human behaviour and engagement with a variety of smaller physical units of the Square. The observation of physical traces and by-product of use revealed the quality of space furniture and products and they way in which they support use.

Notably, the findings of the walking tour urban space assessment procedure reveals the significance of the functional attributes identified in maintaining urban vibrancy within the Square. The assessment of social attributes demonstrates that the Square offers a great sense of inclusivity and human scale. The assessment of perceptual attributes indicates that the Square offers its users a sense of relaxation and comfort and that the feeling of privacy and personal distance are respected and valued. While the majority of scores resulted from the walking tour urban space assessment correspond well with the findings of implementing others layers of investigation, key results appear to be in disagreement, especially with the outcomes of the visual preference survey.

An important outcome of this study is that the implementation of one layer of investigation or limited number of information gathering techniques falls short of providing a complete understanding of how urban life is generated and maintained by the attributes and qualities of an urban space. Systematic assessment coupled with an exploration of users perception of urban spaces can be seen as a utility that facilitates the identification and the subsequent understanding of the spatial experience as it relates different types of attributes. While these procedures have resulted in important outcomes with respect to strengths or weaknesses in key qualities of St. Enoch Square, the engagement with knowledge about movement patterns and actual usability of various settings is critical in providing an enhanced understanding of urban life and how it is supported by the physical qualities of the Square. Direct observation and behavioural mapping is a systematic method for describing what visitors and users of the Square actually do there. It is a direct approach, unlike the two

preceding methods that require indirect involvement of users in seeking information about the understanding of setting preferences or urban movement, or the perception of public spaces. Observation and mapping are important tools for understanding the dynamics of human interaction with the physical environment; it is not a substitute to other layers, but an additional approach to data collection which views people as 'objects' by recording their periodic behaviour. Valuable information and observations have been obtained where behaviour was systematically recorded involving people, activities, setting or space, and timing. The results of implementing such methods combined would establish enhanced argumentation and rationalisations of various aspects of urban life in urban open spaces.

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