

Governing Urban Transformation

Enhancing children's sense of place
through measures to address rat
running: Suitable approaches for S4B

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Author declaration:

I 9026966 confirm that this report is based on my own work and that I am happy with both my own and my partner's 8994890 contribution to the final submitted version.

Executive summary

This report assists Solutions for Brunswick (S4B) in addressing the problem of rat running (RR) in the organisation's regeneration of Brunswick. A key aim is to enhance sense of place; this report therefore establishes innovative approaches to solving RR that have the co-benefit of achieving the key aim. More specifically, the report looks at children's sense of place due to their interaction with the neighbourhood. The aim is to look into UK schemes of a similar nature and assess their suitability, through ethnographic observation, for application in Brunswick. Three approaches are assessed: shared space, temporary events and do-it-yourself (DIY) urbanism and details are established as to how S4B may move forward in implementing solutions. The report concludes that whilst solutions may not completely eradicate RR, they will reduce speeds and therefore threats to sense of place. Furthermore, the report places emphasis on the inclusion of the community; residents must acknowledge RR as a problem and express willingness to tackle the challenge if solutions are to be successful. Finally, whilst the proposed solutions are not new, they are innovative in Brunswick and therefore experimentation may be required to identify the most appropriate solution in the estate.

Contents

1. Introduction	5
2. Context	5
2.1. Sense of Place	5
2.2. Rat Running	6
2.3. Research Questions	7
3. Research Design	7
3.1. Research Site	7
3.2. Ethnography	7
3.3. Secondary Data	7
4. Findings	9
4.1. Shared Space	9
4.2. Temporary Events	11
4.3. DIY Urbanism	13
5. Recommendations	16
6. Conclusion	16
References	18

1. Introduction

Place-making is an integral component in the redevelopment of Brunswick, a neighbourhood on the doorstep of Manchester City Centre. Solutions for Brunswick (S4B), the organisation conducting current physical and socio-economic regeneration, state the preservation, even elevation, of sense of place is a fundamental aim. Current proposals to open up cul-de-sacs and create through roads to enhance community integration have the potential to increase the existing problem of rat running (RR), threatening community sense of place. This report offers recommendations for future neighbourhood development to combat this challenge.

Traditional RR solutions are based on infrastructural conversions, blocking vehicle access and egress to residential streets. However, the focus on enhancing sense of place make solutions of this nature inappropriate for Brunswick's regeneration. Instead, this report establishes innovative approaches to solving the problem of RR whilst enhancing sense of place. With a particular focus on children's use of space, the analysis of previous UK initiatives reveals three key approaches to the challenge: shared space, temporary events and do-it-yourself (DIY) urbanism. Employing ethnographic observations, each are individually assessed to discover their suitability in Brunswick. Finally, considering lessons learned from previous case studies, the report suggests how S4B may go forward to adopt appropriate solution.

Following this introduction, the context follows with research questions. Next the research design and site is explained. Proposed solutions are then provided in an analysis before considering the recommendations for S4B and concluding the report.

2. Context

2.1 Sense of Place

Place is not just a physical phenomenon – it is socially constructed, subject to ongoing imaginations (Wang, 2015). Sennett (1990) noted place can group people via engagement, enabling community cohesion around a shared vision of place. This is important for a healthy, functioning, sustainable community. Enhancing sense of place also provides a distinct identity through the built environment, making a place unique and identifiable for its residents. This uniqueness carries economic benefits as the distinctive qualities attract external (inward) and internal (residents shopping and engaging locally) investment (Hamilton-Baillie, 2008a).

Residential sense of place is particularly important for child wellbeing (Shabak *et al.* 2015). Considering the proximity to local schools and children residing in Brunswick, a focus on children is crucial to the challenge considered in this report. Employing a visual methodology of drawings by children, Shabak *et al.* (2015) concluded children's sense of place to their residential area was influenced by natural features rather than architectural design and also by their ability to interact with playmates. In a previous qualitative study, Morrow (2001) discovered child perceptions of the environment influence sense of place. With greater focus on traffic, Mullan (2003) acknowledged road design and use as strong determinants of child interaction in residential areas, discouraging their engagement due to the threat of speeding traffic. In contrast, traffic calming zones increased occurrences of children's play (Ibid.). It is therefore the negative perceptions attached to residential environments which compromise community identity, with traffic a key detriment (Ibid.).

2.2 Rat Running

Mobility has long been acknowledged a threat to place, (Relph, 1976 cited in Wang, 2015: 84) whilst place and the built environment are recognised controls of mobility behaviours (Van Acker *et al.* 2010). S4B acknowledge this with the ongoing RR challenge in Brunswick. RR transpires due to mobility desires. Whilst road networks enable mobility, congestion has emerged inhibiting the service. Due to the value of time in daily life, it is no surprise drivers seek speedier routes; it is this speed which kills sense of place (PPS, 2014). However, studies have concluded shortest time routes are often not chosen (Thomas and Tutert, 2015). Instead, drivers search for routes allowing constant movement due to misconceptions of standstill versus mobile travel time (Witlox, 2007). Such perceptions cause RR and Thomas and Tutert (2015) recognised residential areas as vulnerable sites coinciding with the challenge S4B discovered. Middleton (2011) stated habitual behaviours influence route choice. Elaborating, Van Acker *et al.* (2010) contended when drivers become accustomed to their mode and route, decisions become unreasoned. To reduce culprits, it is necessary to break habits. This research proposes sense of place initiatives to alter perceptions of place to do so.

2.3 Research Questions

To combine sense of place with the problem of rat running, three research questions are considered.

1. How is space used by children?
2. How is children's sense of place impacted upon by road users and rat running?
3. Based on observations, how appropriate are solutions to reduce rat running through place making in Brunswick and what lessons can be learned?

3. Research Design

3.1 Research Site

Due to the proximity to two local schools, Medlock Primary School and Trinity High School (half a mile southwest of Brunswick), the research site illustrated in Figure 1 was chosen. Additionally, an observed RR route with the existence of children's interaction provided justification to focus on children's sense of place throughout. Whilst this report focuses on the streets identified in Figure 1, the area is representative of the RR problem facing the estate. Therefore, appropriate solutions for this site could be scaled up.

3.2 Ethnography

Wayfinding has long been acknowledged as a powerful method to attain knowledge of place (Golledge, 1992) and was considered in this research. Wandering through Brunswick during a fine weathered week in April, ethnographic observations were employed. Observations provided understanding of the use of space by both children and rat runners to effectively match suitable solutions. Whilst RR was witnessed throughout the estate, observations revealed one particular route of concern (Figure 1). This is significant as it is a newly created route already experiencing RR.

3.3 Secondary Data

Imperative to this research are UK case studies tackling issues of RR and sense of place. Previous initiatives presented in grey and academic literature are used to discover suitable solutions for Brunswick.



Figure 1: As Brunswick is undergoing redevelopment, maps are outdated, unrepresentative of existing streets. Therefore, an annotated map has been created, representative of current street layout (Author's own).

4. **Findings**

4.1 **Shared Space**

A common infrastructural approach to alter user perceptions of streets is shared space. The concept originated from urban designer Hans Monderman, and involves roads and pavements sharing the same surface with minimal signage (Ben-Joseph, 1995). This design aims to limit mode segregation and reassign roads as a space for all users. Driver behaviour is influenced due to the absence of traditional road safety measures creating right of way uncertainty between drivers and pedestrians. Furthermore, the general abnormality of shared space requires reliance on social protocols and forces greater awareness of surroundings whilst also reducing vehicle speeds (Hamilton-Baillie, 2008b). Greater reliance on awareness may be expected to increase risk but ironically creates safer streets as risk is an essential component for successful interaction, thus, place-making (Adams, 1995). The safer, more conducive environment reduces car dependency, encouraging pedestrian use, thus indirectly a tool to enhance social interaction.

In the UK, shared streets have been adopted in residential settings: Home-Zones. They are distinguishable from regular streets by entrances or gateways. Comparing two streets in Cardiff: one Home-Zoned and the other with traffic calming infrastructure, Biddulph (2012) analysed their effectiveness. The Home-Zone entrance was two large bollards with trees (Figure 2). Whilst this research was limited as it did not successfully establish the impact on traffic as the Home-Zone site was not a through road, Biddulph (2012) concluded the Home-Zone encouraged child interaction whilst also providing a boundary to ensure their safety (Figure 2). Little interaction of this sort occurred on the traffic calmed street (Ibid.). The influence on space function and use evidences Home-Zone capacity for place-making. Traffic calming measures, whilst reducing traffic, do not directly do so.



Figure 2: An image by Biddulph (2012) evidencing the use of space for child interaction when the Home-Zone concept is employed.

The suitability of shared space via Home-Zones in Brunswick is debatable. It is acknowledged its implementation is an expensive method of place-making when compared with alternatives. Considering this and ongoing physical improvement, further built environment changes may not be appropriate. However, certain shared space elements may be applicable.

Streams of rat runners in Brunswick were observed throughout the day, notably during peak travel times, coinciding with children walking to and from school. Speed bumps did not detract many culprits from driving over 20mph. For this reason, shared streets may be applicable as they are recognised to reduce vehicle speed due to uncertainty of road design (Hamilton-Baillie, 2008b). Alternatively, Home-Zone gateways could be implemented to detract RR vehicles from entering the road. As gateways create an appearance of being closed to vehicles, they can change perceptions of the environment and encourage alternative engagement, particularly child interaction (Biddulph, 2012). At times during the day with little or no traffic, this interaction was already evident, revealing Brunswick's potential as a homely neighbourhood if RR was reduced. The varied use of space by children, their parents and vehicles positions shared space as a suitable solution, allowing engagement and interaction, promoting place-making and changing perceptions of road functionality.

- Shared space changes perceptions of residential roads and influences how they are used due to repurposing the streets for all road users.
- Driver behaviour is influenced as shared space interrupts traditional road layout creating uncertainty. Whilst it is possible for RR to continue, it would be at a reduced speed, thus a smaller threat to residential sense of place.
- The Home-Zone as a form of residential shared space is seen to enhance children's playful interaction and attachment to place.
- The obdurate environment makes shared space an expensive solution due to the necessary infrastructure changes.

Table 1: Key findings of shared space.

4.2 Temporary Events

One solution identified in previous UK initiatives are events to reclaim the street for local residents. This involves temporary closures of roads to traffic allowing for community interactions. As residential RR transpires due to desires of constant movement (Thomas and Tutert, 2015), there is scope to block routine RR routes via temporary road closures, disturbing habitual behaviours. Subsequently, community interactions in the absence of vehicles allows for the reimagining of space and perceptions and expectations associated with the road (Karndacharuk *et al.* 2014), proven to encourage community involvement and influence residential use of streets. This is exemplified by Sustrans (n.d., a), a transport charity encouraging walking and cycling over car use. They encourage community involvement in different initiatives and often start the process by hosting community street parties. Whilst this temporarily reclaims the street for community use, they are also useful events for spurring community ideas to impact their local area.

Previous initiatives have focused on children's use of residential space. Playing Out (n.d.) is one example of a UK organisation aiming to improve street suitability for children, encouraging their interaction and reclamation of roads. In one initiative on a residential street in Bristol, residents successfully came together and applied for the closure of the street to vehicle traffic for a couple of hours after school every day. The street was viewed an extension of the school playground with local children and parents congregating to play together without safety fears. The use of chalk to draw on the road exemplified how children

reimagined the street scene, normalising playing out and making children interactive in their home environment (Figure 3). No infrastructure change was required, just the temporary closure of the road. The 'play' street was viewed as an activity hub with children from elsewhere joining, inadvertently creating a centre for community interaction, a cheap solution to encourage community ownership.



Figure 3: Evidence of children reclamation of the street in the absence of moving vehicle traffic (Playing Out, n.d.).

Considering observations of Brunswick, events encouraging engagement of local children revealed strong suitability. The site was a place of interaction; local primary school children played in the street with parent supervision. Whilst evidencing existent community, RR caused safety concerns reducing the ability of play. Socialisation appeared restricted when play was interrupted by vehicles using the car park and by RR vehicles. Vehicles emphasised the dominance and impact of infrastructural design on street use, restricting use for child engagement. Furthermore, inhibited interaction with the wider community was evidenced by families restricting play to their gardens. Such observations suggest school finishing times, coinciding with peak RR occurrences, are an appropriate time to close the road for temporary events. Inexpensive chalk drawings by children on the road are a successful method of reclamation and the remnants of chalk have the potential to change perceptions of space, making residential roads a site of play rather than RR routes (Playing Out, n.d.).

- Temporary events enable a reclamation of street space and allow for safe interaction with residential environments by children whilst also disrupting the habit of RR.
- The remnants of playing out, for example of chalk on the road, can influence driving behaviour, interrupting RR habits due to the unfamiliarity of the road environment.
- Events allow for local resident engagement and interaction, contributing to a bottom-up approach, creating greater attachment and increasing sense of place.
- Community action can be institutionalised through an external organisation to enhance effectiveness.
- Large amounts of children on streets coincided with RR times and therefore events at this time could maximise the impact on RR and children's sense of place.

Table 2: Key findings of temporary events.

4.3 DIY Streets

DIY streets offer a bottom-up approach to influence place. The idea is part of the DIY urbanism movement whereby local residents take responsibility in addressing local issues, often in unconventional manners (Finn, 2014). This approach can be framed as a soft rebellion against the rigidity and uncreativity of traditional top-down planning. It allows local residents to influence space, providing a distinctive imprint to stand out, retaining a unique identity. The decentralised nature of DIY urbanism makes it more cost effective than alternative place enhancing measures. The idea mirrors shared space as alterations of place influence road user use of space, reacting to the unfamiliarity and uncertainty, altering their behaviour accordingly (Hamilton-Baillie, 2008b). This reveals an integrative approach which can be found in a Manchester. Residents of Penn Street carved out four totem poles and placed them at street entrances, creating an informal gateway, similar to those in Home-Zones. By imprinting a local identity upon the roads, perceptions of space functions can be altered to serve all users.

Sustrans (n.d., b) coordinated a project at Ashton Gate Primary School in Bristol where the community identified a need to calm traffic. Sustrans helped coordinate this community action, assisting idea formation, planning applications and funding. The community inserted plant beds on the side of the road (Figure 4) and painted a pattern synonymous with the school's identity on the road surface (Figure 5). The scheme enhanced sense of place due to

the community imprint on local infrastructure and also enabled engagement in the creation, implementation and subsequent impact on sense of place. The narrowing of the road with plant beds and the painted road surface enhanced driver awareness and cautiousness around the school. The scheme required little infrastructure change, instead layering upon existing infrastructure. This layered infrastructure provides an appropriate juxtaposition demonstrating the capacity of creative, bottom-up DIY urbanism compared to traditional planning measures.



Figure 4: Illustrates the use of plant beds narrowing the local road to both detract vehicles and slow vehicle speeds (trafficchoices.co.uk, 2014).



Figure 5: Evidence of the paintings, synonymous with Ashton Gate Primary School on their local road, adding layered sense of place improvements to space (trafficchoices.co.uk, 2014).

The location of local schools to Brunswick, as well as the research site being an observed place of child interaction, warrants the use of a DIY urbanism initiative mirroring Ashton Gate's. Primary school pupils crossed the RR route, sometimes without parent supervision, at times approaching the road at speed on scooters or bikes. High school pupils were observed engaging in chats, at times kicking a football using the road as their walkway rather than the pavement designed for pedestrian use. Whilst this may present a case for shared space, DIY urbanism has potential cost effective benefits. This is also true considering the road layout. It appeared a through road with no signage or reference to the nearby schools or presence of children, presenting a safety concern. Reduced vehicle speeds created by DIY urbanisms would improve child safety and also wellbeing due to the inclusion of green infrastructure (Shabak *et al.* 2015), an important consideration of S4B. Due to the obdurate nature of the built environment (Hommels, 2005), such DIY urbanisms may be appropriate to layer infrastructure rather than convert.

- DIY urbanism offers a creative rebellion against uncreative and rigid planning design.
- DIY urbanism incorporating children enables a reclamation of street space and allows for safe interaction with environments whilst also disrupting the habit of RR.
- Community action can be institutionalised through an external organisation to enhance its effectiveness.
- Driver behaviour is influenced as DIY urbanism interrupts traditional road layout creating uncertainty. Whilst it is possible for RR to continue, it would be at a reduced speed, thus a smaller threat to residential sense of place.
- DIY urbanism is a form of layered infrastructure rather than infrastructure change, appropriate for an obdurate environment.

Table 3: Key findings of DIY streets.

5. Recommendations

Several recommendations can be drawn from this report. They are presented in Table 4.

- Appropriate solutions should be determined in relation to the money available for implementation as well as the infrastructure currently in place, due to its obdurate nature.
- Solutions for RR and place-making may require integration of different approaches. Any solution adopted must be specific to Brunswick and its needs.
- Attempts to address RR must originate from community recognition and willingness to solve the challenge if solutions are to be accepted and successful. Community involvement is essential throughout the process, from planning to implementation and use.
- Community must be institutionalised either through S4B or an external organisation (such as Sustrans or Playing Out) if this engagement is to be effective.
- All solutions include the need to change perceptions of the road; there is a need to consider future road development, placing less focus on mobility via the car, instead by alternative modes, enabling greater road functions, including children's play.

Table 4: Recommendations based on solutions discussed.

6. Conclusion

This report has proposed solutions to RR whilst ensuring community sense of place, a challenge identified by S4B. The solutions are analysed in reference to suitability in Brunswick and core conclusions are identified.

Firstly, shared space appears an appropriate solution due to its ability to change perceptions of place, influencing driving behaviours due to the unfamiliar design. In relation to the Home-Zone concept, children's sense of place is enhanced due to enabling safe interaction. However, shared space is limited due to the economic cost and the obdurate nature of the environment (Hommels, 2000) making it difficult to implement alternative infrastructures.

Temporary events enable the reclamation of space and encourage children's safe engagement with the environment, increasing attachment whilst interrupting RR habits, therefore suitable for Brunswick. These points can be applied to DIY urbanism suitability. An additional conclusion to DIY urbanism concerns its ability to layer infrastructure rather than replace, making it more suitable in an obdurate environment, tackling a shared space flaw. Nevertheless, both temporary events and DIY urbanisms are descendants of shared space: they repurpose roads creating unfamiliar environments to drivers, triggering uncertainty and reducing RR.

Finally, whilst the various approaches may not eradicate RR, they will reduce culprit speed due to place unfamiliarity, thus threat to sense of place. In this sense, RR behaviour is as important as the number of RR vehicles. Furthermore, as improvements are focused on sense of place rather than infrastructure, solutions require community involvement. It is imperative RR is a problem not only identified by S4B but also by the local community, to encourage their engagement with the implementation of solutions to secure their success. Though the solutions proposed are not new, they are innovative to Brunswick. For this reason, experimentation of various solutions may be required to discover their true suitability for the estate; a suitable solution may be a combination of approaches.

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