

WestminsterResearch

<http://www.westminster.ac.uk/westminsterresearch>

**Transitions in Motion: Accelerating Active Travel Infrastructure in
London through Grassroots Groups and Activist Researchers
Sharkey, Megan**

This is a PhD thesis awarded by the University of Westminster.

© Mrs Megan Sharkey, 2023.

<https://doi.org/10.34737/w366x>

The WestminsterResearch online digital archive at the University of Westminster aims to make the research output of the University available to a wider audience. Copyright and Moral Rights remain with the authors and/or copyright owners.

Transitions in Motion: Accelerating Active Travel Infrastructure in London through Grassroots Groups and Activist Researchers

Megan Sharkey

A thesis submitted in partial fulfilment of the
requirements of the University of Westminster
for the degree of Doctor of Philosophy

Thesis submitted for examination: 9th May 2022

Thesis submitted with corrections: 1st February 2023

Abstract

Active transport plans and infrastructure transition plays a key role in reducing global greenhouse gas emissions and various health issues faced in London, yet has not occurred at a speed required for mitigation or even achieving stated targets and goals. While socio-technical transition research has often focused on the historical perspective and the technical aspects of a transition, it has dwelt less on the process of transition in motion. In particular, the role of grassroots movements in accelerating transitions and the social aspects of creating transitions. Utilising participatory action research and an adapted bridging methodology, this research aims to analyse mechanisms for speeding up active transport policy and infrastructure transitions. It intertwines three layers of bridging methodologies across policy and practice, namely the initiative-based learning (e.g. cycling campaigns), socio-technical analysis, and quantitative modelling. The initiative-based learning was enacted as participatory action research, with myself as an activist researcher, working in partnership with grassroots movements campaigning for active transport infrastructure and policy changes. The 'Framework for Change' is a template trialed in this research provided the practical connection to the theoretical socio-technical transition literature.

This research project highlight the opportunities and obstacles to accelerate transitions in motion specifically for grassroots movements. The empirical findings suggest that by coupling grassroots and activist researchers, it is possible to create micro-accelerations and influence urban changes towards sustainability. Further, that using the 'Framework for Change' can upskill activists and form a template for other campaigns. The findings also suggest that the most important parts of the Framework for Change are building coalitions, creating measurable goals and visions, and understanding who can change policy and infrastructure. My research highlights how actions and events that unfolded represent micro-accelerations or micro-decelerations and can lead to better understanding of potential transition pathways and transition goals. It further highlights that grassroots' movements have much to offer in understanding the social and political changes required for sustainable socio-technical transitions. More research into the social rather than the technical factors could speed up the pace and expand the scale of the transition required for climate change adaptation and healthy built environment outcomes.

Table of Contents

Chapter 1	Introduction	17
1.1	Research gap	19
1.1.1	Why cycling as a means to investigate grassroots movements?	20
1.2	Research scope	22
1.3	Originality and contribution	23
1.4	Research objectives and questions	24
1.5	Thesis overview	26
Chapter 2	Literature review - planning, transport, and sustainability transitions	28
2.1	Global infrastructure systems	28
2.1.1	Transport and cycling's role in sustainable cities	31
2.1.2	Challenges of sustainable infrastructure transformations	32
2.2	Sustainability transitions and socio-technical transitions	36
2.2.1	Evaluating and understanding transitions	38
2.2.2	Bridging methodologies	51
2.3	Urban planning and institutions	53
2.3.1	Infrastructure path dependency	55
2.3.2	Policy implementation through institutional budgets	57
2.3.3	Investment in cycling and integrative budget analysis for infrastructure generally	59
2.4	Conclusion	61
Chapter 3	Literature review – Communities, social movements, grassroots, and cycling transitions	62
3.1	Communities and citizens participation in planning and policy development	63
3.2	Social movements	66
3.2.1	Grassroots initiatives, innovations and movements: organizing from the bottom-up	68
3.3	Transport social movement and cycling movements	72

3.3.1	Overcoming the active transport stigma through Australian based grassroots initiatives	77
3.4	Citizen Science	77
3.4.1	Cycling, biking and citizen science	81
3.5	Conclusion	82
Chapter 4	<i>Research methodology and design – activist research and socio-technical transitions</i>	83
4.1	Enacting initiative-based learning – Action research, participatory research, activists, and transitions.....	84
4.1.2	Participatory Action Research.....	87
4.1.3	Activism and activist researchers	91
4.1.4	Development of research design and methodology: synthesising personal and theoretical learnings for an integrative research process and analysis.....	94
4.1.5	Summary of initiative-based learning and socio-technical transitions methods.....	98
4.2	Theoretical framing of the bridging methodology for participatory action research with grassroots movements	98
4.2.1	Approaches of the bridging methodology	99
4.2.2	Integrating the Bridging Framework for research and analysis.....	105
4.3	Data collection as part of the bridging methodology approaches.....	106
4.3.1	Data opportunities for initiative-based learning, with grassroots initiatives	106
4.3.2	Data opportunities for socio-technical analysis - linking to the broader transition system	108
4.3.3	Citizen Science and quantitative measurements.....	109
4.3.4	Summary of data collected and analysis inputs.....	111
4.4	Framework for Change – a template for grassroots campaigns	115
4.4.1	Integrating the bridging process, the Framework for Change, and participatory action research	118
4.4.2	Facilitating the Framework for Change with the grassroots initiatives	122
4.4.3	Framing a more inclusive narrative – the case for Better Streets	123
4.5	Developing my participatory action research, the selection of groups and participation agreements	125

4.6	Issues of reflexivity, researcher position within the grassroots groups, intermediary (LCC), and beyond	130
4.6.1	Position in the research	131
4.6.2	Ethics in participatory action research	133
4.6.3	Transparency and trust-building – finding your place within the group	134
4.6.4	Engagement with local government.....	135
4.6.5	Engagement with the groups in social settings and with family	135
4.6.6	Anonymity.....	136
4.6.7	Time, volunteers, and project size.....	137
4.7	Conclusions	139
Chapter 5	<i>Participating groups: background to case studies</i>	140
5.1	London’s cycling evolution, transport actors, and case study.....	141
5.1.1	Cycling evolution in London.....	141
5.1.2	London’s transport actors and systems.....	147
5.2	London Cycling Campaign	148
5.2.1	A brief history of the London Cycling Campaign.....	149
5.2.2	Participant agreement with London Cycling Campaign.....	150
5.2.3	Organisation structure of London Cycling Campaign	152
5.2.4	Initial observations	153
5.2.5	Engagement with LCC.....	157
5.3	Enfield Cycling Campaign	157
5.3.1	Background to Enfield Cycling Campaign and Enfield Borough.....	157
5.3.2	Local government transport policy.....	158
5.3.3	Research participation and participation goals	159
5.3.4	Initial observations	159
5.4	Southwark Cyclists.....	161
5.4.1	Participation goals	161
5.4.2	Initial and ongoing observations.....	162

5.5	Tower Hamlets Wheelers	164
5.5.1	A brief history – background to Tower Hamlets Wheelers and Tower Hamlets Council.....	164
5.5.2	Local government transport policy.....	164
5.5.3	Participation goals	170
5.5.4	Initial observations	171
Chapter 6 <i>Grassroots groups enacting the Framework for Change, engaging with PAR, and creating transition actions</i>		173
6.1	Framework for Change – facilitating the engagement with the framework for change, knowledge transfer of the frameworks tools and how to use them, and the frameworks process.....	174
6.1.1	Workshop development and communicating the framework for change	174
6.2	Stakeholders, allies, and other actors - understanding and identifying how to grow the initiative and social movement organisation	184
6.2.1	Utilising actions to grow allies – Better Streets of Tower Hamlets example.....	188
6.2.2	London Cycling Campaign – resource capacity building through the framework for change and grassroots initiative.....	189
6.2.3	Tensions in the changes of the grassroots initiative.....	193
6.3	Challenges in growing the grassroots initiatives and movements, enacting the framework and utilizing participatory action research	197
6.3.1	Volunteer initiatives and charity outcomes – conflicts between grassroots initiatives, institution and volunteers	197
6.3.2	Citizen Science and quantitative actions to engage or evaluating policy changes	198
6.3.3	Volunteer time, fatigue and building new activists	199
6.4	Researcher impact and role in the grassroots development.....	200
6.5	Conclusions	201
Chapter 7 <i>Transitions in motion – impacts of grassroots movements in socio-technical transitions: an analysis</i>.....		203
7.1	Grassroots initiatives – building the initiative, community the vision, gaining legitimacy and growing resources	204

7.1.1	Actions and communication of the grassroots initiatives.....	204
7.1.2	Innovations and citizen science the impact on narrative, initiative growth and niche development	208
7.1.3	Growing individual and collective capacities in the grassroots initiatives and the grassroots movement.....	216
7.2	Grassroots initiatives diffusing to the grassroots movements – the growth of Better Streets and its friends	219
7.3	Exogenous factors influencing the grassroots movements acceleration: Extinction Rebellion, Mums4Lungs, and COVID.....	224
7.3.1	Extinction Rebellion and London protests.....	225
7.3.2	Air pollution in London and the Mums3Lungs movement.....	227
7.3.3	COVID pandemic and the rise of social and physical distancing movements.....	228
7.4	Accessing the regime: the windows and doors to overcoming challenges to regime acceptance.....	231
7.4.1	Regime communication practices and engagement with the grassroots initiative and grassroots movement.....	231
7.4.2	Shifting accountability - power dynamics changes between the niche and regime.....	235
7.4.3	Niche and regime intermediaries in London	235
7.5	Defining acceleration opportunities and decelerations for grassroots initiative and movement	239
7.6	Conclusions	245
Chapter 8	Conclusion	246
8.1	Originality and Contribution.....	247
8.2	Research Limitations.....	250
8.3	Further and Future Research.....	252
	References.....	254
	Research notes and data indicators	300

List of figures

Figure 1 Ten essentials for second-order transformation (Fazey et al., 2018, 60)	35
Figure 2 Multiple levels as a nested hierarchy. (Geels, 2002, 1262)	38
Figure 3 Bridging methodology concepts across the three approaches (Turnheim et al., 2015, 248)	51
Figure 4 Schematic representation of steps in an interlinked chain of analysis of future-oriented transitions pathways (Turnheim et al 2015).....	52
Figure 5 Linking perspectives in citizen science and sustainability transitions (Huttenen, et al 2022, 3)	79
Figure 6 Types of citizen participation in respect to citizen engagement (science) and local transtions in practice (Huttunen et al, 2022).	80
Figure 7 Action research cycles, adapted from Bradbury & Reason, 2003; McNiff & Whitehead, 2009; 2011	85
Figure 8 Continuum and implications of positionality, adapted from Herr & Anderson, 2005, 31 (Sharkey et al., 2019)	86
Figure 9 The confluence of action research and socio-technical thinking (Pasmore, 1991, 45).89	
Figure 10 Example of a co-design process with knowledge sharing for sustainable urban development (Webb et al 2018).....	95
Figure 11 Bridging Methodology Theoretical Framework (Adapted from Turnheim et al 2015)	100
Figure 12 Example of niche, regime and landscape interactions (Author)	103
Figure 13 Integrating the bridging methodology analysis (adapted Turnhiem et al)	106
Figure 14 Quantitative measurement of aoals and pathways of transition (Author).....	109
Figure 15 Framework for Change (Author 2018).....	117
Figure 16 Relationships between researcher, trustee, and groups (Author 2021).....	132
Figure 17 Location of grassroots initiatives in London	140

Figure 18 Adapted organisational structure of LCC.....	153
Figure 19 LCC local volunteer groups (LCC 2023)	154
Figure 20 Southwark Cyclists Timeline and Resources Mapping Workshop (Author)	181
Figure 21 Better Streets for Enfield, example of Fox Lane LTN stakeholder mapping (Author)	187
Figure 22 Examples of the circles of influence completed during Enfield Grassroots Group Workshop.....	187
Figure 23 Roman Road Festival - original proposed activities (Roman Road Trust, Better Streets for Tower Hamlet, and Author, 2019)	189
Figure 24 Roman Road Festival - actual location of event in car park (Roman Road Trust, Better Streets for Tower Hamlets, and Author, 2019)	189
Figure 25 Campaigners Conference Welcome and Introduction (Photo taken by LCC Staff member).	192
Figure 26 London Cycling Campaign local volunteer group affiliates (London 2023).....	193
Figure 27 Parklet action (BSTH 2019)	206
Figure 28 The East Londoner news article.....	207
Figure 29 Social media images (Tower Hamlets Wheelers and Author 2019)	207
Figure 30 Walking and cycling data collection (Better Streets for Enfield, 2021).....	210
Figure 31 Better Streets for Enfield traffic counts analysis (BSTH and Author)	211
Figure 32 Roman Road Festival Survey indicating the top three choices for what would make better streets in Tower Hamlets.....	213
Figure 33 Southwark MapHub images (Southwark Cyclists).....	215
Figure 34 Better Streets for Tower Hamlets manifesto (Tower Hamlets Wheelers and Author 2019)	218
Figure 35 Niche and Regime Intermediaries and the saturation of activities in local practices (adapted from Ehnert)	237
Figure 36 Acceleration and Decelerations as part of the niche pathway to dominance (Author)	241

List of tables

Table 1 Intermediary definitions, position vis-a-vis niche and their interest in the transition. Adapted table and definition integration from Kivimaa et al 2019	40
Table 2 Ten essentials for second-order transformation research and grassroots movements equivalent (adapted from Fazey et al., 2018).....	97
Table 3 Key concepts and evaluations to inform across approaches (Author)	103
Table 4 Approach B – key concepts and evaluations to inform across approaches in relation to action research and socio-technical transitions (Author)	104
Table 5 Data collection and input into research learnings and bridging framework	107
Table 6 Observations counts and activities (Author).....	112
Table 7 Integrated table of Framework for Change and its socio-technical equivalents (Author)	119
Table 8 Four stages in the life, and hoped-for death, of the London Cycling Network (Turner 2018)	143
Table 9 Love London, Go Dutch campaign tracking release (LCC, 2021)	145
Table 10 Research participation agreement elements (Author).....	151
Table 11 LCC communication avenues with local groups.....	155
Table 12 Tower Hamlets Transport Strategy Internal Workshop Summary (Author).....	166
Table 13 Tower Hamlets policy analysis (Author 2019)	169
Table 14 Group visions created (Author).....	176
Table 15 Vision descriptions with key messages(Author)	177
Table 16 Key asks of each grassroots group (BSfE 2022, BSTH 2022, Southwark Cyclists 2022, Author).....	178
Table 17 Total attendance at the LCC Campaigners Conference	192
Table 18 BetterStreets Initiatives growth since 2019.....	224
Table 19 Positionality of different actors (Author).....	236

Table 20 Micro-accelerations summary (Author).....244

Appendices

Appendix A	Research participation agreements
A.1	London Cycling Campaign
A.2	Enfield Cycling Campaign
A.3	Tower Hamlets Cycling
A.4	Southwark Cyclists
Appendix B	Workshop guides
B.1	Workshop 1 example
B.2	Stakeholder engagement how to guide
Appendix C	Demonstration-day surveys
C.1	Enfield parklet survey
C.2	Tower Hamlets demonstration day survey
C.3	Enfield parklet survey results
C.4	Tower Hamlets demonstration day survey results
Appendix D	Reflection workshop template and feedback
D.1	Enfield Cycling Campaign and BSfE reflection workshop results
D.2	Tower Hamlets Wheelers and BSTH workshop results
D.3	Reflection workshop template (online workshop version)
Appendix E	Reflection survey results cleaned data
Appendix F	Group resources created
Appendix G	How to do traffic counts
Appendix H	Social Media Guide
Appendix I	Event ID

Acknowledgements

I would like to acknowledge the individuals and groups who worked alongside me and participated in my doctoral research. Thank you for welcoming me into your community groups, campaigns, volunteer activities, and lives – it was amazing to meet you all and get to join on your journey over the years. Each group and its members welcomed not just me but my children into their social lives and campaign lives. Considering anonymity I won't list everyone here, but know that everyone in Enfield Cycling Campaign, Better Streets for Enfield, Tower Hamlets Wheelers, Better Streets for Tower Hamlets, and Southwark Cyclists has positively impacted my life, my research, and the London community. You are all unique and amazing.

To the London Cycling Campaign Charity staff and board members, words can't begin to express the gratitude at letting me a part of your amazing charity. A few specific thank yous to the staff who worked with me at LCC. To Dr. Ashok Sinha thank you for saying yes to working with me, you are a truly incredible human doing great things for the transition to London's sustainable future. To Tom your critical eye towards my work, your work, and policy in London elevated everything you worked on; it helped me be a better researcher. To Simon the many hours of discussion, debates and challenges to do better faster was a great motivator. To Fran, with whom much of this work would not have happened, our meetings were always filled with efficiency, decisions, laughter, and growth. I would work with any of you again without hesitation. To the LCC board members, your dedication to cycling and the time you give to support this work is incredible. To the many others at LCC thanks. I have gained so many friends.

Sarah and Anna – one down, one almost done, one to go. I love y'all.

Mom – for being a role model of giving back, doing your best, and instilling in me to never stop learning.

Troy, Zeb and Syd, thanks for moving halfway across the world to pursue a dream, giving me the time and encouragement needed to research and write, and joining me at endless research meetings and university functions. My children – you are why I wanted to know how to speed up sustainability transitions so your future may be a bit brighter. This isn't even close to the end.

Author's declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work or work as a result of the participatory action research. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the Faculty Ethics Committee on 4th July 2018.

Name: Megan Sharkey

Signature:

A handwritten signature in black ink that reads "Megan Sharkey". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Date: 9th May 2022

Chapter 1 Introduction

'Knowledge is always gained through action and for action' (Torbert 1981, p 145)

Despite socio-technical literature researching sustainability transitions, we need to learn more about transitions in motion, the social side of transitions, how grassroots movements can accelerate transitions, or how academics can affect sustainability transitions. Understanding how we accelerate socio-technical transitions is crucial to climate change adaptation.

The complexity that climate change adaptation presents to those seeking to attain more sustainable and resilient cities depends on various factors. Important complexity issues include the variety of cultures, types and levels of government, business interests, and human behaviours that exist in cities. This complexity ultimately leads to inaction or less than effective-action on climate change. Nevertheless, despite this complexity, we must act soon to limit the effects of climate change and resource depletion to ensure quality human survival (IPCC, 2022). As the world becomes more urbanised and networked, people crave digital connections and increased servicing of cities via infrastructure (Castells, 2009). The question is how to make these connections sustainable and regenerative.

Creating an environmentally regenerative city, one which embeds ecosystem principles into the urban fabric, ensuring there is no waste, no closed loops, or linear supply chains that exist, is imperative (Korhonen, 2001; Zaman & Lehmann, 2013). Generally, a sustainable city uses resources efficiently and promotes diverse ecosystem services over the long term (Neuman, 2005). A resilient city can handle and adapt to stresses and shocks (Chelleri, 2012; Godschalk, 2003). The recent COVID pandemic highlighted how resilient cities are or are not particularly around the movements of people, e.g. ability of transportation infrastructure to adapt to the requirements of people moving – in this case primarily physical distance requirements (Neuman, Chelleri and Schuetze 2021).

Sustainable and resilient cities are created partly through urban planning and policy. Planning and policy create (or drive) the hard (and soft) infrastructure requirements for cities. It is infrastructure which most dictates whether a city can be sustainable and resilient (Neuman 2022). Transitioning to more sustainable infrastructure has been slow or non-existent in many places, and more knowledge has not always led to more action for sustainability (Hickman,

Ashiru, & Banister, 2010; Tilbury, 2013). The literature review in this thesis notes many reasons for transition difficulties, including infrastructure path dependency (Curtis & Low, 2012; Westley et al., 2011; Wolfram & Frantzeskaki, 2016), internal barriers within community groups around leadership or funding (Matthews & Pratt, 2012), community participation barriers (Berke & Lyles, 2013; Shove & Walker, 2007), and government budgeting and funding (Marstrand, 2017; Terrill, 2016). Understanding these reasons highlights a significant research gap (Wolfram & Frantzeskaki, 2016).

To address the sustainability problems posed in the brief exposition above, my research will explore grassroots initiatives and movements¹ involved in infrastructure changes, their niches in civil society as defined by socio-technical transitions, and their capacity to drive the socio-technical transition. Grassroots initiatives refer to local projects or campaigns driven by individuals or small groups within a community, often to address a specific issue or problem. Grassroots movements are the broader social or political movement of a number of grassroots initiatives that have grown. This research aims to understand the barriers to grassroots movements creating or changing urban infrastructure that thwart attaining more resilient and sustainable cities. Whilst larger socio-technological innovation is required for climate change adaptation, my research will evaluate the ways that grassroots movements can create changes within their cities and niches (i.e. an idea or goal that is not rooted in the mainstream but seeks to be). The specific initiative of the grassroots movement studied herein is cycling and active travel. Active travel² is defined as making journeys by physically active means, for example, walking, wheeling (wheelchair or mobility aid), biking, cycling (tri-cycle or other adapted cycle), or scootering (DfT 2020; Cook et al 2022). Thus, the research utilises cycling transport campaigns as the grassroots movement to analyse the barriers faced in creating active transport socio-technical transitions and infrastructure change.

¹ Described further in chapter 3 initiative and movement cross-over significantly in the literature. In this instance the cycling and active transport is the initiative that the grassroots organisation is trying to achieve, therefore grassroots initiative and grassroots movement are both used in this thesis to describe the participating groups and object of inquiry.

² Active Transport is also used as a terminology in literature for active travel. They are used interchangeably in this research.

The foundation of exploration is participatory action research. Participatory action research examines grassroots potential to innovate, engage, and offer opportunities to combat climate change problems (Hebbert, 2009; Seyfang & Haxeltine, 2012). Initiatives in which bottom-up grassroots movements interact with socio-technical transitions are interesting because they can potentially create micro-accelerations that can lead to tipping points for socio-technical transitions. Participatory action research allows engagement with the bottom-up community-led grassroots movement's role in socio-technical transitions and its accompanying institutional change through the lens of the active transport transition.

By combining the initiative-based learning approach (participatory action research with grassroots initiative) and the micro-foundations of socio-technical transitions, my research ultimately discusses and provides a view on the 'transition in motion'.

1.1 Research gap

In urban studies and systemic change, conceptualising and exploring interdependencies between infrastructure transformations and grassroots movements or initiatives is still understudied (Webb et al., 2018; Wolfram & Frantzeskaki, 2016). In transition literature, tipping points refer to the point at which the niche is embedded in the regime and will become the broader landscape. Landscape here means the dominant technology or cultural norm used by society (in this case motor vehicle dominance). However, in reality these are difficult to measure without a historical view. Leaving out history does not allow for understanding the transitions *in motion*, i.e. how actions in the present might accelerate to the dominant form. Furthermore, what actions do grassroots movements take to facilitate micro-accelerations that cause regime or landscape changes for the benefit of the niche's goal?

This under-researched area offers opportunities for critique and addition to the knowledge base (Geels, 2018). Transitions management research have not often used participatory action research and grassroots movements as the lens to investigate the social, power, and political issues that have not been adequately (Shove & Walker, 2007 and Turnheim, 2020). This is because, historically, the transitions literature has been conducted without strong input from social sciences (Geels, 2018). Doing so would assist the legitimacy challenge of action research and transitions management, and provide practice-based solutions to socio-technical transitions (STT).

My research is a case study for applying a socio-technical transition bridging framework using participatory action research with grassroots groups. It would further identify the opportunities grassroots movements perform within transitions (Hargreaves et al 2011; Seyfang & Longhurst, 2013a; Shove & Walker, 2007; Turnheim et al., 2015; Webb et al., 2018). Using an integrated framework of action research and socio-technical transitions could unlock how this analysis impacts policy and real-world decision making to overcome “the current deadlock in [...] accelerating sustainability and low-carbon transitions” (Turnheim et al., 2015, page 250). The development of participatory methods in transitions research is a gap to be addressed (Hutteunen et al 2022). Thus, action research can be used to understand grassroots movements' barriers and their role in urban studies and system change theories (Wolfram & Frantzeskaki, 2016).

This research merges these areas of transition. The first is utilising initiative-based learning, in this case, participatory action research. The second is engaging with non-state actors, e.g. volunteer cycling grassroots movement, a niche based on social-practice. Initiative-based learning within socio-technical transitions has primarily focused on industry and state actors, less so on the volunteer, grassroots, or social-practice based initiatives (Turnheim et al 2020). Over a three-year period (2018 – 2020), I worked as a collaborative insider with the four grassroots groups (three all-volunteer and one head charity office) to conduct the empirical investigation presented in this thesis.

1.1.1 Why cycling as a means to investigate grassroots movements?

In order to investigate the broader issues and barriers of grassroots movements implementing infrastructure changes, I selected a specific infrastructure type – active transport – and a specific means of transition – grassroots movement – in order to conduct participatory action research. Over last 15 years, I have been an active member of multiple grassroots movements, particularly tactical urbanism (better blocks³, parklets⁴, urban gardening, place-making, and

³ A 'better block' is a tactical demonstration whereby a local community get together and temporarily change their street to include place-making elements or road diets. More information on concept can be found at <https://www.betterblock.org/>.

⁴ A parklet effectively removes a car parking space on a road way and transforms it to seating, bicycle parking or other placemaking element.

green infrastructure), community renewable energy, and sustainable transport (cycling movement in Newcastle, NSW) (Sharkey, 2014). Professionally, I have worked with businesses, local and state governments, and infrastructure on sustainable urban planning and infrastructure. Having been a big proponent of applied research and getting things done this drove me to want to study it in more detail, bridging academic theory and practice. These background experiences enabled me to embed myself as an activist and as a professional in active transport and healthy built environments in the community groups I researched. My years of experience as a grassroots activist and as an active transport professional made cycling a natural fit to engage grassroots movements.

England, operating under devolved transport, has been slow to implement active travel infrastructure and are unlikely to meet their own cycling delivery and mode share targets (Aldred et al 2019). Grassroots movements in cycling, and in active transport broadly, have existed for decades with mixed success (Aldred et al 2019). Cycling for transport in countries like the Netherlands, Denmark, and Belgium has grown exponentially over the 20 years (Pucher and Buehler 2017). Research has shown that cycling does not have an adverse impact on economic activity (for example, monetary spending at local shops) and has many positive impacts (Pucher and Buehler 2017). As a result, cycling has become a burgeoning research field over the last ten years. The literature around cycling and cycling infrastructure comes largely from two perspectives: urban planning and health. The urban planning literature around cycling has been predominately centred on what factors influence the decision to cycle (Weber, 2017) or cycling behaviour, e.g. who and how many are cycling (Goel et al 2021). The health perspective on cycling looks primarily at physical activity benefits (Andersen, Schnohr, Schroll, & Hein, 2000; Saelens, Sallis, & Frank, 2003; Garrad et al 2012 and Bopp et al 2014)⁵. Whilst the role of grassroots movements bringing institutional change or cycling as a social movement has been researched (Jalili 2013 and Bruno et al 2021), there is little (but growing) in the field of socio-technical transitions on cycling's role, or the barriers grassroots movements face in implementing cycling infrastructure (Leyendecker 2019 and Psaridkidou 2020).

⁵ There are many other references in relation to the point regarding behaviour and physical activity. I selected ones that came up during my literature review, well referenced and were easily accessible.

1.2 Research scope

Cycling, and active transport and healthy built environments more generally, are the main points of enquiry for this research. In particular, the increase in the delivery of cycling policies and infrastructure that would enable cycling and active transport uptake throughout the regime and landscape. Cycling in this research is studied as a grassroots initiative that is a social and political movement that aims to achieve this increase. This research was conducted under a participatory action research paradigm in which there are multiple co-participants during the research phase. Through this research, the subjects of inquiry are the four groups (three local cycling grassroots groups and the regional cycling charity London Cycling Campaign) and local governments that the grassroots groups are a part of. Group 1 is the London Cycling Campaign. Group 2 is the Tower Hamlets local group which includes Tower Hamlets Wheelers (local LCC group) and Better Streets for Tower Hamlets. Group 3 is the Enfield local group which includes Enfield Cycling Campaign (local LCC group) and Better Streets for Enfield. Group 4 is the Southwark group which is the Southwark Cyclists (local LCC group). My role as an activist, as a researcher, and as a transition accelerator is also a subject of inquiry.

Geographical Area

The geographical areas of the research occur on three levels: the England (national), Greater London (regional), and Enfield, Southwark, and Tower Hamlets (local councils). In the Greater London Area there are 32 Councils plus the City of London (square mile). The Greater London Area represents the area that is controlled by the Greater London Authority and Transport for London. The London Cycling Campaign (LCC) charity operates throughout the 32 local government areas having local volunteer groups in 29 of them. The focus of the LCC is primarily on the activities addressed by Transport for London. The LCC advocates for cycling infrastructure, cycling safety, and cyclists across greater London. The national government is included as a minor focus due to its influence on Transport for London, and to some extent, the local government transport.

COVID impacts

Since early 2020, COVID has critically affected my research. First, my family returned to Australia where we are citizens. It meant leaving London during a critical time period of my doctoral research and active transport transition that was happening as a result of physical

distancing. I continued the connection with the four study groups through regularly attending their online meetings, emails, WhatsApp, and individual online catch-ups. The time difference between Australia and London impacted the quality of my engagement (most of their free time as volunteers was between 5pm to 10pm which was my midnight to 5am). It removed me from some of the nuances of physicality, e.g. being able to cycle, walk, and more generally understand those challenges *in situ*.

Since the main action research engagement with the groups ended during COVID by approximately December 2020, the world has changed dramatically. The transitions that we sought to accelerate have accelerated in some areas but remained stagnant in others. In London, part of this acceleration has been enhanced due to the framework for change created and enabled through the activist research process, and groups delivering that acceleration. Some interactions have remained and I have kept loosely in touch with my participating groups. The local groups, the individuals in those groups, and the LCC continued to use elements of the research framework, which resulted in an increase of at least 9 Better Streets groups. Delays in the write up meant that during the additional months, I was able to witness further changes resulting from COVID as they occurred. This allowed an extended view on changes that happened beyond my research engagement. The policy window and acceleration effect of COVID on the grassroots groups goals are briefly discussed in Chapter 7.

1.3 Originality and contribution

The thesis created novel theoretical connections between the fields of activism, social movement studies and socio-technical transitions. It is unique in the development of grassroots activism through participatory action research and empowerment of participants. This research links the understanding of micro-accelerations and micro-decelerations in socio-technical transitions, and how these changes can be driven externally by grassroots activists. Below I have divided a summary overview into three areas: theoretical, methodological, and practical. Result details are presented in the conclusion.

Theoretical originality and contribution

Theoretical originality and contribution focuses on several areas. It provides the concepts of 'transition in motion' and contributes to initiative-based learning. In addition, it identifies and

defines micro-accelerations and micro-decelerations and the role the niches play in creating them.

Methodological originality and contribution

Methodological originality and contribution focus on developing and utilising a novel bridging methodology with participatory action research with active travel grassroots initiatives and movements for the initiative-based learning, and citizen science for quantitative analysis. It focuses on learning by doing – being an activist researcher in sustainability transitions and influencing transitions.

Practical originality and contribution

The practical originality and contribution are to develop the framework for change and allow its open-source development to be accessible to all grassroots initiatives and movements across London. The further aim is to provide and disseminate information based on my research through the London Cycling Campaign to develop and enact faster changes in active travel activism.

1.4 Research objectives and questions

The research aim is to use participatory action research to investigate grassroots movements' opportunities in creating sustainable urban infrastructure transitions through the framework for change and overcoming institutional barriers. The following are the initial objectives and questions that guided the research methodology's enquiry and development, including the framework for change and participatory action research.

Research objective 1: Identify new acceleration points for grassroots movements within socio-technical transitions

The grassroots movement focus and position as activist researcher clearly frames the expectation of a sustainability transition. The framework for change that I developed aimed to provide grassroots movements with the tools to create micro-accelerations in the sustainable socio-technical transitions. I want to know:

- Could the groups be given a template to speed up the infrastructure transition process by utilising a “systems thinking for systems change” approach?

- Could the bridging methodology be incorporated into the framework for change?

Rationale behind research objective 1

Grassroots initiatives and movements do not always have the skills or knowledge that is afforded to academia, nor the leisure that allows for time to read, explore and understand complexities related to sustainability transitions. This objective specifically sought to connect that theory to a practice that anyone could do regardless of their background.

Research objective 2: Does the framework for change assist grassroots initiatives in overcoming regime challenges and resistance to transitions?

To accelerate sustainable transport infrastructure transitions, we must overcome regime challenges and resistance to transitions. This includes understanding the barriers grassroots initiatives and movements experience during trying to achieve their activism goals. I want to know:

- Does the framework for change support grassroots initiatives in creating accelerations and can we identify the micro-accelerations and decelerations that exist?
- How does the social and cultural (i.e. socio-technical landscape) influence the power of those with the potential to break path dependency and create micro-acceleration and micro-deceleration points?

Rationale behind research objective 2

Grassroots movements for sustainability generally have faster transition goals or create substantially different/greater changes than those proffered by governments. The framework for change is attempting to accelerate the niche into the regime and landscape. Path dependencies exist within government institutions and in the cultural landscape. These are challenges that must be overcome. The grassroots initiative niche growth and interactions with the regime and landscape are key objects of the research. Understanding the barriers grassroots initiatives face when enacting the framework for change will assist in providing this and other cycling initiatives in accelerating the sustainable transport transition. Further, these accelerations may reach tipping points where the niche is on a pathway to become a dominant part of the regime and landscape. Therefore, will the strategy enable micro-accelerations to overcome regime inertia.

Research objective 3: Initiative based learning through participatory action research and activist research

Through recent climate change issues, academics have started to discuss how and when they should engage and what affect being activists might have on accelerating climate change adaptation (Rhodes et al 2018 and Boykoff and Oonk 2020). This research provides a case study and reflection on how an activist academic researcher engages with change, the ethics arising in participatory action research, and our role in initiative based learning.

Research objective 4: Identify how citizen science can be utilised in the grassroots initiative and bridging methodology to support transition narratives of the niche.

There is a saying "what gets measured gets delivered". A corollary is "if you can't measure it, you can't manage it". The basis of these sayings is that reporting enables evaluation of how you track against the desired goals and outcomes. If something is not being definitely measured, then transport policies and governments can describe the policy delivery abstractly. The goal behind research objective four is to understand the potential for grassroots initiatives to use citizen science or other quantitative analysis to engage the regime, landscape, and other niches on narratives of change.

A key question is:

- How can grassroots initiatives use citizen science to support quantitative measurements that support their transition goals?
- Does citizen science support legitimacy of the niche with the regime and landscape actors?

1.5 Thesis overview

The thesis is organised in three parts. Part 1 is the literature review and gives context of the infrastructure transitions and sustainability transitions which is the focus of this research, and comprises chapters 2, and 3. Chapter 2 is the first literature review chapter. It begins with a preliminary overview of cities, planning, institutions, and sustainability transitions. It further situates the research interests and rationale that inform the development of this thesis. It also explores the global infrastructure challenges, sustainability transitions, and socio-technical transitions; the differences in technical versus social focused research for these challenges; and

transport (and more specifically cycling) role in this transition. Chapter 3 focuses on communities and citizens. It describes issues in community engagement with planning and responses from citizens to create changes. The participatory element of transitions, e.g. the role that social movements, grassroots initiatives, grassroots movements, and citizen science play in driving sustainability transitions and cycling movements.

Part 2 discusses the theoretical framework and methodology (chapter 4), and background to the selected grassroots initiatives (chapter 5). Chapter 4 first describes the types of participatory action research, activism and activist researchers. It then describes the adapted bridging methodology, and how participatory action research and the Framework for Change are integrated and presenting the connection between the practical and theoretical. Chapter 5 describes the cycling movement in London, the grassroots movement (London Cycling Campaign), the three grassroots initiatives, their local government context, their joining the participatory research and initial observations of the grassroots movements.

Part 3 is the analysis and discussion chapters (chapters 6, 7, and 8). Chapter 6 explores the creation of the framework for change and the empirical response to its use. It summarises how the groups responded to the framework, challenges and issues arising during the participatory action research with grassroots initiatives and impacts of researcher in building the initiative. Chapter 7 focuses on the bridging methodology, connecting the theoretical aspects of socio-technical transitions to the practical transition in motion. Chapter 9 presents the conclusion.

Chapter 2 Literature review - planning, transport, and sustainability transitions

‘Sustainable development requires changes in socio-technical systems and wider societal change – in beliefs, values and governance that co-evolve with technology changes.’

(Kemp, Loorbach, & Rotmans, 2017, 78)

Global infrastructure systems impact our cities’ current and future sustainability. These infrastructure systems are complex and changing them is a difficult, time-consuming process. Sustainability transitions, therefore, have been slow to emerge and/or achieve the goals of those transitions. Chapter 2 starts with a zoomed-out perspective on infrastructure and urban planning, and the role active transport infrastructure plays in enabling sustainability and climate change action. It describes the cycling landscape in London, the key actors working in and around the cycling transition in London, and, where relevant to this research, the UK. These sections provide the overview for the sustainability transitions and socio-technical research discussion which makes up the majority of this chapter’s literature review. The following sections review how path dependency impacts transitions and different methods and frameworks for evaluating the tensions arising from the social versus technical roles of transitions to enable sustainability. The transitions section closes with an in-depth look at the bridging methodologies and grassroots movements. The last sections close with a view on urban planning policy, policy implementation, and budget analysis for infrastructure.

2.1 Global infrastructure systems

Can we as individuals, a species, and a planet create an infrastructure transition and transformation that meets the needs of these actors? Infrastructure within cities that could facilitate physical health, mental health, and financial health; thus supporting sustainability and resiliency. Given the degree and acceleration of globalisation, this is becoming increasingly difficult. The earth has seen an increasing population (7.8 billion at last count) (Worldometers, 2022); decreasing planetary resources (in 2021 by 29 July we had overshoot the amount of ecological resources that the earth can produce in a year) (Global Footprint Network, 2022); increasing climate uncertainty (IPCC, 2022); increasing economic inequality (Stiglitz, 2013); decreasing physical health in developed countries (Flegal et al., 2012); and increasing mental

health issues (Wang et al., 2011; WHO, 2001). Climate change raising temperature is a narrow viewpoint when the far-reaching effects of the previous list will wreak havoc on earth.

Resource use and global health effects pose a significant threat to the sustainability and resiliency of cities of which infrastructure is a significant part (Curtis & Low, 2012; IPCC, 2022). Infrastructure has helped drive these changes in cities, creating healthy built environments (water, health, transport, safety, social strengths) (Kent, Thompson, & Jalaludin, 2011; Vlahov et al., 2007). Given that infrastructure can both improve and exacerbate the problems mentioned above, how can a community change the infrastructure failing us? Can grassroots groups create or accelerate sustainability transitions?

A community can be place based, location based, or a community of practice or thought (Blackshaw, 2010). Digital connections have made it easier to share ideas across communities in different cities to become communities without propinquity (Webber, 1963). Many local communities are trying to challenge the infrastructure of cities that has been provided over the last 100 years. Community desire for infrastructure change can be seen in many ways. Climate change groups lobby for renewable energy (Bauwens, 2016; Walker, 2008); food and health groups lobby for improved food waste systems; water groups for improved water quality; waste groups for decreased plastic pollution; transport groups for pedestrian and bicycle infrastructure (Blondel, Mispelon, & Ferguson, 2011); and others for affordable housing. These movements are largely challenging neoliberal infrastructure development. At its core they are challenging, treating the city as a closed-loop process versus open-loop systems. Given the wide variety of infrastructure changes sought and its desirability to improving human health and well-being, why isn't infrastructure being built quickly or in some places not at all? Why is the food logistics system still responsible for 25% or more of food waste that could be used to feed others (Institute of Mechanical Engineers, 2013)? Why is the water quality in many major cities causing rivers and streams to be toxic and unsafe to swim in or fish from (UN, 2014)? Why are we still using motor vehicles for short trips when they are more efficient by bike? Infrastructure provides the opportunity for these things to happen; businesses and institutions are then able to develop systems within the infrastructure to provide services or goods.

The literature has an accepted definition of climate change (IPCC 2014; Pachauri & Meyer, 2014; Seinfeld & Pandis, 2016), resources (Rees, 1992), and sustainable development (WCED, 1987). The literature is less clear when it comes to a consensus definition of what makes a

sustainable city or a resilient city. These four phenomena — climate change, infrastructure development, sustainable cities, and resilient cities — have a wide range of interrelationships among them (Neuman, 2022). Therefore, these interrelationships contribute their complexity to the ‘wicked’ problems facing us (Buchanan, 1992; Ripple et al., 2020; Rittel & Webber, 1973). They are wicked because they resist holistic understanding, as well as resisting change to past policy and are path dependent, are highly contested, have high levels of unpredictability, and are of a global nature. Their interrelationships are complex and require a systems thinking approach to understand. This is compounded by the scale of the world population’s becoming more urbanised, increasing the urgency of climate change problems on urban infrastructure (UN DESA, 2014). Urgent and meaningful solutions are required. Whilst urbanisation may offer greater capacity for social and technological innovation (Vlahov et al., 2007), urbanisation does not necessarily lead to more sustainable cities (Neuman, 2005). For instance, the compact city fallacy noted those cities still focus on closed-loop processes rather than the circular systems found in nature (Neuman, 2005). It can ignore urban areas’ connections to and use of ecological resources from rural areas (Seitzinger et al., 2012). Even if national institutions have climate change policies, local authorities struggle to plan and implement their specific agenda due to lack in capacity and resources (Heidrich et al., 2016). Thus system-wide transformations of institutions and infrastructure are required to address climate change and transition to sustainable and resilient cities (Seyfang & Haxeltine, 2012a).

Focusing on specific transport infrastructure and its built form, it is easier to see the potential benefits of infrastructure transitions for climate change. For example, reducing car usage by using public transport or active travel would greatly reduce carbon emissions in a city and associated air pollution from motor vehicles (Banister & Thurstain-Goodwin, 2011). Studies have shown if cycling rates in Europe matched Danish levels then that could reduce CO₂ emissions in the transport sector by 12% to 26% depending on which mode was switched to (Blondel, Mispelon, & Ferguson, 2011). If North America, Australia, or other non-EU countries also achieved this, it could have a significant impact on carbon emission reduction targets. Further to this, there would be other benefits from the reduction in oil runoffs to waterways (Elmer & Leigland, 2014), and decreased wear and tear on roads would reduce road maintenance costs (Banister, 2005). Economically, a reduction in car traffic could reduce associated costs from lost time in traffic, impacts on disposable income, and other associated

negative externalities from motor vehicles (Banister, 2005; Banister & Thurstain-Goodwin, 2011). Health impacts would be felt as well. Studies have shown that moderate cycling can improve physical and mental health, as well as add 9+ years to your life (Andersen et al., 2000). Air pollution can create many health woes for city residents. Reductions in air pollution would see associated reductions in the numbers of children with asthma and older adults' respiratory problems (Garrad, Rissel, & Bauman, 2012). The growing global obesity epidemic and its rise across the world has resulted in much publicity and research. The youth demographic is most concerning as obesity and lack of physical activity can have negative development effects on the brain and coordination (Farooq et al., 2017). Also, individuals who participate in cycling are more likely to be less socially isolated (Oosterhuis, 2016). The incorporation of these multi-dimensional benefits could be opportunities to reflect the wider role infrastructure development plays in the development of sustainable, healthy, and resilient cities for all residents.

2.1.1 Transport and cycling's role in sustainable cities

Transport plays a significant role in our global sustainability, the way cities are organised, and how they function. Simply put, transport moves everything and everyone. It is how we socialise, go to work, shop, receive online goods, or travel the world. It has the potential to affect the health of people, economies, and the environment. It affects the ways cities are organised, how they function, how they connect to the local and global systems, and their impact on sustainability. Transportation has enabled a global society that can be anywhere, everywhere, at any time.

A key category in counting global emissions, transport is a significant cause of ever-increasing carbon emissions and climate change (Wang & Ge, 2019), and private motor vehicle ownership also continues to rise (DfT, 2021b). It is estimated that 14% of the world's global greenhouse gas emissions come from transport with nearly 75% of that from road vehicles (Lamb et al., 2021; Ritchie 2020). These figures are reflected in the UK, where transport has been a consistently large percentage of energy use and has continued to rise. In 2019, transport represented 27% of the UK's greenhouse emissions and 25% of London's (DfT 2021c; Greater London Authority, 2021). During COVID, the UK estimated a 19% reduction in total transport emissions primarily as a response to work from home conditions and reduced public transport patronage (DBEIS, 2021).

Transport has a large impact on many aspects of the city including its land use design and the way this influences the way it moves. In London, there are an estimated 27 million trips per year. Nationally in the UK, the National Travel Survey: 2020 report noted that 25% of trips were under 1 mile, and 71% under 5 miles, the majority of which used private vehicles (DfT 2021b). The infrastructure provisioning for road vehicles takes significant amount of road space as well. There are space efficiency gains in many measures, for example the number of vehicles that can fit in a standard parking space or the amount of parking spaces across London (as well as other UK cities).

Air pollution is a side effect of living in cities. Congestion and emission-producing vehicles both contribute to air pollution, though not exclusively. In the UK, over three million children are exposed to air pollution levels above the WHO limits for particular matter, leading to reductions in lung volumes, and worsening of chronic heart and lung disease (Weedy 2021). London is a substantial part of this. Daily travel is also the most likely cause of individuals' air pollution exposure during everyday life (Dons et al., 2019). In response, Transport for London (TfL) enacted low emission zones and user pricing aimed to reduce the number of private vehicles. TfL's research found that from 2019–2022, these measures have 'contributed to a 44% reduction in roadside nitrogen dioxide within its boundaries.' A significant reduction in air pollution. Air pollution issues have sparked major campaigns led by groups like Mums for Lungs (founded 2018) in response to London's air pollution, driving urban road changes, for example closing streets to motor traffic around schools at set times.

Implementing cycling infrastructure has been noted as one of the most transformative changes for sustainable and resilient cities (Blondel, Mispelon, & Ferguson, 2011). It has the potential to decarbonise large amounts of the transport system (e.g. those 1–5 mile trips), and can disrupt and influence lifestyle changes which can have a significant impact on transport carbon emissions (Brand et al., 2020).

2.1.2 Challenges of sustainable infrastructure transformations

The potential of the benefits of acting on climate change has been the topic of many international conferences, governmental meetings, and environmental movements. Benefits include improving the sustainability, liveability, and viability of cities. Action on climate change, however, has not lived up to the hype or the promised actions, nor has more knowledge

necessarily led to more action (Robiou du Pont & Meinshausen, 2018; Tilbury, 2014; UNFCCC, 2021). Actions have tended to be specific to places and scales. Newer movements and events have presented connectivity across scales and places, for example global movements such as Greta Thornberg's Friday Climate Strikes and Extinction Rebellion protests. The speed of the action is now a key focal point, being much talked about at the 2021 United Nations Climate Change Conference, commonly referred to as COP 26. An analysis of policy and action pledges taken by governments since 2010, versus the outcome desired, showed that rather than a net 45% reduction in emissions the policies would result in a 14% increase by 2030 (UNFCCC, 2021). Those pledges which are less than action required are unlikely to be met if previous pledges are evidence of follow-through (Robiou du Pont & Meinshausen, 2018). The question of should there be a sustainability transition seems largely agreed (COP 26). It is the speed, scale, and type of the global and local sustainability transition that is contested.

Broadly an individual's taking action and changing behaviour is often motivated by the ability to save money, rather than concerns about global warming (Leiserowitz, Maibach, & Roser-Renouf, 2009). One reason is the psychological barrier to exercising foresight intelligence in addressing the climate change challenge, as well as other abstract future potentials (Berkes & Ross, 2016). Removing the psychological barrier for the greater population can be viewed through social group dynamics and will be important in the later discussion of socio-technical transitions (Dale, Ling, & Newman, 2010). Those urging a common agenda to solve societal problems ignore the issue of psychological barriers and the strength of neoliberal capital that must be overcome before consensus can be formed and thus begin solving those issues (Gifford, 2011; Parr, 2013). A further element has been the increasing direct impact on livelihoods, for example extreme weather events such as drought or flooding impacting homes or jobs (IPCC, 2022).

Another element inhibiting broader social change and individual action is the removal of 'local' from sustainable development. Visvanathan commented that 'sustainable does not have a dialect [and] is not focused on local meaning' (Visvanathan, 2011). Whilst it focuses on problem-solving, it does not differentiate between the efficiency and sufficiency of that problem. For example, if you solve the efficiency of the car, i.e. it uses less energy per mile or clean energy, it does not make it more sufficient, i.e. solve the problem of traffic or improve city congestion or make it healthier (Shove, 2003a; Visvanathan, 2011). It is the context in

which we discuss sustainability or infrastructure development that really matters, the local context unique to each city and the ability to challenge what problem we are solving.

Early debates on ‘the right to the city’ noted local solutions have issues of scaling nationally and globally because local solutions focus on horizontal hierarchies and collective decision-making (Ostrom, 1990). Socio-technical research on grassroots initiatives has provided case studies that could offer scaleable solutions (Seyfang & Haxeltine, 2012b) or ideas for transformative system change (for example circular economy solutions). If humans are to enact transformative change for climate change, then we must build and organise infrastructure differently. Low carbon innovations and second-order energy transition research recognises the need for a deeper understanding of socio-technical transition elements (Geels, 2018a; Geels et al., 2018). Further, Fazey et al. note that approaches necessary for these wider transformations, such as action research, are limited, yet due to action research’s ability to incorporate the ten essentials of second-order transformation (Figure 1), it is seen as necessary (Fazey et al 2018). Fazey et al challenge researchers to broaden to use “adaptive, reflective, collaborative and impact-oriented research” and beyond the “dominance of other approaches” noting that this will “legitimise the inclusion of greater diversity of kinds of knowledge, perspectives, values, imaginations and approaches need to facilitate transformations” (Fazey et al, 2018, pg 55). It is a call to action for researchers to enable the transformations using the research itself.

Wolfram and Frantzeskaki’s review of ‘Cities and Systemic Change for Sustainability’ suggests there are many gaps in the knowledge of how to achieve systemic change for sustainable and resilient cities (Wolfram & Frantzeskaki, 2016). Their findings show a strong preference of research towards four main epistemologies: ‘(A) transforming urban metabolisms and political ecologies; (B) configuring urban innovation systems for green economies; (C) building adaptive urban communities and ecosystems; and (D) empowering urban grassroots niches and social innovation’ (Wolfram & Frantzeskaki, 2016, 4). Viewing the problem more spatially, Webb et al. note the complexity of institutional scale and policy drivers acting as barriers to systemic change (Webb et al., 2018). The focus here is on the ‘shared urban scenarios, vision and goals at national, city-region and local levels, and more systemic change-enabling policies’, proposing a framework for researching and participating in these interactions (Webb et al., 2018, 64). Both studies ultimately highlight the need for the reconfiguration of policies away from silos towards systems policymaking. Conceptualising and exploring interdependencies between

infrastructure transformations and grassroots innovations within cities is a key area for further development (Geels, 2018; Geels et al., 2016; Webb et al., 2018; Wolfram & Frantzeskaki, 2016).

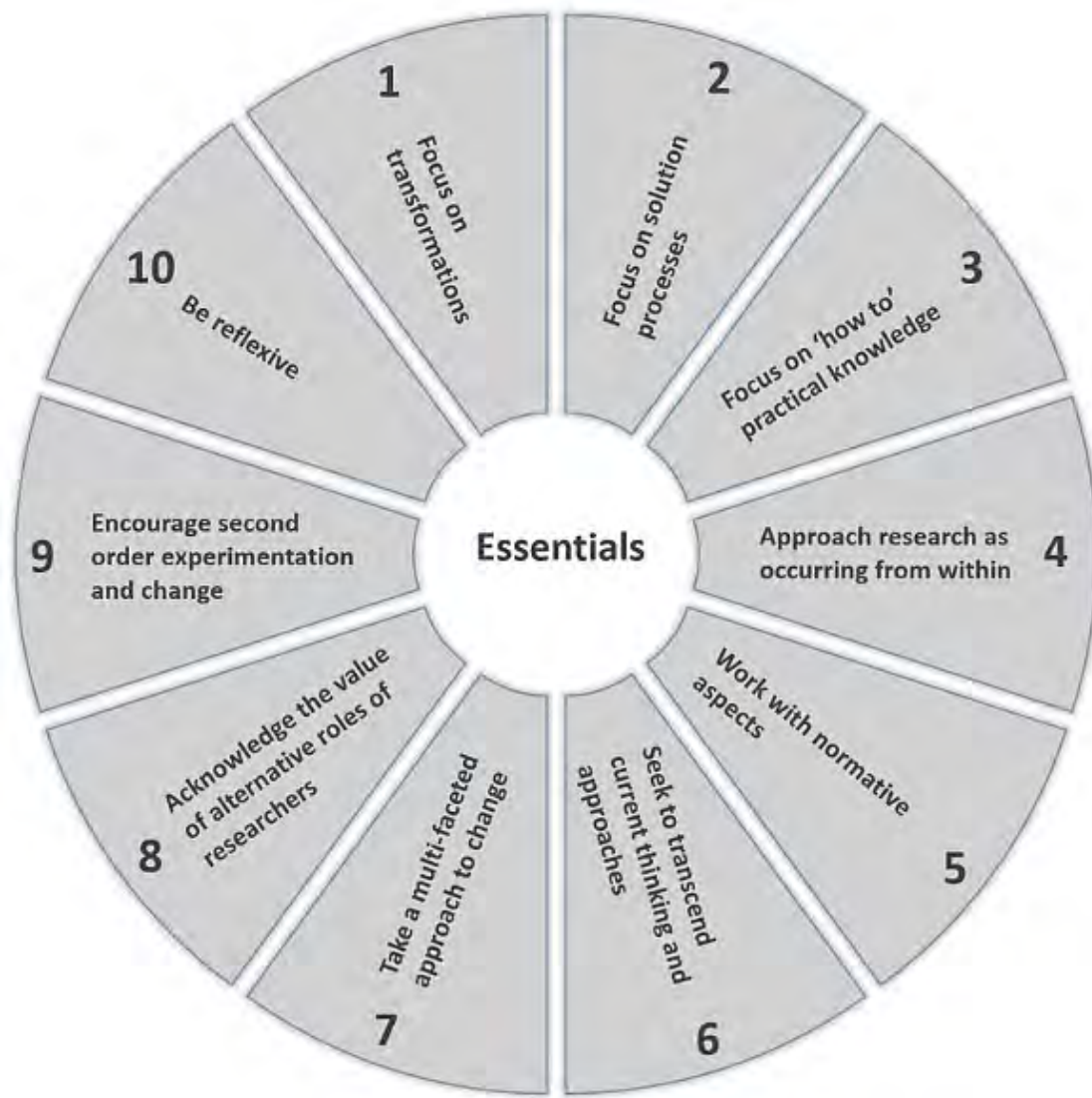


Figure 1 Ten essentials for second-order transformation (Fazey et al., 2018, 60)

Challenges in the transformation of climate change adaptation and creating just sustainability transitions have parallels and synergies, though historically the transitions research has not embraced the adaption framing (Kuhl, 2021). Transitions research has shifted in the last few years towards more detailed exploration into the environmental impacts of transitions and research into sustainable and just transitions (Kuhl, 2021; Martiskainen, 2021; Winkelmann et

al., 2022). Further, the global south research communities are increasingly providing a non-European view of sustainability research and climate change impacts (Kuhl 2021). Transitions research aim to understand the things that enable transitions to be locked in, the pathways that exist, how and what actors respond to, and what are the social and cultural shifts that impact individuals' transition? See, for example, Frantzeskaki et al.'s article that models 18 transition pathways in response to warming of 2 degrees Celsius or greater (Frantzeskaki et al., 2019). Adaptation research wants to understand how policy levers and behaviour change can help the world adapt to climate change. A conceptual framework for social tipping processes and climate change by Winkleman et al. looks at identifying those social processes and at what moment do those social processes create a significant transformation (Winklemann et al., 2022). Transitions cannot occur without transformations of practice, i.e. adaptation, likewise, adaptation to climate change requires transition to a new goal and orientation or pathway. Incorporating the learnings from climate change research into the transitions research framework will strengthen the quality of the outputs and dissemination opportunities.

2.2 Sustainability transitions and socio-technical transitions

'The challenge of sustainability is, therefore, a fundamental re-orientation of society and the economy, not the implementation of some technical fixes.'

(Haberl et al., 2011, 2)

Sustainability transitions are increasingly being investigated with socio-technical transitions frameworks (Geels, 2018a; Geels 2018b). The overlap in research outcomes and potential synergies between sustainability and socio-technical transitions are positive developments in looking at systems and how to enable, enact, and evaluate potential sustainability systems. There is a need to understand how transformations such as socio-technical innovations or transitions are proposing to address climate change (Geels & Schot, 2007; Seyfang & Smith, 2007). It is estimated socio-technical innovations have the potential to improve the environmental performance of cities up to a factor of ten (Westley et al., 2011), thus creating potential solutions for climate change. They are increasingly being sought by governments and businesses, but at the same time are relatively rare and generally represent long-term macro shifts (Geels, 2010). Transitions management offers a pathway for governments to approach wicked sustainability and climate change problems (Loorbach, 2010; Maani, 2013).

Socio-technical transitions research over the last twenty years has largely been focused on broader transition and the key elements required to make that transition happen. It has often had a historical view or looking at longer time horizons. Between 2011 and 2022 a massive growth in socio-technical transitions and sustainability transitions has occurred with research papers increasing from 400's to well over 3000s (Mackard et al 2016; Stefani et al 2022). Stefani, Biggeri and Ferroni (2022) reviewed approximately 3500 abstracts related to sustainability transitions analysis the main topics of the literature. Mobility received 6.2% in topic prevalence and actors and institutions 10.0% . They identified a general pattern “with some topics being rather sectoral or thematic (topics 1 to 6) and others being methodological or theoretical (topics 7 to 13)” (Stefani et al, 2022, 8). In recent years, transitions research has begun to look more closely at accelerating transitions, coalitions, and social change that are required to facilitate transitions towards sustainability (Turnheim, 2020). An attempt to identify the tipping point at which a transition pathway is determined. The “prevalence of the concept tipping point began to increase in the early 2000s, growing rapidly over the last decade”, however, differences have emerged in the usage of the concept between social and ecological research (Milkoreit et al., 2018, 4). In climate change research, discussion of tipping points signifies the point of no return (IPCC, 2021). In sustainability and socio-technical transitions research, they can refer to a social, political, or technical shift (at which point the niche becomes a dominant part of the regime) (Milkoreit et al., 2018).

This section first reviews some of the major transition frameworks over the last two years, secondly it looks to distinguish between the social versus technical side of a transition given the bicycle's implication as more of a social change rather than technical change, then thirdly examines the emerging bridging methodology and its growing use as a mixed framework that can address understanding transitions in motion.

2.2.1 Evaluating and understanding transitions

Evaluation of transitions is broad given the potential number of actors or layers to research. The Multi-Level Perspective (MLP) was a key framework developed in the early 2000s as a way to understand a transition's path and the actors involved in that pathway (Geels, 2002). A significant part of socio-technical transitions research has been founded on the MLP. The MLP frames transitions through three levels – niches, regimes, and landscape – or actors working towards a particular transition pathway (Geels, 2002; Whitmarsh, 2012). MLP's strongest contribution is this framing of actors on different levels and potential interactions between them. Levels are represented as niches, regimes, and landscape, see Figure 2 for a visual representation (Geels, 2002; Kemp &

Loorbach, 2003). The niche is not dominant part of the landscape, may focus on innovation or on areas potentially less subject to markets or regulations, or challenges the status-quo (Geels, 2002). The regime holds the dominant socio-technical process in place, e.g. the practices, rules, and technology of that dominant form (Geels, 2002). The

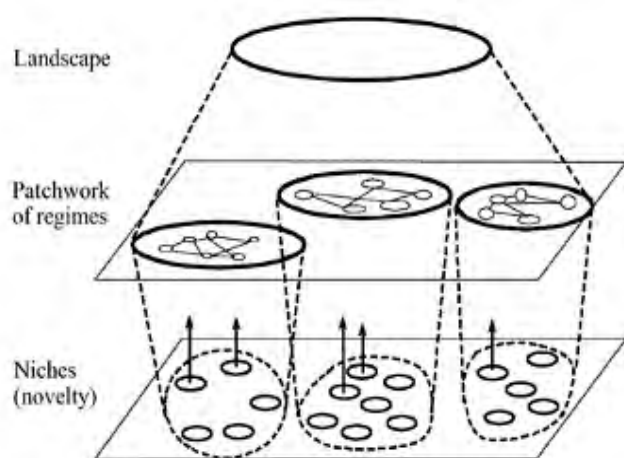


Figure 2 Multiple levels as a nested hierarchy. (Geels, 2002, 1262)

regime can be institutions, financiers, engineers, or anything that holds the dominant processes in place. It is a meso-force of multiple actors. The landscape is the macro view encompassing all the social values, political processes, etcetera that form cities and countries (Geels, 2002). It is our culture. These levels are made up of many individual and collective actors. An actor could be a collective or single person, for example government councillors, transport managers in local government, a grassroots movement (like cycling), an activist, or major industry groups (motor vehicle industry). These actors may represent a dominant part of the system holding power or being a large collective. All these actors are characterised by transitions.

Actors can be intermediaries. "Intermediaries are organisations or bodies that act an agent or broker in any aspect of innovation process between two or more parties (Howell 2006)" (as described in Mignon and Kanda 2018, 100). There are five intermediary actor types in transition

literature: the systemic intermediary, regime-based transition intermediary, niche (or grassroots or user) intermediary, process intermediary, and user intermediary (Kivimaa et al 2019). Intermediaries operate between different levels, different actors and play different roles in facilitating or advancing the transition. Kivimaa et al noted that the “absence of one of these types [of intermediaries] in a given change process (e.g. in food systems, mobility systems or energy systems) can significantly hinder process” (Kivimaa et al, 2019, 1072). Table 1 provides the intermediaries definition, their position in relation to the niche, and their neutrality or interest in the transition that is taking place. For example, in four German cities they found that the Transition Town Initiative operated a “niche-intermedia[ry] seeking to transform society from below, and” that local institutions were a “regime-based transition intermedia[ry] operating from above” (Ehnert et al 2022, 137). In all cities, they found that the regime-based intermediary was attempting to “initiating transformative change from above”, but in only two cities was the Transition Town initiative was successful in establishing itself as a niche intermediary with strong connections to the regime and receiving substantial funding (Ehnert et al, 2022). The other two cities struggled to be proficient niche intermediaries and establish regime connections (Ehnert et al, 2022). Intermediaries could be on different sides of the innovation, leaders, or key organisations (Mignon and Kanda 2018). “Their importance seems to be all the more vital in the acceleration phase of transitions” (Kivimaa et al, 2019, 1072).

Table 1 Intermediary definitions, position vis-a-vis niche and their interest in the transition. Adapted table and definition integration from Kivimaa et al 2019

Characteristics	Position vis-à-vis niche	Neutrality/interest
A <i>systemic intermediary</i> operating on all levels (niche, regime, landscape), promoting an explicit transition agenda and taking the lead in aiming for change on the whole system level	Outsider to specific niches, creating space for multiple, alternative niches	Typically regarded as a position of neutral, unbiased facilitator and broker, despite having an interest in stimulating transitions
A <i>regime-based transition intermediary</i> that is tied through, for example, institutional arrangements or interests to the prevailing socio-technical regime but has a specific mandate or goal to promote transition and, thus, interacts (often) with a range of niches or the whole system	Outsider to specific niches, creating space for multiple, alternative niches	Regarded as a player in the dominant system but pursuing or empowered for change
A <i>niche intermediary</i> typically working to experiment and advance activities of a particular niche, and trying to influence the pre-vailing socio-technical system for that niche's benefit.	Insider to a specific niche (or TIS)	Regarded as a player advancing a particular niche (or TIS)
A <i>process intermediary</i> that facilitates a change process or a niche project rather than broader niche (or TIS) level; often without explicit individual agency or agenda, but in support of context-specific (project-based or spatially located) and/or external (niche, regime) priorities set by other actors.	Typically outsider to specific niche	Regarded a neutral, unbiased "networker" that does not have a specific "agenda" in the process
A <i>user intermediary</i> translating new niche technologies to users and user preferences to developers and regime actors, qualifying the value of technology offers available	Insider or outsider to specific niche	Leans towards user interests (in some cases even as activists)

Actors form coalitions, and grassroots initiatives aim to overcome challenges to accelerating the transition. Coalitions offer insights into both. In socio-technical transition literature coalitions are actors that join force around a particular policy area in the acceleration phase of a transition (Lindberg and Kammerman, 2021). Generally, these are talked about as actors who have similar policy objectives (Mackard et al 2016 and Lindberg and Kammerman 2021). Mackard et al 2016, for example, used the advocacy coalition framework to identify belief systems within the Swiss energy policy (Mackard et al, 2016). The coalition, however, was not mobilised together as a collective to one particular key task. Instead, they were grouped according to beliefs and how close those beliefs were to other organisations relevant to a particular policy area.

In Lindberg and Kammerman 2021, they hypothesized that there would "be one main coalition that represents that the niche level, which clearly contrasts with the advocacy coalition(s) of

established actors (regime)” (Linberg and Kammerman, 2021, 267). The focus was on technical coalitions who were not volunteer organisations and themselves large energy retailers in the renewables markets. They noted that as one actor emerged stronger than the other they were leaving behind the coalition not because they were ‘for or against the transition’ but their policy goals or ambitions changed (Lindberg and Kammerman, 2021, 274). In both of these recent examples, they did not focus on the social movement, the volunteer or grassroots organisation, or identify their coalescing around a particular policy vision.

The MLP provides a partial theoretical understanding of how action research and grassroots movements may become more effective at affecting change inside or outside a system. The niche could be a grassroots movement, a fringe element, or a new or emerging technology. The regime may be local institutions or the private motor vehicle dominance. The landscape is the wider societal context or the city in this case. Not adequately captured by MLP is where the grassroots movement as a civil society group participates, because grassroots movements may be attempting to dismantle the landscape and regime in which they are participating, as well as sit across multiple areas of the MLP (Hargreaves et al., 2011; Whitmarsh, 2012). In the landscape, cycling as a grassroots movement has achieved some niche support and shifts to cycling modes (for example the slow increase of cycling in London regardless of infrastructure); however, it is still seen as a fringe mobility choice. A contributor to the landscape view may be seen in sport cycling, like the Tour de France which has a strong economic centre. A benefit of MLP is that it recognises there is no simple causality in transitions, but a plethora of causes and dimensions that continually interact with and on each other (Geels, 2012; Whitmarsh, 2012). It could improve our understanding of the system and its players, but does not adequately combine issues around practice in transition and unsustainability of those transitions (Shove, 2003a). The MLP provides a context for thinking about interactions (Whitmarsh, 2012), and underpins much transitions research and thus is relevant to the discourse.

An Italian based MLP study looked at the current transport system as a change process, e.g. not a historical transition review (Moradi and Vagnoni), in order to “help urban mobility planners to know the factors that can help or challenge them in planning for more sustainable transport systems” (Moradi and Vagoni, 2018, 231). They identified a number of dynamics between the main mobility regimes (automobility, public transport, and non-motorised mobility). The current system interactions identified that the landscape factors heavily influenced the macro

trends of the mobility system. The economic, market and industry influence of the automobility influenced planners at an operational and strategic aspect to continue the deliver and enablement of the automobility dominance (Moradi and Vagnoni, 2018). They found “the main cracks and tensions destabilizing dominant car based regime emerge from landscape pressure on market variables, traffic problems (congestion and parking problems) and the strategies and plans to reconfigure the existing regime (like pollution limits for vehicles)” (Moradi and Vagoni, 2018, 241). Their study did not find a strong non-motorised niche or coalition group interacting with other regimes. It did identify lock-in stabilising forces that were naturally occur, for example general cycle usage trend, policy-push around cycling, cycling product growth, and innovative technologies (e-bikes) (Moradi and Vagoni, 2018, 238). The non-motorised regime though did not appear to participate in policy design or with transportation agencies. The innovation of automobility sustainability was rising (electric vehicles, hydrogen, and other technologies), however lacked a coalition or strong connections between the individual niches. The government prioritised AUTO-CITY, however interviews and analysis showed a recognition that ELECTRI-CITY was required but typically prioritised operational and strategic sustainability gains most related to the AUTO-CITY (Marletto, 2014; Moradi and Vagoni, 2018). The lack of identification of any non-automobility was identified as a barrier to shifting to the ECO-City.

Transitions management theory looks at the long-term changes in a system and the way it functions (Foxon, Reed, & Stringer, 2009). Socio-technical transitions have used transitions management as a process of shaping the regime (e.g. institution) to achieve long-term sustainability goals. It assumes though that there is collaboration between the top-down approach of institutions and the bottom-up approach of grassroots movements, and focuses heavily on the policy change. In addition, “One consequence is that studies of systems in transition are typically distanced, even voyeuristic, making few claims about how individuals and organizations can, might, or should act to affect the processes in question or to steer trajectories towards predefined, normative goals” (Shove & Walker, 2007, 764). In other words, how this theory (and others) evaluates barriers to changes in the present, versus the long term 20-year view appear deficient; in addition, there is a lack of case studies which the theory can draw on. Transitions management theory could be used to view the broader system of action

research though it does not explain the institutional barriers to grassroots movements nor how to change the budget processes in relation to broader system effects of infrastructure.

Multiple Streams Framework (MSF) is often used to study policy windows made popular by Kingdon's work on public policies and alternatives (Kingdon, 2011; Weber, 2017). Socio-technical transitions theory has made use of the MSF which identifies three independent streams representing public problems, policy solutions, and the political context needed to create a policy window (Kingdon, 2011). Policy windows refer to opportunities that various actors utilise to open/present opportunities to create or enable a particular policy change. Policy entrepreneurs are the primary actors needed to bring the other elements of change together. Grassroots community movements may be considered policy entrepreneurs, however, in most uses of the MSF, policy entrepreneurs are part of the institution (Kingdon, 2011; Weber, 2016). Policy change means enacting a policy for institutions; it does not evaluate the policy's enactment (Kingdon, 2011). A recent example is Weber who used the MSF to explore if it 'indeed accurately and consistently explains these policy changes' in cycling transport infrastructure in places like Davis, Portland and New York (Weber, 2017). Weber found that it could accurately explain cycling policy changes in institutions; however, it was not capable of explaining what happened afterwards regarding the success of the policy, e.g. the policy's implementation. Policy windows are opportunities for changing policy which can have positive and stepwise changes. If grassroots movements can create policy windows, identify policy windows, or look to access policy windows they can create connections with regime actors and gain policy influence. MSF policy windows could assist community-led or grassroots movements in understanding barriers to creating policy change, creating policies, or finding policy entrepreneurs; for example, enacting transportation policy like the recent UK Gear Change (DfT, 2020). This does not describe policy implementation (what happens after policy is adopted), or the scale of the policy, (will it be enough to address the outcome desired). Identifying this requires a much longer time horizon than transitions in motion. MSF does not evaluate policy implementation or allow for understanding or addressing potential policy implementation constraints (for example, budgets or pathway dependencies).

Originating in the 1990s, strategic niche management (SNM) became a sub-theory under socio-technical and transitions management. Strategic niche management has key features relevant to this research. First, SNM has a heavy focus on technical changes, development of that

technology, and it becoming embedded within a niche before wide adoption (Kemp, Schot, & Hoogma, 1998). Secondly, it can look at how grassroots movements or niches can develop, are protected, and achieve long-term change (Seyfang & Haxeltine, 2012a; Smith & Raven, 2012). How regimes and niches interact is a gap area that exists around how multilevel interactions (quantity and type) effect sustainability transitions (Rutherford & Coutard, 2014; Shove, 2003b). Thirdly, it looks a niches as being removed from the regime (Wolfram 2018). A critique is that SNM focuses too much on the niche and specific case studies and not the broader transition changes and is similar to initiative-based learning (Schot & Geels, 2008; Turnheim et al., 2015). The critique relates to the diffusion of the niche and that diffusion to the broader transition requires a greater engagement and analysis beyond the niche itself. Strategic niche management though provides the opportunity to identify a 'strategic niche' that can scale up a within a particular sector (Ruggiero et al 2018); or as a way to manage radical niches (Cillo et al 2019). Lastly, SNM foundation provides the opportunity to understand a niche in detail, it's role, interactions with intermediaries, and potential growth, it does not provide a view of the non-niche elements that require changing (Schot & Geels, 2008; Turnheim et al., 2015; Wolfram 2018). It is a limitation to the wider view of transitions, but the purpose of SNM itself is still a useful theoretical methodology.

The technical versus social change required as part of a transition has framed much of the research debate. Technical innovations create a new technology or utilising an existing technology to solve a new challenge (Geels 2018b). The research on the technical innovation may focus on market penetration of a particular technology as it grows from a niche into the landscape. It is led by the technology rather than the other forces around it. The social change focus more on the policy, politics, or societal changes being driven rather than the need to create a new technology. Niche management and transitions management have long shared a greater focus on the technical aspect of transitions rather than the social. The transitions management literature focus on innovation has combined the use of bottom-up movements with top-down management (Kemp, 2017). It relies on a macro-view of the multiple processes through which short-term actions can lead to long-term changes; how short-term politics can be overcome; the way desired innovation can be operationalised; and the change in societal values required to support the innovation. Transitions Management looks at the requirements for infrastructure change presuming that regulations and market incentives to private entities

are paramount (Kemp, 2017). Whilst this is true for many transitions, it is not true for all. For example, car parking could be removed to create additional public space and greenery overnight (Benner, 2013; Talen, 2014), cycleways could be built on the roads by removing a lane of traffic (Sadik-Khan & Solomonow, 2016), and renewable energy can be placed on buildings by owners and governments.

Perhaps it is the short-term actions within urban planning and existing regulations that should be looked at to help drive the societal changes or the priorities of government budgeting that are feasible within current regulations and planning laws. Recent work on the strategic niche management theory attempts to bridge this gap noting the role of actor and regime and strategic aspects for grassroots movements to be agents of change, yet Seyfang and Haxeltine note it is still a gap that needs further exploring and development (Seyfang & Haxeltine, 2012a). Many grassroots movements, for example the transitions town movement, are a less technological process. Rather they aim at a change in social practices within supportive social contexts, such as riding a bike to work rather than driving (Seyfang & Haxeltine, 2012a). In this way various grassroots movements are aiming to change socio-technical systems towards sustainable cities by focusing on the social rather than the technical. The wider socio-technical transition literature has taken notice on the requirement for greater evaluation of the social elements and have increasingly been researching it. A recent literature review of 3500 sustainable transitions research found that over the last ten years, there the energy cluster has grown and its focus on socio-political elements, and that social change cluster has increased including a shift towards topics of communities (and decrease in topic of social change and capitalism). It summarised that:

“Over the past ten years, research around sustainability transitions has moved towards an approach more centred on energy transition and policies on one side, and on the central role of institutions and actors on the other. Furthermore, there is an increased attention paid to the role of communities and political actors, with respect to a broader, systemic approach” (Stefani et al 2022,16).

Another element of transitions is institutional change. Institutional change focuses on the individual and organisation as a whole undergoing a management, process or other change within the institution (Dacin, Goodstein, & Scott, 2002). It focuses more on the management and has little to do with grassroots movements except when viewing historical radical changes

of institutions, whilst it may be useful to understand how the organisation adapted to the change, it is not useful in understanding how the institution as a regime interacted with niches or the landscape. However, others have noted that it is on the boundaries of institutional change and its interactions with actors, meaning, and actions, as well as, deinstitutionalisation that the most promising transitions work may take place (Dacin, Goodstein, & Scott, 2002; Townley, 2002).

How the transitions are led and by whom is another critique of transitions management. Implications for democracy arise within transitions management regarding the interplay of who is leading the transition and how it is being led (Hendriks, 2009; Shove & Walker, 2007). Transitions management also assumes that there is collaboration between the top-down approach of institutions and the bottom-up approach of grassroots movements. The Netherlands' transitions management practices have been continually espoused as best practice (Foxon, Reed, & Stringer, 2009; Hendriks, 2009; Kemp et al., 2017), but have not been seriously reviewed in the UK. Practices in the UK are entrenched in traditional institutional bureaucracies: centralised, top-down, and disciplinary silos, which do not have the means to respond quickly and stimulate sustainable innovations (Westley, et al., 2011). This is particularly important regarding who is accountable for institutional decisions and how they are accountable for the planning decisions (or a transition) within their institutional plans and strategies. Transitions management focuses on the internal institution or expert leading the transition whilst the grassroots movement as an element of democracy is rarely discussed, yet considering the community, or public, requesting the transition would be the most democratic option.

Transitions management power dynamics of who leads the transition, how it relates to power and politics, who decides what is transitioned to, or how it is transitioned can be co-opted by politics and business-as-usual without regard to wider democracy (Shove & Walker, 2007). Nullifying dissent versus embracing dissent in the transitions process is favoured (Shove & Walker, 2007). As an example, transition literature isn't challenge the requirement to transition from petroleum based fuels for vehicles to electric vehicles rather than allowing for a greater discourse into how many or if electric vehicles are needed for the transition. The grip on the discourse reduces the potential for learning and alternative views (shove & Walker, 2007). In relation to the bottom-up grassroots movements they are generally not part of the

participatory network and still have great power imbalances in the way they can participate in infrastructure. Transitions management does not offer a pathway for how grassroots movements can become part of the guiding voice and assist in the transition. It also relies heavily on the government itself to be engaged in delivering a new style of governance, tools, and structure. Grassroots movements bonded in values represent a bottom-up solution that sits outside of institutions and may be able to assist transitions management through representing bottom-up democracy. Nonetheless, institutions can support the socio-technical innovations that are required, as well as be the barrier to them (Geels, 2010).

Since the Rio summit in 1992, some suggest that too much focus has been on innovations, in particularly technological innovations, to solve the issues of sustainability in cities (Ross, Mitchell, & May, 2012). Technological fixes can increase resource efficiency, but the associated lower costs can lead to increased demand (Haberl et al., 2011). The focus on large-scale technical innovation tends to ignore the innovative capacity emerging from community planning solutions. Further, it ignores the demand side of transitions (Royston, Selby, & Shove, 2018). The reliance on the technical solutions rather than social or simple solutions (Geels, 2013) is problematic and can lead to unsustainable solutions (Shove & Walker, 2007). In mobility, the focus on highly complex mobility systems leaves local and low-mobility solutions off the radar of policymakers when attempting to create resilient mobility solutions (Ferreira, Bertolini, & Naess, 2017). The more highly complex the mobility system, the more it is open to disruption, so whilst policymakers are looking to transport solutions that increase resilience and decrease disruption, they are in fact creating the potential for greater disruption. Therefore, local and low-mobility solutions should be considered first not last (Ferreira, Bertolini, & Naess, 2017). This prompts another question, is the transition leading to a more sustainable solution or is it moving towards an undesirable or unsustainable solution (Shove & Walker, 2007). For example, promoting the transition to electric vehicles and self-driving cars without ever questioning the need for them; or the expansion of more efficient air-conditioning in buildings without considering passive solutions (Shove & Walker, 2007).

Transitions studies have heavily focused on the techno-economic management, challenges, and transitions, but transitions are also socio-cultural processes (Geels, 2020). Social reorganisation dealing with demand is a key requirement in solving these crises, thus connecting the social networks required for urban innovation will lead to greater urban and ecosystem resilience

(Ernstson et al., 2010). A technical response alone cannot enable the sustainability transition required for climate change; a socio-metabolic transition is also required (Haberl et al., 2008). Transitions research should consider and expand its view of how socio-cultural processes can lead to change in social practices which drive sustainability transitions.

Whilst the cycle is a technological tool, in the context of socio-technical transitions cycle usage and dominance is primarily a social transition issue. The bicycle was invented nearly 150 years ago and had a large mode share during the early twentieth century then beginning to decline sharply after the 1950s. An example of this transition is the Netherlands. In the 1960's and 1970's Netherlands, the social-technical transition of cycling occurred with strong activism from the population in response to a number of children's deaths by drivers of vehicles, high oil prices and a few other factors (Pucher and Buehler, 2008; Reid, 2017; Bruno et al 2021). The movement did create new innovations, but these technical innovations reclaimed space previously owned by pedestrians or horses and carriages into a modern context of vehicles capable of higher speeds and power. These innovations included: the use of the woonerf – a low-speed traffic environment prioritising pedestrians, the bottleneck memoranda – a compilation of reported obstacles from cyclists, and the restriction of vehicles into the city centres (Bruno et al 2021). Following on from the initial success of the social movement in creating safer cycling infrastructure, activism declined as did the investment in cycling infrastructure or car-restrictive policies (Bruno et al 2021). The technical innovation was not required to continue the growth, however the social movement and activism decline inhibited its growth. The use of the cycle and cycling infrastructure is a challenge set against the path dependent nature of the evolution of motor vehicle use in large cities (Arranz, 2017; Markard et al., 2012; Markard & Truffer, 2008). Cycling grassroots movements can challenge the prevailing structures in ways other sustainable and technical transport niches cannot, thus being a focus of innovation itself (Whitmarsh, 2012). Cycling challenges social and cultural practices of how individuals move in cities in car dominant environments. If cycling becomes the dominant form, then technological disruption and large urban planning design changes would also result. In the Netherlands, the growth of the cycle towards dominance did result in a large number of walkable, non-car dominated city centres and a large mode share for cycling (approximately 30%). It is not the dominant form with the car still used over 60% of the time and 74% of households owning a car (Zijlstra et al 2022).

Cycling is considered part of the subaltern regime and has a growing presence in the landscape as a counterculture movement (Geels, 2012). The subaltern regime is in contrast to the dominant auto-mobility, shall percentage of mobility, but can have a strong local dimensions (Geels, 2012). Contrasting this is Seyfang's notion of social practices on the fringes being grassroots movements only if they are led by the community (Seyfang & Haxeltine, 2012b). In the case of the UK, cycling social movements have been led by environmental movements (in the 1970s), cycling not for profits (for example Sustrans and London Cycling Campaign), key leaders, and the original club – the Cyclists' Touring Club (Parsons and Vigar 2018). During the decline, an "outmoded" storyline materialised that disregard cycles across a range of areas (planners, media, and automobile industry) (Parsons and Vigar, 2018). Further it noted,

"While this decline is only partly related to plans and policies it gives further credence to the dominance of the 'predict and provide' paradigm: cycling was predicted out as a car use predicted in, only in relation to cycling this wasn't made explicit" (Parsons and Vigar, 2018, 178-179).

The issues was not technical, but social. Parsons and Vigar noted that though the practice was strong, their article described Cyclists Touring Club as a singular voice and instrumental in the developing the vehicular cyclists (Parsons and Vigar 2018). Further, their article and others Reid 2015 illustrate the lack of a coordinated multi-actor support against the automobility rise. Since the 1970s, promoted the lack of equality in road space (Gössling, 2016), work to change the infrastructure, and change social practices of the wider society to an active travel utopia. The movement is as much about technology battle (use of the bicycle over car), as it is a social practice battle (Shove & Walker, 2007). The goal is to move grassroots movements from a niche or subaltern regime to becoming embedded in the landscape, thus completing the transition to a practice and technical transition into the landscape.

Another issue is how social niches challenge technology niches. For example, as cycling actors try to disrupt, autonomous vehicles actors are also trying to disrupt the existing human driven motor vehicle. This example illustrates why understanding the social aspects of these niches is important and questioning those niches' potential pathways to a low carbon future. Firstly, at the landscape level, how is the technological niche perceived? Autonomous vehicle actors pitch themselves as a solution to air pollution, congestion, and other urban issues, yet in order be truly transformative and low carbon they must challenge single car ownership (a strong cultural

factor), as well as urban design features and infrastructure. They can avoid doing so for the sake of financial gain, but this may not be transformative. Further, how does this influence the social niches' successes (or setbacks)? At the regime level, technological niches may have companies with greater power and influence backing them. This may provide greater access to the institutions than social niches.

Utilising cycling grassroots movements offers a focus on a strong social shift alongside a softer technological shift. Grassroots movements, viewed as a niche, can offer the opportunity to investigate the power and political issues not addressed in transitions management (Shove & Walker, 2007). Grassroots movements that do not rely on technological innovation are subaltern regimes and have the potential to influence the socio-technical landscape even if individual actors cannot (Geels, 2012). They can challenge the prevailing structures in ways other actors can't, thus being a focus of innovation itself (Whitmarsh, 2012). Grassroots initiatives can have difficulty in scaling up, however, they offer lessons for 'new approaches to governance of bottom-up community action for sustainable development' (Seyfang, 2010, 7624). Engagement with them offers an opportunity for how initiatives become grassroots movements and can scale upwards. Scaling presents problems, understandably, as some actions are local constructs relying on resources based locally that cannot be exploited globally or transferred globally, or have a unique set of relationships and supply streams in that location. However, the lessons for governance are useful in how to deal with niches which promote a strong local social, economic, and environmental function. In other words, how to administratively deal with niches in planning, regulatory, and political contexts that can cross national and international boundaries even if the exact same solution cannot. This is further explored in chapter 3 discussion on social movements.

Grassroots movements could use these different elements of transitions research to identify tipping points that may generate the greatest return to achieving their long-term goals of systemic infrastructure change, because it is in "looking at different levels of governance, the way innovations at each level are organized and developed will provide understanding of their impacts in the context of transition" (Kemp et al., 2017, 89).

2.2.2 Bridging methodologies

Transitions research has struggled to engage with transitions in process. Different methods of evaluating transitions each have their strengths and weakness meaning choosing one method reduces our overall understanding of transitions (Turnheim et al., 2015). The bridging methodology was developed to overcome this and presents lots of opportunities for combining approaches (see Figure 3). Existing bridging frameworks utilise quantitative modelling that enables long-term horizons to be viewed. Initiative-based learning within socio-technical transitions has primarily focused on industry and state actors, less so on the volunteer, grassroots, or social practice-based initiatives.

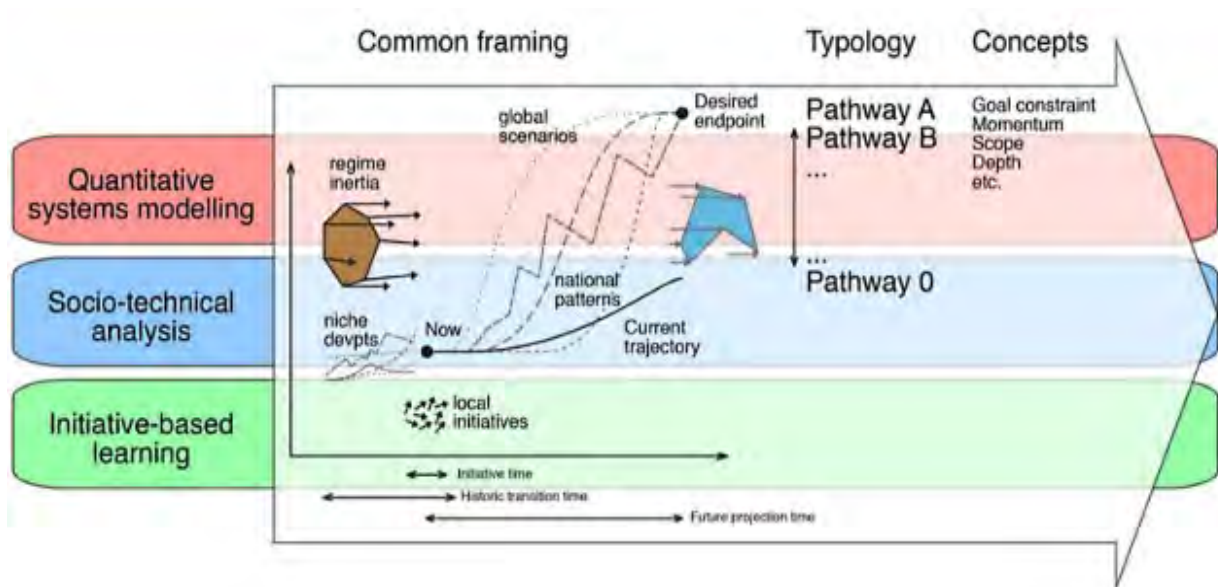


Figure 3 Bridging methodology concepts across the three approaches (Turnheim et al., 2015, 248)

The bridging methodology (figure 4) aims to integrate a variety of phenomenon, actors, scales, and data through a linked analysis and iterative processes. Quantitative modeling is use of mathematical or statistical methods to analyze and make predictions about a complex system or process and make informed decisions. This can include creating mathematical models, using statistical techniques, or using data to make predictions or decisions. Quantitative systems modelling is tool used in transitions research which provides consistent analysis of complex systems, and is robust and highly formalized research methods (Turnheim et al 2015).

The focus of these quantitative systems modellings in research has been on the technological change rather than the social change (Köhler, Haan, et al., 2018). Thus:

“Practical limitations of the approach arise from the conceptual and theoretical basis for representing micro-level social science phenomena, from the availability of data for calibration and validation of models, as well as from model complexity that becomes increasingly unmanageable if ever more model aspects are represented in a highly sophisticated way” (Köhler, Haan, et al., 2018, 351).

Further to this is the ‘challenge [to] define more precisely “change in the structure of the societal and technical systems”, and how it can be represented in a computer model’ (Köhler, Haan, et al., 2018). An example of this quantitative systems modelling to socio-technical analysis bridging model is the MATISSE model which applies a complex systems model (Köhler, Turnheim, et al., 2018). It provides a quantitative view of techno-economic elements and pathway objectives of sustainability transitions. Lastly, strategic niche management links to this, however it is from the perspective of the regime managing the transition and the niche (Kemp, Schot, & Hoogma, 1998), in contrast to the perspective of the niche trying to drive the transition and create regime change.

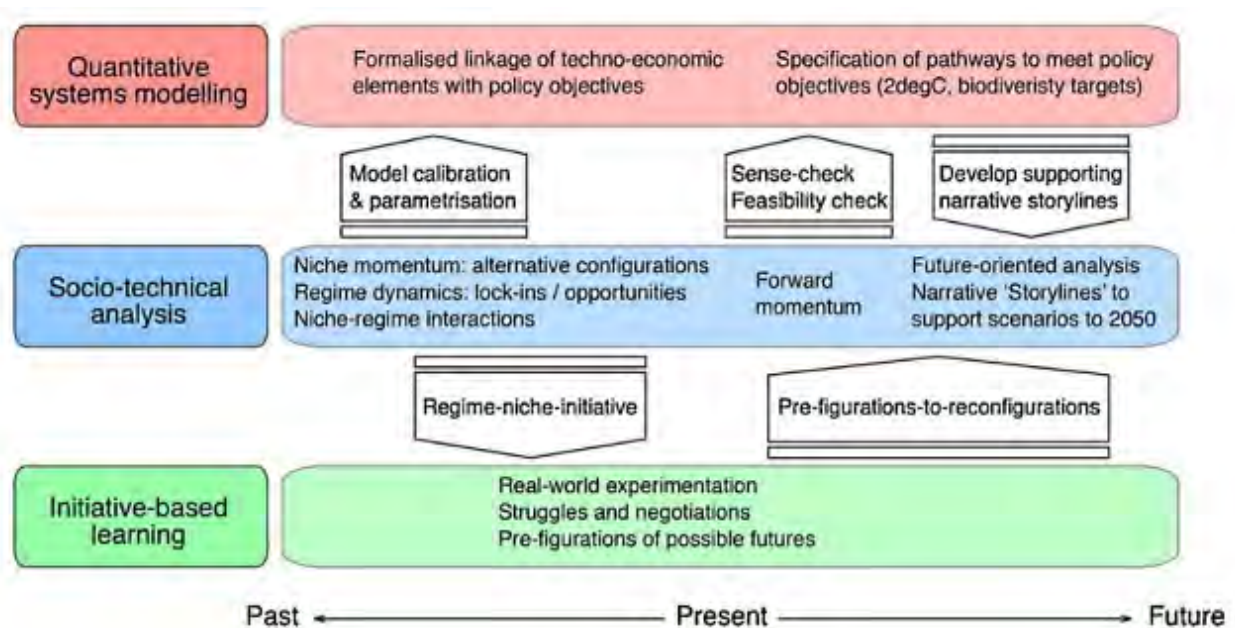


Figure 4 Schematic representation of steps in an interlinked chain of analysis of future-oriented transitions pathways (Turnheim et al 2015)

Nilsson et al. (2020) applied a bridging framework based on three existing case studies that utilised the three approaches. In Nilsson et al, they applied the bridging framework to the Swedish heating domain and utilised a local action study as the initiative-based learning. The local action study was an action research approach, however it was not performed by the

researchers using the bridging framework and was an early research project they utilised with two other studies. The two other studies represented the two other approaches of the bridging framework (socio-technical analysis and quantitative analysis).

Socio-technical transitions have only recently begun to utilise initiative-based learning to develop our understanding of transitions. These tend to focus on technical or national government initiatives involving workshops with limited engagement from researchers on a day-to-day basis. For example, projects focusing on technical changes in energy or design (Turnheim, 2020); or national government initiatives involving a national policy and paid staff working as part of their employment.

Whilst MLP, strategic-niche management, and arenas of development are the main ways to evaluate socio-technical transitions, they do not provide the in-the-moment analysis or engagement required. What is happening now? How can we understand transitions more deeply? Initiative-based learning as part of the bridging methodology provides an opportunity to look more deeply at transitions and attempt to correct the criticisms noted previously. Similar to the 'Ten essentials for action-oriented and second order energy transitions, transformations, transformations and climate change research' (Fazey et al., 2018), integration of participatory action research with a bridging methodology approach fulfils many of these essential ingredients (at least 6). The socio-technical analysis method is useful in understanding where an initiative is placed, for example, supporting the development of the models through the endogenic changes that occur for cycling and active travel. In contrast to strategic niche management that looks at the perspective of the regime managing the transition and the niche (Kemp, Schot, & Hoogma, 1998), grassroots cycling looks at the perspective of the niche trying to drive the transition and create regime change.

2.3 Urban planning and institutions

Urban planning and institutions are intertwined. This section is important for my initial understanding of how and where grassroots groups can engage. Institutions include the entirety of the polity on which democratic or non-democratic societies function (Hall & Taylor, 1996). There are four main institutional types: informal institutions (e.g. cultural norms), formal institutions (e.g. laws and regulations), governance institutions (e.g. policy and administration) and agency decision environments (e.g. allocation of resources) (Cole et al., 2010). Institutions

direct and influence urban planning through long-term and short-term institutional forms. Long-term institutional forms are generally non-responsive. They include the bureaucratic parts of the institution and private interests around it as private entities 'less visible to research and less accountable to the public' (Curtis & Low, 2012). This works in two ways. Firstly, the bureaucratic parts of the institution refer to the administrative side of governance institutions. Secondly, private interests can refer to the nexus of neoliberal influence on institutions. In both instances, the long-term perspective can be preserved but is difficult to change when new needs arise for action (Curtis & Low, 2012). The short-term institutions, e.g. politicians or markets, can be responsive, however they can find it difficult to modify new needs to a longer term-perspective (Curtis & Low, 2012). Politicians leave and markets change. This is not to say it is change is impossible. Policy can be enacted during policy windows, communities can influence political changes, and transitions do occur. In the sections below the issues of short-term and long-term institutions are viewed through the effects of politics, budgets, power, path dependencies, and language on infrastructure changes, specifically transport infrastructure with a minor mention of general climate change infrastructure funds.

Institutions in the UK generally have multiple departments, with each controlling their own budgets to be approved, operations to run, and policies to submit to the local institutional political body (often referred to as councils). Each institution has its own governance structure, however a common thread is that those providing input into these areas or making daily decisions within institutions are mid-level to senior-level managers. Mid-level and senior-level managers refer to associate directors and directors of different departments, for example Department of Planning, Department of Operations, Department of Infrastructure, Department of Communications, etcetera. Thus, mid-level managers in such organisations and institutions may represent the best prospect for rapid change; and be the best opportunity to connect the individual to inspired leadership (Ross et al., 2016), e.g. the bottom-up movement to the top-down leadership approach touted by transitions management. Likewise, due to the rapid growth of small to medium urban cities, solutions to urban problems are increasingly being sought and required at the local government level (Cohen, 2006). Thus, governance and the mid to senior-level managers must be engaged to achieve goals.

Urban planning and transport policy play an important role in facilitating transport development and transitions towards sustainable and resilient cities. Transitions require

collective systemic experimentation and engagement of those closest to the problem, i.e. the 'locals', to shape the solution (Loorbach, 2010). Failure to involve the local community in policy and discussions can reduce future resilience (Fagan-Watson and Burchell 2015; Daley et al., 2013). In this way, planners in institutions acting as transition managers are increasingly being required to have practical local (sociological) knowledge. The need for communication between planners and the local community has been born out in two generations of participative planning scholarship (Healey, 1996; Innes & Booher, 2010), as well as in the growing field of transitions management (TM), socio-technical transitions, and strategic niche management (Markard, Raven, & Truffer, 2012).

2.3.1 Infrastructure path dependency

Path dependencies in infrastructure planning make it is easier to understand the issues of enacting a policy but not delivering on that policy. In order to contribute to path dependency research on transport infrastructure, the gap between strategic planning (e.g. the policy element) and the actual project implementation (e.g. the physical infrastructure construction) must be researched (Legacy, Curtis, & Scheurer, 2017). Over the last ten to fifteen years, transport policies in the UK, the US, and Australia have been implemented that support sustainable transport infrastructure and planning (Curtis & Low, 2012; Weber, 2016). The rise of collaborative planning in supporting co-design, consensus-based planning, inclusive public dialogue, and visioning exercises has supported the development of policy priorities (Legacy, Curtis, & Scheurer, 2017). Yet, it can take years for policy solutions to be put on the agenda and further years for them to be actioned. Also, policy solutions do not solve the problem of policy enactment (e.g. infrastructure development). Path dependency as an infrastructure highlights that 'transport and urban planning policies are strongly influenced by the weight of past decisions, which can prohibit local strategies from immediately adjusting to strategic changes in direction' (Curtis & Low, 2012; Gallez et al., 2013). In particular, the way mode choices are made affects future transport infrastructure and the availability of specific transport infrastructure influences mode choice, thus making a circular situation (Curtis & Low, 2012).

Path dependency in infrastructure is a highly complex problem contributing to the barriers grassroots movements and innovations face in trying to shift policy towards their desired outcomes (Gallez et al., 2013; Seyfang & Haxeltine, 2012a). The elements of path dependency include the role of the institution itself, the budgeting process, the planning process, and

cultural preferences. Infrastructure can't have preferences. Institutional path dependencies exist in part due to the barriers of individual actors. Barriers do not equate to incompetence. The individual actors within infrastructure agencies can be very competent and efficient within the administration institution, but may be the cause of the path dependency we seek to overcome (Curtis & Low, 2012). It is their efficiency with the current process which helps path dependencies be maintained. Even if recognition for the rationales exists within spatial planning, for example green infrastructure, they must be willing to innovate and create innovation pathways themselves as individual actors within the institution (T. Matthews, Lo, & Byrne, 2015). Thus, it is not the technology or even engineering design that must be innovated, but the institution itself which requires innovation. Further, they may be focused on motor vehicles as this is what they are efficient and good at, whereas they are not experts on active travel infrastructure (Cole et al., 2010). The area of expertise of those in control of transport infrastructure may be limited to the fact, in the UK at least, that transport engineer courses have limited active travel engineer principles taught if at all or don't encourage engineers to envision alternatives (Marstrand, 2017). Further, in Australia, Cole et al. found that 'Transport planners [are] not viewing walking or cycling as a legitimate mode of transport that should be planned for and infrastructure allocated to' and that the 'Australian car culture' is an issue in developing active travel infrastructure (Cole et al., 2010). Adding to the path dependency issue of cycling is the lack of motivation from private developers. In Australia, private developers point to the lack of regulation for the development of active travel (Cole et al., 2010). Lastly, it exacerbates urban sprawl (Atkinson & Oleson, 1996).

Multi-streams framework policy windows attempt to describe overcoming path dependency to align/change (Kingdon, 2011; Weber, 2016). However, it ignores parts of the fundamental elements of path dependency, that being the institution and its formal and informal processes, structures, etcetera, and the administrative element. The rise of neoliberal capitalism and private markets and austerity has reduced the likelihood of 'chances' that shock the system. Transitions management looks at path dependency as one of the largest barriers that must be overcome in transitions to sustainability (Kemp et al., 2017). The bridging methodology can highlight opportunities to break down path dependencies.

Critiques of path dependency note the term has been loosely applied to policy studies focusing on the theoretical aspects and broader ideas (Kay, 2005). It requires case studies and historical

approaches to strengthen the use of path dependency. One area in which the term path dependency is well suited is the budget processes of policies. Whilst policy has been updated or changed over time, the budget/rules under which the budget process operates has not changed (Kay, 2005). It is an area where path dependency has much potential. This validates the earlier critique of budgeting issues related to national government funding. Ultimately, grassroots movements are facing path dependency barriers which any transitions theory must address.

2.3.2 Policy implementation through institutional budgets

Infrastructure is the backbone of cities and society. It provides water, waste, transport, housing, and other community services to allow a city and society to function. Infrastructure is meant to be a community good, promote the economy, and provide an increased quality of life for its residents. It has for a long time been provided by the government, paid for by the government, and maintained by the government, and in transport, at least, is still primarily paid for by public institutions (Banister, 2005). Transportation is one of the main public investment areas in infrastructure (other infrastructure areas like energy, water, and even health have been increasingly delivered by the private sector in the UK, Australia, and the US). Over the last 20 to 30 years, private transport investment has also seemingly increased; transport infrastructure operated or developed by private rail industries, road tolls run by private operators, roads being designed and built by private entities, etcetera.

Lack of funds is a large barrier to implementing infrastructure changes for climate change (Geels, 2013). The review in the following paragraph sets the scene for policy implications and budgets under national politics more clearly than the transportation infrastructure literature reviewed. Constrained budgets after the Global Financial Crises and the associated austerity measures in the last five years have decreased institutional investment in all infrastructure with sustainability niches the lowest priority (Geels, 2013). Capitalist societies' obsession with growth could be another reason for the lack of budget for sustainable infrastructure (Geels, 2013), e.g. it is the infrastructure which facilitates growth that will succeed. Diffusing the niche under the backdrop of the landscape is difficult without the regime prioritising sustainable infrastructure and creating an equal playing field between the niche and dominant actors. Grassroots movements which promote sustainability technology advances, enhance growth principles, or have the ability to commercialise technologies may fair better in enacting

changes. In addition, aging infrastructure requiring upgrades can easily be linked to broader urban initiatives for sustainability (Geels, 2013).

Policy development and implementation is the first step before infrastructure can be implemented. It is often seen as a major win for groups, enabling budgets to be committed and infrastructure planning to start. Weber's thesis looked at policy entrepreneurs affecting policy changes (Weber, 2016), but this doesn't mean anything was built in those places. Hickman notes that current policy targets are ambitious given current trends (Hickman, Ashiru, & Banister, 2010). When discussing policy and budgets there are many competing priorities within institutions, such as politics, power of lobbying firms, limited infrastructure funds (Cole et al., 2010), and path dependency. Often if politicians of the local institution are willing to put the policy in place, the competing priorities for money within the administration result in an inactive or slow enactment of that policy. The consensus is not enough to overcome the fact that short-term economics generally wins out (North, Nurse, & Barker, 2017). It can result in a piecemeal roll-out, if at all. Transformative policy infrastructure would have budgets associated with it and changes within the policy timeframe (normally five years) versus a hundred-year horizon. For example, the policy of the City of Newcastle in NSW has an ambitious cycling plan; however, at the rate they are building it will take 100 years to complete (Sharkey et al., 2016). Socio-technical transitions highlighted the need for multiple actors and that enactment of the policy and reprioritise funding to overcome the path dependency can occur with change in the landscape, a role that social movements can support (Seyfang and Haxeltine 2012).

Institutional levels of governance and its respective elected officials can add complexity to the issue. National politicians have access to and/or control larger amounts of funding into particular policy areas even if in direct conflict with local communities, sometimes putting projects in their constituencies to spend the money even if it is not best for that electorate as determined by systems thinking or a life cycle analysis (more on this later). In Australia there are multiple examples of very expensive highways in regional areas providing overcapacity or routes returning only \$0.08 for every dollar spent (Terrill, 2016). The report found that projects proceeded without assessment and those that did have assessments proceeded due to what appeared to be appeasement to voter districts at the state or federal level. Interestingly, the investment may have been better suited to local economic projects that would support localised industries or housing, instead of road infrastructure. Another issue to this is

predetermined routes or promises. Routes previously accepted in planning documentation are used to justify the need for funds for those routes (Curtis & Low, 2012). Thus, even if the planning has changed or alternatives are better suited, arguments can be made for poor routes.

The capacity of organisations to plan infrastructure investments can be limited, namely because institutional funds are limited, particularly at a local level, and are dependent on national governments or private bodies for infrastructure funds. The quagmire of local, regional, state, and federal transportation infrastructure funding (this is not limited to transportation infrastructure) strains funds that face issues of politics, power, and path dependencies. If national funds are required to support infrastructure, then national government investments in road infrastructure that reinforces the use of motor vehicles only makes it harder for local governments to invest in active travel or public transport infrastructure (Fenton, 2016; Legacy, Curtis, & Scheurer, 2017). National transport funds significantly influence local transport infrastructure provision (Marsden & Groer, 2016). A further issue is the cost-benefit tools applied to infrastructure projects at the local or national level. The strongest driver appears to be the economics, not the social and environmental effects of the issues which are more difficult to measure, not given larger weighting in the overall analysis, or dismissed for the sake of jobs.

2.3.3 Investment in cycling and integrative budget analysis for infrastructure generally

Though countries in Europe like the Netherlands and Belgium have shown that cycling does not need to have an adverse impact on the economy and can improve the physical health of its citizens, the UK has been slow to implement active travel infrastructure. Utilising a life cycle analysis and cost-benefit approach as a comprehensive approach to cities' carbon emissions reduction could help them flourish economically and overcome institutional barriers (Marsden & Groer, 2016). Transport infrastructure is not only about sustainability, but also reducing global health risks, loss of life, injury, and illness (Curtis & Low, 2012). The implications of implementing infrastructure are not only confined to council infrastructure or facilities departments (Sciulli, 2013). Infrastructure influences health and social outcomes and the associated government departments are positively or negatively impacted. Evaluating these externality impacts and the degree of impacts to other government departments is necessary to understand the whole cost of infrastructure to the government, as well as individuals and

business. Institutional structures do not perform well in aligning areas of cross-policy impacts such as transport interventions (Marsden & Groer, 2016). The planning of infrastructure needs to consider not just the costs of design and build and its immediate benefits, but its broader impacts on land use planning, demand management, and energy (Neuman, 2011). Broadening these elements will show its impact on sustainability and longevity to a greater degree.

The potential of cycling infrastructure to mitigate some of these effects poses problems as to who receives the economic investment and who pays for the infrastructure investment. The health and environmental benefits predominately accrue to the national government or the individuals themselves, whilst the economic benefits are spread throughout the local, state, and national governments. Government departments are increasingly aware of the economic costs to the health industry and the impact that the infrastructure and spatial planning for health has on the ability to deliver quality health services (Pinto et al., 2017).

Even if the local institution can fund the active travel infrastructure by themselves there is limited incentive to do so. The scoping review performed by Kornas et al. in 2017 highlighted a few of the common barriers found from the perspective of local government stakeholders; they included costs associated with building, operating, and maintaining appropriate infrastructure, for example reporting on AT infrastructure and benefits related to municipal expenditures, (e.g. cost savings), tax revenues of properties, and savings on maintenance costs (Kornas et al., 2017, 466). The cost benefit tools that are applied to walking or cycling transport development in local government are limited (see the Propensity to Cycle tool and LCWIPs as UK examples) (Woodcock et al., 2020; DfT, 2017). Modelling of these transformational projects (such as an entire cycling network) must be improved (Atkins, Davies, & Bishop, 2017).

Lastly, how we discuss cycling infrastructure as an economic investment may impact acceptability. At a policy level if we discuss it as transport or recreational infrastructure; or culturally as a movement for better cities. Infrastructure projects which are successful and touted by the government often have strong economic terms. Compare the way, historically, cycling projects versus rail or road transport infrastructure benefits and outcomes are discussed. The Crossrail2 in London touts the economic impact of the investment, the impact on workers into the city, and the connectivity (Atkins et al., 2017). Contrast this to cycling infrastructure, which in the media and within some of the grassroots campaigns refer to the health benefit or cycling as a recreational activity. However, in the last five years, an

increasingly number of reports focus on the economic and place benefits at different scales (TfL 2021; Aldred & Sharkey, 2018; Transport for Quality of Life, 2018).

Grassroots movements involved with sustainable cities showcase social, environmental, and economic benefits for their local areas (Seyfang, 2010; Seyfang, Park, & Smith, 2013). The tracking of this public and private investment, the economic benefits, and budgetary interactions act as barriers to grassroots movements in transitions which must be addressed. This is an area where breaking down barriers to grassroots movements' acceptance by institutions has great potential.

2.4 Conclusion

Transportation impacts the sustainability and health of cities in many ways. Active travel infrastructure are an effective way to transition cities away from motor vehicle dominance. Transitions literature provides several ways investigate social and technical transition. The multi-level perspective of actors, niche, regime and landscape identify transitions and pathways which cycling transitions can utilise as a niche to shift the auto-city to eco-city. The bridging methodology is an approach that can integrate the social niche with the socio-technical analysis. The use of initiative-based learning presents a new way of engaging grassroots initiatives and movements into socio-technical literature. It can provide a grassroots view to path dependency, policy implementation, and changes to the city.

Chapter 3 Literature review – Communities, social movements, grassroots, and cycling transitions

Transitions require communities or businesses to push and deliver the social, cultural, and technological change and innovation for the changes desired. Historically, communities have formed a fundamental part of enabling change in cities. Communities form to create social movements, have shared identities, start initiatives, or form bounds around a common identity place, boundary, or ideology (Blackshaw 2010 and Johnston 2011). In chapter 2, it was noted that communities and their role in sustainability transitions literature is increasing (Stefani et al, 2022). Further, that communities can become a fundamental part of transitions as actors, niche(s) or within the cultural landscape and form grassroots initiatives, innovations, or movements. Communities participating in planning with local government impact policy, planning, culture, and individual social actions. The academic discourse and practice surrounding communities thus is quite large and goes beyond transitions research. In this chapter it sets up the reasons for community engagement. Communities role (or lack of) in planning making decisions illustrates a view for why (some) social movements have formed. How communities form and create grassroots initiatives and innovations. The role of identity and community in cycling and perceived identity of cycling as a community by non-cycling identities.

The first section begins with a high-level overview of community, the role it has played in urban planning participation, and types of communities. Communities have hosted or enabled activists and advocacy in planning decisions and creation, being tools of change. It discusses the overarching meaning of communities, before focusing in on issues of community participation and planning. Communities have been activists, advocated in planning, and become tools of change or opposition to change. It provides an overview that is required to help frame potential opportunities and engagement that grassroots movements may have within existing planning tools for community participation.

The second section begins by providing a brief overview of social movements and describes social movements as a response to communities role in influencing planning and policy development. It then focuses in on the social movements that originate from the grassroots and focus on changing an aspect of society. It describes how grassroots movements and

grassroots initiatives form as a response to sustainability issues and opposition to planning or infrastructure presented to them. The third section focuses in on cycling movements broadly and cycling movements in the UK. It highlights difficulties that cycling movements have faced, as well as, contention between individual players of the cycling movements themselves. Lastly, the fourth section, discusses the use of citizen science as response to planning issues described in section 3.1, how grassroots movements have utilized citizen science to gain legitimacy, and the use of citizen science by researchers.

3.1 Communities and citizens participation in planning and policy development

Throughout history, community has been an important tenant of what supports humanity or drives changes in the way we live. Individuals (citizens) for communities uniting together some way (Harari, 2014). In the literature on communities, there are many definitions of community: community of place, community of identity or belonging, and community of ideology. Community of place refers to a physical locality or neighbourhood bounded by a geographical boundary, for example a council estate on seven acres or the Marylebone residents' community (Blackshaw, 2010; Silk, 1999). Communities of identity or belonging transcend geographical boundaries; they are tied together by a project or a representation of themselves, for example the LGBTQI community, the NRA gun ownership community in the US, the environmentalist community, etcetera (Blackshaw, 2010; Silk, 1999). A community of ideology also transcends geographical boundaries, but refers more to political or social ideologies, for example, liberal, conservative, neoliberal, socialist, etcetera, also referred to as communitarianism (Blackshaw, 2010; Silk, 1999). Community of identity is the most common type of grassroots movements community followed by community of place, whilst community of ideology is likely to be superseded by the other two. Globalisation has reduced the need for communities to be bounded by place, thus allowing for communities of identity and ideology to grow. In infrastructure development, community generally refers to a place, i.e. the neighbourhood or city the development is taking place in, whilst opposition groups tend to form around community of place (for example, NIMBYs – not in my backyard or YIMBYs – yes in my backyard) or community of identity (e.g. environmentalist opposition to coal plants). Thus, communities can be seen as citizens who come together around a particular geographical boundary, identity, or ideology.

Planning and policy have played a significant role in the development of and interaction with communities. Planners and architects have historically had a strong role in determining how cities are shaped (Short, 1989). Over the last 40 years, literature and practice repeatedly noted that more citizen participation and better citizen participation was needed (Lawton and Macaulay, 2014). Communities participate in infrastructure policy, planning, and development in different ways. How they participate (or are allowed to participate) is important in understanding the dynamics of power, planning, and decision-making behind infrastructure development. In designing for resilient or sustainable cities, some researchers argue that planning should be more proactive (in engagement) rather than reactive with a key aspect of this dynamic being collaborative planning processes involving communities as facilitators and equal partners in the design process (Collier et al., 2013; Healey, 1992). This participation in literature has been termed 'public participation', 'citizen participation', 'stakeholder involvement', 'community engagement', or 'civic engagement'.

Participation is structured by "at least five different elements: who participates, when participation happens, what happens, how much participation, and why the actors participate" (Sarzynski, 2015, 54). It is an opportunity for the public (for example, individuals in the local community, businesses, and experts) to provide comments, feedback, and opinions on the infrastructure or planning policies being developed. Public participation can occur throughout the infrastructure process but is commonly found in the pre-planning or development stage. Others have found the infrastructure plan or project has largely been developed or determined prior to the public participating (McAndrews & Marcus, 2015). Lastly, community participation in planning can leave some in the community marginalized by not receiving equal weight in the participation. Residents with resources, business owners, local officials, and planners are able to have their voices heard more regularly, at greater intensity or weight than the community as a whole (Silverman, Taylor, & Crawford, 2008).

The communicative planning theory hypothesised that the engagement of planning processes with communities can lead to better planning practices (Healey, 1992). In planning processes, decision support has played this role, providing "a subset of information for policy, planning and assessment consisting of expert-mediated resources (including information processing methods and tools), activities and inputs which are communicated to support one or more steps in a particular planning or policy process" (Gudmundsson et al., 2012, 173). This can take

the form of quantitative decision making rather than qualitative decision making. This quantitative decision support can be incomplete not considering wide ranging community opinions or business lobbying, and that social factors can influence planning and policy decision-making (Petersen, Heinrichs, & Peters, 2010). For example, considering the cyclists qualitative experience or diversity of cyclist experience when developing infrastructure rather than a commuting mode share (Marquart et al 2020).

In the UK, institutions have begun to embrace the way public participation can influence and determine policy planning (Head, 2007). It is not without issues. Even when the community overwhelmingly commits to a certain infrastructure in policy, development is geared towards the elements of the policy that were more in line with business as usual (Curtis & Low, 2012). Highlighting an area of path dependency noted in chapter 2. There is a lack of transparency in making selection of priority projects and investment decisions (Legacy, Curtis, & Scheurer, 2017), which may lead to decisions that do not achieve the policy goal. Top-down (elected officials) and bottom-up (community) highlighting differences over transport infrastructure development, disagreeing over the mismatch between the policy goal and disagreeing on the project implementation (Legacy, Curtis, & Scheurer, 2017). For example, in the London Borough of Westminster their strategic plan indicates a vision and support for cycling infrastructure (City of Westminster, 2014), however action and delivery and proactive engagement to the community is limited (Walker 2018 and Laker 2018). Ideally, community participation would be a part of the post-plan, guiding the selection of priority projects and investment decisions to limit this potential disconnect. Elected officials and senior management both play a role, thus removing one may not necessarily provide a pathway solution.

If there is little room to comment on the post-plan after the initial strategic consultation, then the reverse is also true: there is little room to comment on the policy of the actual infrastructure development, i.e. public participation during infrastructure development leaves little room to discuss the merits of a policy behind the development. For example, in a highway interchange there may be room for small minor adjustments to the route design; however, discussion on why the highway interchange is necessary or required, the character of the neighbourhood, and the possibility of other modes is no longer received by authority for discussion (McAndrews & Marcus, 2015). Institutions doing the public participation of a particular development may state that it is not the proper place for policy discussion. Others

have noted, however, that it is the lack of administrative processes to deal with and act on the policy feedback from the community that is the issue (McAndrews & Marcus, 2015). In relation to cycling, for example, opportunities to influence planning decisions on where cycle (or walking) infrastructure should be placed and the quality of cycling infrastructure may be limited. Frustration to the barriers of community participation, lack of acceptance of community views or lack of changes in response to community engagement can lead to the creation of stronger communities. Communities attempting to leverage power, create innovations, and become a movement that cannot be ignored.

3.2 Social movements

Communities engagement with government institutions, the regime, policy and planning process is critical. What happens when communities disagree with those decisions and process or the direction of that cities are taking? Social movements have been one response to redirect, influence or contest the directions of government (Van Til et al 2006). Social movements involve organized groups of individuals or organizations who come together to advocate for a specific cause or issue, and they often involve a wide range of activities, such as protests, rallies, and campaigns. Social movements can be driven by a variety of motivations, such as political, economic, social, or cultural issues. Social movements can be categorized into different types such as alternative, redemptive, reformative, and revolutionary (Flynn 2011⁶). Alternative movements are those that seek to create new ways of living and being (for example Alcoholics Anonymous). Redemptive movements aim to change the individuals themselves (for example religious movements). Reformative movements aim to change certain aspects of society (for example environmental movements of women's suffrage movements). Revolutionary movements aims to fundamentally change the entire society (for example Civil Rights Movements) (Chetkovich and Kunreuther 2006 and Flynn 2011).

Social movements are collective efforts by a group of people to bring about or resist social change, they can be driven by a variety of motivations and goals and involve a wide range of

⁶ Flynn notes "Anthropologist David Aberle, in his book, "The Peyote Religion Among the Navaho," introduced a typology of social movements referred to as the alternative, redemptive, reformative, and revolutionary model (1966)." (Flynn 2011, 28)

activities to advocate for a specific cause or issues. Social movements goals may include achieving greater rights or equality for a certain group, fighting for social justice, or addressing environmental concerns. Some examples of social movements include the civil rights movement, the feminist movement, the LGBTQ+ rights movement, and the environmental movement (Chetkovich and Kunreuther 2006, Johnston 2011, Jeppesen 2021). Social movements attempt to change the system, but do not necessarily originate at the grassroots or as the result of a grassroots movements (Jalali 2013). They can occur rapidly in response to state rule or activities (Johnston 2011). Social movements may stage protests (Verlinghieri and Venturini 2018) or lobby politicians (Johnston 2011).

Globalisation has changed the way social movements occur as they are no longer bound by borders to spread quickly. This changes the way they can interact with transnational corporations and global politics. Local grassroots movement may have to interact with transnational corporations (TNC) who can wield outsized influence and power (Johnston 2011). Globalisation has allowed a response to this power in the form of Transnational Social Movement Organisations (TSMOs), International Nongovernmental Organisations (INGOs), and Transnational Advocacy Networks (TANs) (Johnson 2011). They can work across borders, target world meetings, share information, and attempt to counter the effect that TNCs have; they are a formalised social movement response. Johnston noted that “because there is good evidence for social movement society trends, I expect more and larger protest mobilizations on global issues to occur as part of normal politics in the next fifty years” (Johnston, 2011, 199).

Social movements are largely oppositional, however not for profits and “movements fighting for more sustainable urban transportation, a rather different picture emerges: loose coalitions and small groups that move between opposition to local and city government and active collusion with it” (Batterbury, 2003, 153). The opportunity for collaboration is one reason why social movements may influence sustainability transitions (Bruno et al 2021 and Sunio et al 2021) and play a key role in overcoming transition barriers. Social movements innovations arise that are “design to support the common cause of the movement and to enable the establishment of a new life order” (Jeppesen, 2021, 1-2). These innovations maybe social or technical innovations that support and grow the social movement.

Several challenges arise for social movements as they become social change organisations and adopt more formal structures. An in-depth review of 16 social changes organizations published

in 2006 identified a number of challenges to building a movement (1) competition for resources, (2) the national-local divide, and (3) Conflicted demands on leadership (individual interests or shared movement) (Chetkovich and Kunreuther 2006). Relevant to this is the leaderships requirement to run their organisation and leaving little time “for developing a more generalized vision for change” (Chetkovich and Kinreuther, 2006, pg 163). Socio-technical transitions and community participation note the ‘vision’ as an integral part of the transition or planning focus (Ortegon-Sanchez and Tyler, 2016).

3.2.1 Grassroots initiatives, innovations and movements: organizing from the bottom-up

Grassroots start from and mobility or organize the bottom to change policy, e.g. they start from a local community. Grassroots movements are generally civil society led, socially focused, and utilise demonstrations, though they may espouse green technology (Seyfang & Haxeltine, 2012a; Seyfang & Smith, 2007). “[They] are movements that emerge from the local level with a bottom-up approach and diffuse throughout the state and at the national level” (Hassain, 2016, 63). Grassroots movements can connect across local, national, and international geographical boundaries. In grassroots movements, this often happens to build networks, connecting to another the local community around place or connecting nationally and internationally through a common social practice or similar movements.

In the age of the globalisation grassroots movements may also use resources (and support) across all three geographical levels. For example, Extinction Rebellion shared tactics and a vision across borders (Gunningham 2019); the CycleSafe Network Active Transport Infrastructure Project which formed online relationships with cycling movements in Canada, used a health assessment tool from Europe, and liaised with national cycling groups and local non-cycling groups (Sharkey et al, 2016). Therefore, grassroots movements whilst localised are increasingly using non-localised sources and growing the initiative beyond the local through digital means.

Grassroots movements such as the zero emissions, transition movement, or cycling promote social reorganisation by focusing on the demand side of the equation. Bottom-up community-based grassroots movements may offer scale-able alternatives to top-down innovations (Seyfang & Haxeltine, 2012b). These grassroots movements and changes have an advantage in that they can be made quickly and focus on resourcefulness rather than innovation. Plus, they

generate the social cohesion required for the larger changes (Dale, Ling, & Newman, 2010; Ernstson et al., 2010).

Grassroots movements and transition literatures have been growing in linkages. Transitions management theory and community-led grassroots movements interact is summed up nicely by Seyfang and Smith, stating 'this new approach conceptualises grassroots innovations' as innovative niches with the potential for wider societal transformation of the landscape defining them as:

“networks of activists and organisations generating novel bottom-up solutions for sustainable development and sustainable consumption; solutions that respond to the local situation and the interests and values of the communities involved. In contrast to mainstream business greening, grassroots initiatives operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies” (Seyfang & Smith, 2007, 585).

Grassroots innovations and grassroots initiatives have been used interchangeably, however there is a subtle difference emerging. Kooij et al. define them as 'Grassroots initiatives (GIs) are open and dynamic bottom-up activities that seek to provoke changes that go beyond or against the orchestrated paths of transition, but are self-organized and transformational' (Kooij et al., 2018, 52). Grassroots initiatives are therefore social movements, which are community based and focused on a localised problem (Castells, 1983). These initiatives may be self-funded or rely on small donations, and they typically rely on volunteers to help organize and carry out the work.

Previously there has been minimal focus on innovation systems that are community driven and promote the local (Hargreaves et al., 2011; Markard & Truffer, 2008; Seyfang & Haxeltine, 2012a), however recent years have seen an increase in research on local systems or innovation systems that are local (Nilsson 2020). Hossain 2016 performed a systematic review of all grassroots literature from the last twenty years finding that grassroots innovations remains “isolated from mainstream innovation literature” (Hossain, 2016, 979). “GI has been mainly explored using theories such as strategic niche management (SNM) (de Vries et al., 2016), conceptual niche management (CNM) (Monaghan, 2009), niche-to-regime transition theory (Boyer, 2014), multi-level perspective (Ornetzeder and Rohracher, 2013) and knowledge economy (Gupta, 2012)” (Hossain, 2016, 975). A more recent systematic literature review

(2019) noted the similarities in initiatives and experiments definitions that have been appearing over the last ten years as socio-technical transitions literature has exploded. “An experiment can be conceptualized as an inclusive, practice-based and challenge-led initiative designed to promote system innovation through social learning under conditions of uncertainty and ambiguity” (Sengers et al 2019, 153). It ultimately defined experiments as “an inclusive, practice-based and challenge-led initiative designed to promote system innovation through social learning under conditions of uncertainty and ambiguity” (Sengers, Wiczorek, & Raven, 2019, 161). Thus, in socio-technical literature an experiment or innovation can become an initiative that may or may not grow into a grassroots movement.

Citizen-led grassroots movements deal more with social and institutional innovation (rather than technological) (Seyfang & Longhurst, 2013b). In contrast to technological infrastructure innovations, most bottom-up grassroots movements initiatives are related to the social and cultural changes or addressing infrastructure changes that do not need to significantly cost more to implement. These niches can occur as demonstration projects allowing external actors to learn about the project as a transition method (Geels, 2012). For example, increasing green space and reducing vehicle traffic can be performed by removing parking spots; or community energy movements can require just a regulation change and ownership models, not capital to build new infrastructure. Other examples of demonstrations include much of the community-led tactical urbanism movements, such as Better Block, Parking Day, or walking school bus (Alisdairi, 2014; Sharkey, 2014; Lydon, Garcia, Duany, 2015; Talen, 2014). Though barriers to the communities’ demonstrations, such as heavy penalties or jail time, may make this a costly social solution (Pagano, 2013). They challenge the status quo.

The issues of power arises during the grassroots movements goals and engagement with government or stronger cultural forces. Max Weber, the sociologist, regarding the power position, note ‘Under normal conditions the power position of a fully developed bureaucracy is always over towering. The “political master” finds himself in the position of the dilettante who stands “opposite the expert”, facing the trained official who stands within the management of administration’ (Webber, 1946, 232). In the interactions between the niche and regime actors or between the niche and oppositional forces in the landscape are key areas for power examination.

Grassroots innovations may struggle to influence infrastructure policy whereas developers and large infrastructure companies can influence it due to previous relationships built up over time. Plus, they have the capital finance to assist governments. Socio-technical transitions highlight that existing solutions that have an unfair advantage due to regulatory support, tax breaks, or infrastructure that encourages future marketing of that product (Geels, 2004; Hamann & April, 2013). In this way, institutions are still bound to neoliberal infrastructure development even if the policy changes due to path dependency in the market and cultural preferences. Thus, if the community states that it wants a different infrastructure its influencing power is quite low.

In summary, grassroots movements, therefore, are broader social or political movements that are driven by individuals or groups within a community, often with the goal of creating widespread change. These movements may involve multiple grassroots initiatives and may be focused on a specific cause or issue. They typically rely on a larger number of people to support and participate in the movement, and they often gain momentum over time as more and more people become involved.

The growth of these initiatives to movements that have wide spread diffusion can be challenging. Smith et al 2014 identified three enduring challenges of grassroots innovation movements when looking at ‘technologies for social inclusion movement in Latin America’:

“Attending to local specificities whilst simultaneously seeking wide-scale diffusion and influence. Being appropriate to existing situations that one ultimately seeks to transform, and Working with project-based solutions to goals (of social justice) that fundamentally require structural change” (Smith et al, 2014, 119-120).

To overcome these challenges three framings were identified: “These framings are grassroots ingenuity, empowering inclusion, and structural critique” (Smith et al, 2014, 120).

In a Monteverde, Costa Rica study on the “influence of grassroots movements on sustainability transformations” found that collaborative networks between grassroots movements “increased the impact of the initiatives by joining efforts and sharing resources, being particularly relevant [to] human resources” (Verduzco, 2021, 1). The study found that the collaborations empowered the community through education and building capabilities. Further, some of the grassroots movements offered opportunities, over the long-term, of income sources or time control.

The broader social movement of the international climate change movement provide insight into key needs for grassroots movements success. They include (1) strategic alignment with other groups, and with local and national strategies or priorities, (2) good leadership, (3) funding and resources, (4) networks and connections, and (5) demonstration of progress (S. Matthews & Pratt, 2012). These key needs are used by grassroots movements, but their absence can serve to place barriers to those communities lacking them (S. Matthews & Pratt, 2012). It could also be that the grassroots movement feels radically different about what the community priorities should be thus making those elements for success even more difficult.

The personal capacity, organisational capacity, and cultural capacity of the grassroots initiatives are utilised to stimulate changes in infrastructural capacity for their ultimate goals of infrastructure and institutional change (Middlemiss & Parrish, 2010). The cultural capacity of grassroots community initiatives is a strong factor in success by framing their activities in their own self-image (Middlemiss & Parrish, 2010). This assists them in relating to the wider community of place they are a part of and in building credibility as part of the broader community or landscape.

3.3 Transport social movement and cycling movements

Transport social movements are groups of individuals and organizations that advocate for changes in transportation policies, infrastructure, and services in order to promote more sustainable, equitable, and efficient transportation systems. These movements may focus on issues such as increasing public transportation options, promoting active transportation (such as biking and walking), reducing car dependency, and improving accessibility for marginalized communities. Examples of transport social movements include groups advocating for better bicycle infrastructure, public transportation riders' unions, and organizations working to increase accessibility for people with disabilities.

Urban cycling grassroots movements are groups of individuals and organizations that advocate for the promotion and improvement of cycling as a mode of transportation in urban areas. These movements are often organized at a local level, and may focus on issues such as building more bike lanes and other cycling infrastructure, increasing bike parking, and promoting cycling as a safe and viable alternative to driving. They also advocate for more education and awareness campaigns to help make cycling more accessible to more people, especially to those

who may not have had the opportunity to experience it before. Examples of urban cycling grassroots movements include local bike advocacy groups, community-based bike co-ops, and neighborhood bike collectives. They may also partner with other organizations such as city governments and transportation departments, to advocate for policies and infrastructure that support cycling.

Cycling in London is part of a grassroots movement that has utilised local initiatives and is a social rather than technical innovation. Cycling infrastructure transition is a grassroots initiative movement and environmental movement. Cycling is not a new technology, though the technology challenges the incumbent regime. In London, it is not a hyper-localised solution, as there are other cycling activist groups that exist across the UK, yet it is a niche. Cycling is a social and technology infrastructure movement that LCC was formed on. LCC aims for a London-wide transition and is a movement comprised of multiple (32) localised initiatives with the local government groups. It is a community-based initiative at the local group level. LCC could be seen as a community-based initiative with more legal frameworks that aims to be a significant movement.

In the UK and London over the last 150 years, cycling has been a grassroots movement and cycling has been an identity. From the feminist upper-class women (social identity), to the working-class workers moving towards factories farther afield (social movement and social identity), or to the environmental activists making a stand against pollution (social movement) each was constructed in a way that influenced politics more broadly. How they contributed to the politics of that time can be viewed from the policy and infrastructure debates we are having now (Aldred, 2012); i.e. how cycling movements should target their contribution and identifying this contribution's role in social identity or social movements. For example, is this contributing towards building a specific social identity or breaking down that social identity to be more inclusive of different classes and cycle types (Aldred and Jungnickel 2014). Or for example, actions that focus specifically on a building a coalition around a key ask in response to a policy problem (air pollution).

An extension of this language could be equality and justice around road space and use of that space. Transport injustice has been used to describe the inequality of walking and cycling in space, exposure, and time. The term 'justice' should be used in infrastructure paradigms to evaluate infrastructure projects (Gössling, 2016). Grassroots initiatives that promoting cycling

and by extension walking as part of active travel often focus on the injustices they perceive over the motor car. Though injustice doesn't appear regularly in their own language, cycling community movements are basically arguing that the benefits of owning a cycle are greater than the benefits of a person owning a vehicle. Cycling faces stigma in the UK regardless of whether it is a sub-culture or has faded into normalisation of that particular city/location (Aldred & Jungnickel, 2014; Aldred, 2013). Though, cycling campaigners are beginning to bring social needs into the transport campaigning discourse (Leyendecker 2018).

The cycling grassroots movements in the US, the UK, and Australia may also be to blame. In the Netherlands, their cycling campaign in the 1970s was in direct response to car vehicle deaths of children (Stehlin, 2014). In contrast, in the US, Australia, and the UK cycling movements are fearful of the anti-car label (Dudley & Richardson, 2000; Stehlin, 2014). Further, particularly in the US, cycling movements have created exclusionary principles that are either inherently value based and political, reinforce gentrification, or are purely about proper 'Dutch' cycling, thus alienating strategic partnerships needed to normalise it, reduce inequality, and reinforce neoliberal exclusionary principles (Stehlin, 2014; Stehlin, 2015). They marginalise the communities that they are trying to participate in, rather than showing a self-image that the wider community can relate too (Middlemiss & Parrish, 2010).

London has undergone several cycling urban transitions over the years, as the city has sought to improve infrastructure and promote cycling as a mode of transportation. The first major cycling urban transition in London took place in the 1970s and 1980s, when the city began to invest in cycling infrastructure and promote cycling as a means of reducing traffic congestion and air pollution. Early in the 1990 local volunteer cycling groups were "appeal[ing] to a constituency of citizens who are already cyclists or who are seriously considering cycling and alternative transport modes due to delays, road accidents or even for health reasons" (Batterbury, 2003, 165). An early example is Ealing Cycling Campaign who partnered with the LA21 Transport Group in 1995 and aggressively and were partially successful in lobbying urban planners towards inclusion of cycling in different planning documents in Ealing (Batterbury 2003). They were trying to influence planners and people more widely, however questions of electability and 'anti-car accusations' limited effectiveness (Batterbury 2003). Then in the 2000s, London began to implement a series of cycling urban transitions, which included the

launch of the "Barclays Cycle Hire" scheme in 2010, and the launch of the "Cycle Superhighways" program in 2011.

The focus of the volunteer groups over the last 15 years has changed substantially with the shift towards more inclusive cycling. In recent years, London has continued to promote cycling as a mode of transportation through a variety of initiatives, such as the "Mini Holland" program, which aims to create safer and more attractive cycling environments in the city's outer boroughs, and the "Santander Cycles" scheme, which provides a bike-sharing service for Londoners. In 2015 de Boer and Caprotti found through their research that participants thought:

“the London cycling niche seems to be represented by an exclusive demographic [male, young, or rule-breakers], although this was perceived to be changing by some participants. [...] Various barriers were identified to a broadening cycling niche, mostly relating to a negative end unsafe reputation of cycling and cyclist. To overcome these barriers, [interview] participants mostly focused on infrastructural improvements” (de Boer and Caprotti, 2017, page 622).

Participants self-identified as regular cyclists, and their backgrounds ranged from policy to advocacy, consultancy, academia and retail. Cycling advocates though face internal issues in their cycling campaign as well. “The findings from this study suggest that women activists experienced systemic exclusion as the politicians ceded control to the technical experts and the vehicular-cycling campaigners’ liberal demands supported institutional practices of designing for the car” (Leyendecker, 2018). Leyendecker 2018 provides a summary of cycling campaign tensions, noting:

“ the talk of safety and danger is a long-standing issue in cycle campaigning and closely relates to the tensions, elaborated above, identified by:

- Cox [Cox 2015]: cycle touring versus environmentalist’ conception of the environment and pleasure
- Aldred [Aldred 2010 and Aldred 2013]: marginalized identity of the current cyclist in a car dominated environment
- Horton [Horton 2006]: freedom and constriction, speed and slowness.”
(Leyendecker, 2018, 45)

These are internal tensions that can limit the effectiveness of the campaign.

There is a more recent one emerging in London regarding equity in cycling infrastructure and inequity in traffic displacement as a result of cycling and walking infrastructure interventions. In other words, that whilst individuals support reduction schemes for air pollution including walking and cycling, the claim is those schemes are causing air pollution and congestion displacement into areas with lower-socio economic features (Admin 2022). A claim that has been refuted in recent research (Aldred et al 2021), but remains persistent in the rise of opposition to walking and cycling infrastructure across London.

Cycling movements may need to use different types of innovation to generate changes. Von Hippel and Cann define behavioral innovation “as consisting of one or a connected sequence of intangible problem-solving activities that provide a functionally novel benefit to its user developer relative to previous practice” (Von Hippel and Cann, 2020, 1). The cycling grassroots movement utilizes behavioural social movement innovation. The behavioural innovation focuses on protests and tactics, for example, the parklet, pop-up cycle lanes, or critical mass bike rides.

There is a more recent one emerging in London regarding equity in cycling infrastructure and inequity in traffic displacement as a result of cycling and walking infrastructure interventions. In other words, that whilst individuals support reduction schemes for air pollution including walking and cycling, the claim is those schemes are causing air pollution and congestion displacement into areas with lower-socio economic features (Admin 2022). A claim that has been refuted in recent research (Aldred et al 2021), but remains persistent in the rise of opposition to walking and cycling infrastructure across London.

It is not uncommon for the implementation of cycling infrastructure and cycleways to face political challenges, as they may be seen as controversial or disruptive by some politicians and members of the community (Bonno Pel 2021). Some common challenges include opposition to the removal of car parking spaces or traffic lanes to make way for bike lanes, street closures, concerns about the cost of building new infrastructure, and resistance from certain groups who may not see the benefits or feel that the infrastructure does not serve their needs (Brovarone et al 2023).

3.3.1 Overcoming the active transport stigma through Australian based grassroots initiatives

The development included previous project such as the Clovelly Road Better Block, Park2Pacific, and the CSN active transport project. The Clovelly Road Better Block was a 2013 community project based on the newly formed Better Blocks movement in the USA (BetterBlocks 2023). This project included design ideas to incorporate local business viability with walking and cycling networks and greenery (Sharkey 2013; Sharkey 2014). This grassroots initiative saw a few thousand people attend the pop-up demonstration event, changes in local business perception, and support from local council for future parklets (Sharkey et al 2013). The Park2Pacific grassroots initiative was a follow-up to the Clovelly Road Better Block, looking to expand from one block to multiple blocks along a 3 kilometre stretch of road from a major city park (where Clovelly Road started) to the ocean (where Clovelly road ended). The Mayfield BetterBlock in 2015 utilised the ideas and how to guide from the previous projects and was provided as a template to the local business chamber as an opportunity to overcome road related barriers (high speeds and parking) (. The last initiative the CSN active travel infrastructure project aimed to create a cycle safe network that would connect schools, local businesses and key strategic corridors (Sharkey et al 2016). "The Cyclesafe Network (CSN) is a system of family safe, easily navigated and usefully connected cycling, walking and shared paths across the Newcastle and Lake Macquarie local government areas." (Sharkey et al 2016, 7). The project utilized citizen science to analyse the cost-benefits of building the walking and cycling network (the cost-benefit tool was the governments own tool which the group requested access too). It utilized coalition building to get major businesses, organisations, and key influential leaders to support the CSN, then utilized that support and the report during the election to campaign key politicians for a political commitment to build the network. The response was a first time fund for cycling paths, an \$80 million restart fund for cycling (Nichols 2016). It further created a shift in the narrative of walking and cycling in the Newcastle and Lake Macquarie area with greater acceptance of cycling paths.

3.4 Citizen Science

Social movements and grassroots movements use of citizen science is becoming more widespread (Cappa et al 2022), though sustainability transitions remain scattered and "on the

peripheral of transitions research agenda” (Huttunen et al 2022, 1). Citizen science refers to the involvement of members of the general public in scientific research. This can take many forms, such as collecting data, analyzing data, or participating in experiments. The term citizen science is often used to describe projects in which members of the public contribute to scientific research in a meaningful way, sometimes under the guidance of professional scientists. Citizen science can have different “definitions and relationships to research (et al . “citizen science that qualifies as public science can be thought of as a knowledge-producing capacity of society and a path to evidence-based decision-making” (Eitzel et al 2017, 9). The participants of citizen science, the ‘citizens’, are described in different terms from amateur to citizen research to volunteer and many others (Eitzel et al 2017).

Broadly, one of the main advantages of citizen science is that it allows for the collection of large amounts of data, which would be difficult or impossible for professional scientists to gather on their own. This is particularly true for projects that involve monitoring large areas or observing phenomena that are difficult to predict or study in a laboratory setting. Citizen science projects can be found in a wide range of fields, from astronomy to ecology to urban issues and many others.

Citizen science projects can engage the public in science, raise awareness of scientific research, and foster a sense of community among participants (Shaw et al 2017). In addition, citizen science that focuses on local issues which may directly affect the participants can the experience more meaningful and impactful, i.e. it is science they can experience at a personal level. Citizen science can aim to influence policy and politics. Eitzel et al 2017 note:

“Citizen science can empower communities to advocate for their local environments through scientific research, for example, by gathering the evidence to articulate issues, share these results via social media with the public, and thereby influence decision makers to act on environmental problems. This type of citizen science is rooted within the principles of participatory action research (PAR).” (Eitzel et al 2017 pg 10)

Citizen science is a collaborative effort between professional scientists and the general public to advance scientific knowledge and research. It can be considered,

“a collaborative process of research, education, and action explicitly oriented toward social change. PAR involves academic researchers (usually full-time and paid) and non-academic co-researchers and participants (usually part-time on the project and not paid) working together to examine a problematic situation in order to change it for the better on participants’ own terms” (Kindon et al. 2008).” (Eitzel et al pg 10).

Sustainability transitions in chapter 2 described the need for second order transformations including broader engagement with sustainability transitions. Citizens and the cultural landscape are a key component of sustainability transitions. Citizen science and a broader public understanding of science is one way to engage with the sustainability transitions (Huttunen et al 2022). In figure 5, Huttunen highlights three interlinking perspectives in citizens as co-production. At the centre, the integrating local and practical knowledge and empowerment and learning. Both of these highlight areas that initiative based learning and opportunities for grassroots initiatives to grow. Further, in figure 6, their summary figure shows how active citizens can utilize this increased participation for implementing (local) transition in practice or transition in motion (Huttunen et al 2022, 8).

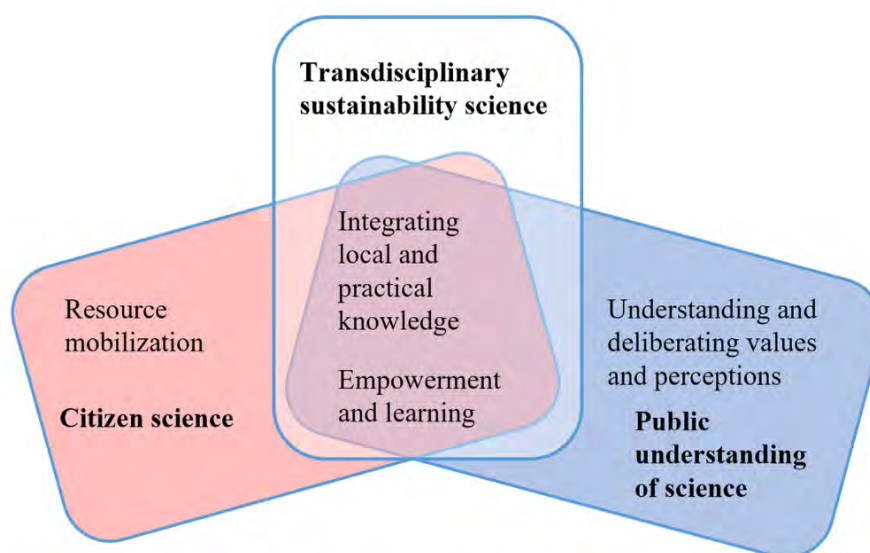


Fig. 1. Three interlinking perspectives on citizens in knowledge co-production and the core functions of engagement.

Figure 5 Linking perspectives in citizen science and sustainability transitions (Huttunen, et al 2022, 3)

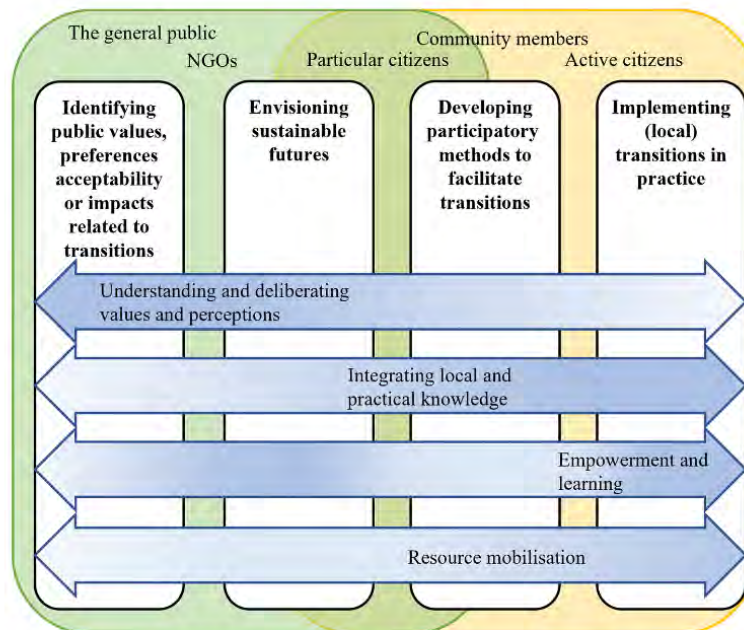


Fig. 4. The identified categories for citizen participation in transitions research in relation to the core aspects of citizen engagement. The darker the colour in the arrows is, the more the particular category is linked to the aspect of engagement.

Figure 6 Types of citizen participation in respect to citizen engagement (science) and local transitions in practice (Huttunen et al, 2022).

Transitions research could engage with citizens and citizen science more effectively to support sustainability research via three pathways (1) problem identification and agenda setting, (2) resource mobilization, and (3) facilitating socio-technical co-evolution (Sauremann et al 2020). Focusing in on grassroots initiatives, transition literature could benefit from greater acceptance of citizen science outside of traditional academic norms (Sauremann et al 2020). Sauremann et al notes a number of potential challenges for Citizen Science to support sustainability transitions. They identified: “increasing participation (diversity; level; intensity); addressing the social as well as technical nature of sustainability transitions (diverse research topics; scientific and non-scientific project goals); reducing tensions between CS and the institution of academic science (autonomy vs control; performance metrics)” (Sauremann et al 2020, 97).

Grassroots initiatives can use citizen science in a variety of ways to advance their goals and promote their causes. At a grassroots level, citizen science can be used to engage with political and policy issues that the grassroots initiatives are attempting to change. Advocates engaging in citizen science do so to fill a gap in research in order to be able to support their claims to the

⁷ Summary information annotated from table 2 in Sauremann, et al 2020.

positive. The citizen science in this instance is hyper local and tailored to the particular issue the advocate is engaging in. Grassroots initiatives can use citizen science as a way to engage members of the community and to educate them about the issues they are working on. This can help to build a sense of community and to empower people to take action on issues that they care about. Grassroots initiatives can use citizen science data to advocate for changes in policy at local, regional and national level.

3.4.1 Cycling, biking and citizen science

Citizen science has been used in many different cases to develop data for cycling and walking when the type of data is missing, government data collection may not be target the relevant information, governments may not make publicly available the data they do have, or understanding cyclists perceptions . In the content of cycling, the use of citizen science in cycling has ranged from crowdsourcing geo-spatial data into specific apps (Pajarito et al 2018), analysing cycling collisions (Ferster et al, 2017), measure cycling waiting times (Pappers, et al 2022), digitized home-to-school routes (Storme et al 2022).

Cycling and biking groups can use citizen science in a number of ways to advance their goals and promote cycling as a mode of transportation. Cycling and biking groups can use citizen science in various ways to collect data, monitor air quality, road conditions, bike-sharing programs, and community mapping. These groups may use this data to advocate for better infrastructure, improve road safety, and raise awareness about the benefits and challenges of cycling as a mode of transportation. Promotion of bikemaps.org showed an increase in the crowdsource app being used (Ferster et al, 2017).

Collecting data which is not currently being collected is a key area for groups. Cycling groups may organize volunteers to collect data on things like the number of cyclists on a particular route, the condition of the roads, or the availability of bike parking. This data can be used to advocate for better infrastructure, such as bike lanes or parking facilities. Bike groups can organize volunteers to monitor air quality along popular biking routes, and use the data to push for better air quality policies or to raise awareness about the health risks associated with air pollution. Road safety monitoring is another way of data collection by local groups . The groups may monitor road conditions and report dangerous or poorly maintained roads to local authorities, in order to improve road safety for cyclists.

Cycling groups may work closely with researchers to provide in-use data collection of a particular research area. For examples, the evaluation of the effectiveness of bike-sharing programs and identify areas for improvement. Community mapping can be used to identify key locations for new bike lanes, bike parking, or other infrastructure (Pjarito 2018).

3.5 Conclusion

Socio-technical and sustainability transitions have engaged with grassroots initiatives, grassroots movements, and broader social movements for learning as niches, pathways of change, or other changes. Social movements have enabled effective and quick changes to the shape of urban planning. grassroots initiatives are local projects or campaigns driven by individuals or small groups, while grassroots movements are broader social or political movements driven by individuals or groups within a community, that may involve multiple grassroots initiatives and focused on a specific cause or issue. They engage in planning to have a voice, gain power for building their grassroots initiative into a dominant niche and acceptance. They shape their own narratives around an identity or community. These groups may use citizen science to support their initiative goals and influence policy outcomes or grow into a movement.

Chapter 4 Research methodology and design – activist research and socio-technical transitions

Having been a professional and activist for sustainability transitions, establishing the methodology behind my research did not come easily. It grew, changed, and developed as I engaged with the social grassroots movements and with academic colleagues and literature knowledge. This chapter is presented in four distinct sections.

Firstly, it describes initiative-based learning theories and methodology, in particular action research, participatory action research, and activist researchers. Section 4.1 presents different types of initiative-based learning and the roles these can play in learning the fundamental practice to explore socio-technical transitions. It initially describes action research, the layers and types of participation that fit under action research, and the different roles the researcher can take in action research. Once grounded, the sub-sections integrate how action research has played and does play a role in socio-technical transitions. It provides evidence for why participatory action research is best for activist research and how to incorporate it into the bridging methodology for a mixed-use method. Lastly, it describes the background on how I synthesised my personal background and understanding and theoretical learnings for an integrative research design and methodology.

Next it describes the use of participatory action research methodology as the initiative

Section 4.2 presents the research design that intertwines activist research with socio-technical transitions utilising the bridging methodology developed by Turnheim et al. 2015. Section 4.3 describes the type of data that the approaches of the bridging framework utilize and the data collected in this research. Section 4.4 describes the development of the Framework for Change. The Framework for Change interaction translates knowledge about socio-technical transitions and other literature into a simple and actionable tool for grassroots groups. Section 4.5 discusses case study selection and my researcher position within the participating groups (the London Cycling Campaign, Enfield Cycling Campaign, Southwark Cyclists, and Tower Hamlets Wheelers), and the participatory action research. Section 4.6 focuses on reflexivity in the research project and the various roles, issues and ethics of being an activist researcher.

4.1 Enacting initiative-based learning – Action research, participatory research, activists, and transitions

'Knowledge is always gained through action and for action'

(Torbert 1981, 145)

Action research has a varied history within its academic applications; tracing its origins to Kurt Lewin in the 1940s or the Tavistock Institute's research into the effects of social democracy and organization change. Participatory forms of enquiry have existed throughout human history (Reason & Bradbury, 2001, 3). Action research can be seen less as a methodology and more as an approach to research that utilises multiple methodologies to achieve its participatory nature, being called 'promiscuous in its sources of theoretical inspiration' (Reason & Bradbury, 2011; Herr & Anderson, 2005). Education and health research fields have been the primary users of action research to understand how practices can be improved and to a lesser extent how theory could be enhanced by action research's approach. In planning and socio-technical research, action research is taking the form of living labs, co-design, or participatory action research for example.

Action research is primarily value laden, with researchers being morally committed and seeing themselves as participants (in the organisation or activity being undertaken by research participants) (Dick, 2015; McNiff, 2013; McNiff & Whitehead, 2011). Action research proponents noted the need to be free from theory, allowing participants to guide research (Adelman, 1993; Lewin, 1946; Whyte, Greenwood, & Lazes, 1991). Whether or not AR is political has been debated, early action research literature noted that being free from theory allows it to be apolitical (Adelman, 1993; K. Lewin, 1946; Whyte, Greenwood, & Lazes, 1991), however in recent years others noted that action research is inherently political (Jordan & Kapoor, 2016). It is the form and the enquiry that makes action research political, particularly when grassroots or social movements are involved in creating change. The action research political orientation stems from its understanding of power and hierarchies within society (Jordan & Kapoor, 2016). Burawoy's constructive critique highlights the need for a theory to allow interpretation of the world outside of your action research placement (Burawoy, 2013). Grassroots movements, like cycling, aim to change aspects of civil society, culture, and infrastructure. It engages with the political. Therefore, knowledge production is a network

activity, one in which if academia hopes to influence outside of academia, it must confront the challenge of putting theory into practice (Gustavsen, 2003). In this research, socio-technical transition theory is the placement of understanding for the initiative.

Action research is a reflexive process that occurs in cycles. The cycle begins by observing, planning action steps, acting on those steps chosen, evaluating the actions taken, reflecting on those actions, modifying the actions, and moving in a new direction (McNiff, 2013; McNiff & Whitehead, 2009; McNiff & Whitehead, 2011; Whyte, Greenwood, & Lazes, 1991).

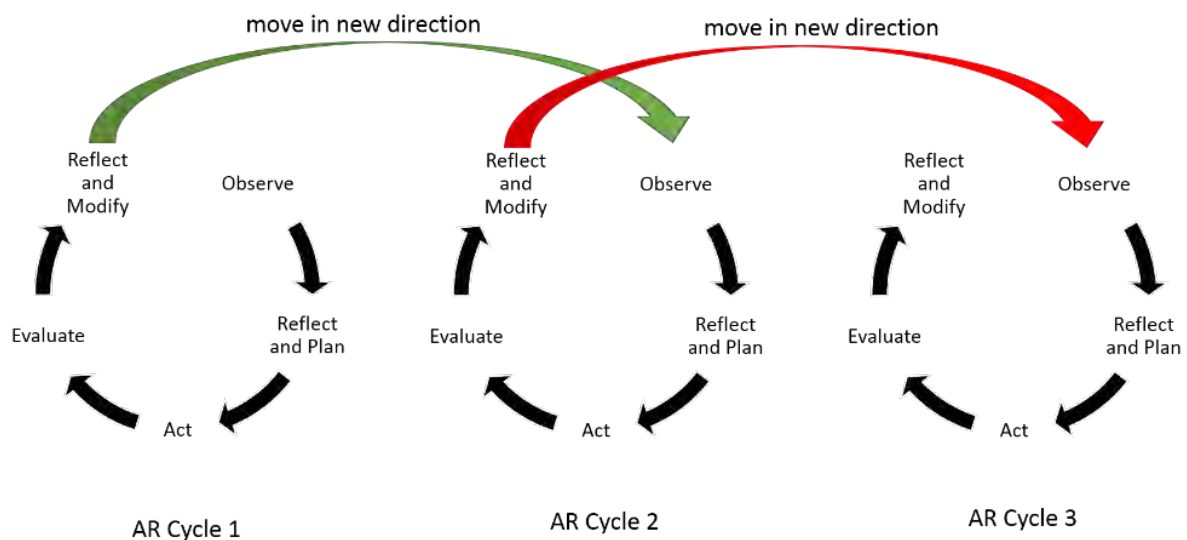


Figure 7 Action research cycles, adapted from Bradbury & Reason, 2003; McNiff & Whitehead, 2009; 2011

Action research is a broad umbrella and has many layers and subsets of action research. For example, there is participatory action research and activist research. Participatory action research doesn't just involve the researcher it also involves the participants in the action research process (Whyte, 1991). This is further reflected in the type of action research and the type of participation by the other parties involved. Two main types of action researcher exist, the insider (or practitioner) action researcher and the outsider (or external to organisation) action researcher. Figure 6 describes the continuum that exists for the insider and outsider.



Figure 8 Continuum and implications of positionality, adapted from Herr & Anderson, 2005, 31 (Sharkey et al., 2019)

The insider or practitioner works within the company, as a member of that specific field (for example, a nurse working with patients or teacher working with students) or organisation they are performing the action research on (Herr & Anderson, 2005; McNiff, 2013; McNiff & Whitehead, 2009; McNiff & Whitehead, 2011). The outsider collaborates with the organisation studying its insiders or supports them as equal partners. There is a continuum of participatory involvement and implications of the insider to outsider researcher continuum, for example the insider is studying its own self to the outsider studying the insider without collaboration (Herr & Anderson, 2005; McNiff & Whitehead, 2009; 2011). Drawing on practices of participatory action research, the outsider's collaboration with the insider can contribute to knowledge base, organisation transformation, and radical change within communities (Day, 2016; Herr & Anderson, 2005). The research participation mode will not be co-opted whereby the relationship of research and action with the local people is on them, compliance whereby the relation of the research and action to the local people is for them, or collective action whereby the local people set agenda and carry out research without the researcher (Herr & Anderson, 2005). Other modes of participation include consultation whereby it is a for/with relationship, cooperation where it is a with relationship, or co-learning where it is a with/by relationship (Herr & Anderson, 2005).

Action research methodology aims to be disciplined, systematic process. A notional action research cycle is (McNiff & Whitehead, 2009; 2011):

1. Observe, take stock of what is going on
2. Identify a concern, issue
3. Think of a possible way forward, develop actions around this way forward

4. Try it out, perform the action steps developed
5. Monitor the action by gathering data to show what is happening
6. Evaluate progress by establishing procedures for making judgements about what is happening
7. Reflect on those learnings personally, in relation to theory, and with the group
8. Test the validity of these reflections
9. Modify practice in the light of the evaluation
10. Repeat steps 1–9

In action research there is a need to better clarify how the practice informs theory. Sometimes grounded theory is used within AR to build the data into a theory. Grounded theory can be difficult to perform because of preconceptions of the research by the researcher, eschewing the literature review until after data collection, and the lack of consistent use of coding which can all conflict with the importance of relating data into a specific theory (Miller & Brewer, 2003; Scott, 2009). If informing theory is to be achieved and transfer learnings it requires data to address how broader changes within institutions and grassroots movements can be made. A grounded theory approach to review the action research may be suited to examining the philosophical issues of individual rationality, the role that the researcher plays, and general reflexivity in the research process, whilst incorporating the complex issues of social hierarchies and power. Grounded research allows for theory derived from data (Tie et al 2019). In this research, however, socio-technical transitions theory has been chosen to view the data collected in the initiative-based learning. Grounded research does provide methodology for data collection and allowing the data to guide learnings into theory (Tie et al 2019 and Gentles et al 2014). Lastly, action science is a related action approach. Action science focuses more heavily on interpersonal relationships, that thinking and feeling about an action happens before that new action takes place and requires an intervention team to keep control of both the intervention and the research process (Argyris & Schön, 1991; Whyte, 1991).

4.1.2 Participatory Action Research

Participatory action research is a type of action research which gives greater control to practitioners and researchers and makes no claims that thoughts about an action must be felt prior to that action (Whyte, 1991). In this way it allows for deep engagement with a niche and has the potential to influence actions that could affect the transition in motion. There is a key

difference between PAR and AR. Action research waits for a cycle to finish before incorporating the learnings, whilst PAR is more collaborative, incorporates learnings as they arrive, and encourages social and community changes. A critique is that PAR is too 'common-sense', which can cause it to be dismissed by mainstream social sciences (Jordan & Kapoor, 2016), and relies too much on the case studies with too specific findings that 'do not lead to defensible generalisation' (Miller & Brewer, 2003). PAR has been criticised for lacking the methodological rigour and technical validity that is the gold standard of much academic research (Greenwood & Levin, 1998). This sentiment has changed substantially. As noted in Chapter 2, both climate change research and socio-technical discourse recognised that stronger in-depth and social understanding would provide more comprehensive views and understanding of transitions (Stefani et al 2022); PAR offers this. If utilised as part of a bridging methodology, these critiques can be countered clearly with the socio-technical analysis of approach B and quantitative modelling of approach C.

Co-creation has been used within socio-technical transitions particularly with initiative learning or policy changes. Co-creation is defined as 'any act of collective creativity, i.e. creativity that is shared by two or more people' (Sanders & Stapper 2008). It may be co-production and co-design together or that co-creation is a type of co-design (Dudau, Glennon, & Verschuere, 2019; Grönroos & Ravald, 2011; Sanders & Stappers, 2008). A synthesis and reflection of co-creation definitions found four common components: '(1) Collaboration between two or more parties [...] (2) an element of creativity; (3) actively seeking engagement with collaborators; (4) low energy barrier (i.e. all collaborators are able to meaningfully contribute suitable to their skills sets through the co-creative tasks and context)' (Mehrpooya, Maxwell, & Zamora, 2013). Co-creation is key for driving transformations and real learning about transitions in the moment. Though the effects of this type of engagement are still seen in many cases as superficial and as box-ticking, the main issue may be the expectations of engagement (Legacy, Curtis, & Scheurer, 2017; McAndrews & Marcus, 2015; Silverman, Taylor, & Crawford, 2008), that is, the different expectations of the actors on the outcomes of engagement. Participatory action research differs from co-creation in a few ways. PAR is cyclical in nature allowing for continuous iteration towards a goal or transition. Co-creation is aimed towards an outcome which is more likely to be fixed. Lastly, co-creation assumes that all parties (or actors) have a

skill related to achieving the outcome, whereas participatory action research does not assume everyone has a skill related to the co-creation.

Participatory action research is concerned with combining strengths of different approaches making it useful as an initiative-bases learning tool that is incorporated into a mixed-use methodology like the bridging methodology. Learning by doing is generated during participatory action research. Action learning and action research combined as ALAR has been growing given its use with communities as a tool and this notion has now been furthered into participatory action learning and action research or PALAR (Wood, 2019a; Zuber-Skerrit, Wood, & Kearney, 2020). PALAR enable social action include educative, emancipatory, and political outcomes (Zuber-Skerrit, Wood, & Kearney, 2020).

Integrating action research or participatory action research with socio-technical systems thinking is not new. Around the same time as Lewin’s development of action research, the Tavistock Institute (during the 30s and 40s and into the early 50s) was developing and researching socio-technical systems thinking, Figure 8 shows this development (Pasmore, 1991). Both groups of researchers shared similar thoughts regarding the human interface of experiments, e.g. a move from purely statistical correlation, and worked together throughout

Their careers. The basis of the original socio-technical systems thinking was that the ‘social system and the technical system [...] operated in an interdependent fashion’ (Pasmore, 1991, page 41). The more recent sustainability

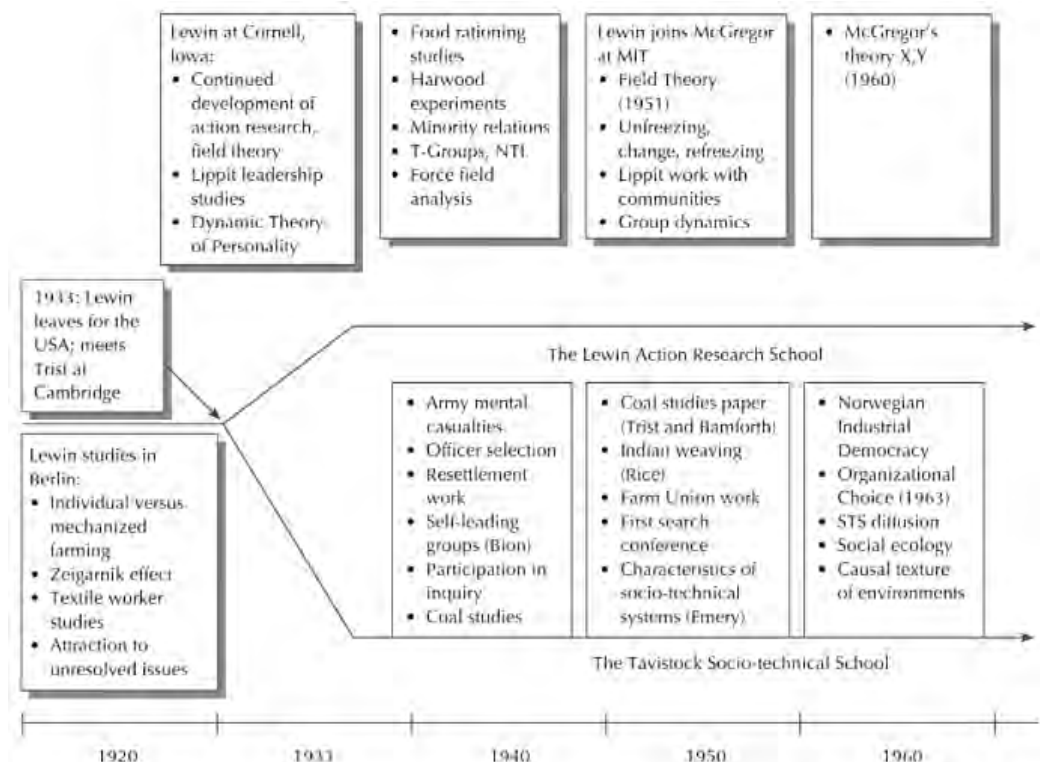


Figure 9 The confluence of action research and socio-technical thinking (Pasmore, 1991, 45)

focus of socio-technical transitions literature could be seen as drawing back to this original connection formed between these research areas.

PAR and action research support the social side of transitions. They do not consider the knowledge of theories to be paramount, but support the understanding that participants create their own knowledge and understanding of the system they are in (Shove & Walker, 2007), thus realising those barriers or opportunities to change. PAR is a form of real-time ethnographic methods. Murto et al. found these methods were 'particularly useful for generating an accurate understanding of the agency required of adopters and thus how to support it in an up-to-date fashion' and 'beneficial for developing an actor-centric understanding of transition processes as they unfold, particularly regarding micro-level transition processes' (Murto et al., 2020, 414).

Under action research and utilising socio-technical systems thinking, my research used community engagement strategies and socio-technical policy analysis to form an integrated research framework in order to examine grassroots movements transition barriers. Action research is one method that allows for deep engagement with the subject matter to understand the roots of their barriers with engaging with institutions. Examining these actions through socio-technical transitions (focusing on the social and institutional transition), AR has the ability to form an epistemological basis for infrastructure, institutions, and communities, as well as contribute to the understanding of tipping points within socio-technical transitions and general barriers to grassroots movements. It is possible that a framework for future research that uses participatory action research as a form of activist research to address barriers to infrastructure changes by grassroots movements for sustainable cities could occur.

A critique of transitions management pertinent to participatory action research is the role of the actor and being within the system they are trying to change. The placement of the actor within the system, for example an institution or the grassroots movement, could be problematic. Shove and Walker note that an actor within the institution itself is inherently unlikely to see the whole system, but that the grassroots movement as an actor that sits outside the institution may be best to see the whole system in the transition (Shove & Walker, 2007). It is a potential issue of this project, e.g. understanding the infrastructure system that the transition is working in. Infrastructure development research only has limited knowledge of how it unfolds within complex, place-specific environments. The bridging methodology aims to

enable this systems thinking as part of understanding or enabling a transition. Systems thinking can ground the (doing) of action research, broaden its action capabilities, and deepen the research's insights (Flood, 2006). A systems thinking perspective must be used to overcome the challenge of being an actor within the system and seeing the whole system, hopefully reducing bias and facilitating the ability to see yourself within the system that is changing. Plus, the AR process is suitably flexible to adapt to institutional and community changes that may occur during the research process allowing for the researcher as an actor to reflect on their role within the system.

4.1.3 Activism and activist researchers

Activism is not easily defined, but generally has been associated with action, often a physical action (Svirsky, 2010). Academic researchers can be and have been activists. Research, and published research, has not historically merged the two aspects (activist and researcher) into an activist researcher. Activist academics though are not new, just not the norm. An activist researcher engages in the practices of activism, placing the academic researcher as an activist through the production of knowledge. In Sharkey et al., we argued that activist research does not fit neatly into clear delineations (Sharkey et al 2019) and that activist researchers play different roles throughout the engagement and dissemination process, moving between roles, as the research stages and relationships change⁸.

The activist researcher may empower citizen groups to participate in knowledge creation that will better inform government bodies and businesses in decision-making processes from a constructive practice-based position, thus expanding the capacity of co-researchers, decision makers, and shared knowledge to facilitate community change (Thomas-Slayter, 1995; Kindon, 2016; Day, 2016; Herr & Anderson, 2005). Thus, insider activist researchers work within the system to constructively identify ways to improve, modify, and alter the existing system. Outsider activist researchers work external to the system to observe and recommend constructive practical changes. Similarly, the academic impact of a constructivist provides research on ways to improve, modify, or alter the existing system.

⁸ Thank you to Lara Mottee, Federica Scaffidi and Monica Lopez for permission to reproduce parts of our paper in my thesis. Sharkey, Mottee, Scaffidi, and Lopez (2020) paper *Activist Researchers Four Cases of Effecting Change*.

At the other end of the spectrum, aiming to make a critical statement, an activist researcher can challenge and critique the design and implementation of a framework process within a situation they seek to assess. The researcher may actively challenge unequal power relationships towards achieving social justice (Kendon, 2016). Here, both insider and outsider activists work to change a system or society by providing different levels of critical assessments that put into question the current urban planning system and established norms to carry it out. This is a reflective process that has historically been engaged in in academia for critical urban planning theory studies. Thus, researcher positionality ideally places practice in an iterative process with academia. New theoretical planning knowledge is produced from practical changes, in turn influenced by constant reflexive productions of knowledge.

Emerging studies are challenging how this plays out in practice. Wakeford and Rodriguez (2018) undertook an analysis of seven case studies for social justice and focused on marginalized groups. They noted “critical PAR, the approach [...] favoured as the antidote to conventional extractive research, can only progress if it can overcome a range of challenges” (Wakeford and Rodriguez 2018, 40). These challenges are power relations, structural issues, and decolonizing the mind. Power relations between groups are shifting with professional researchers with significant budgets, rather than the historically which have been undertaken by “grassroots by people with little or money” (Wakeford and Rodriguez 2018, 40). Secondly it discusses structural issues regarding availability of documentation and materials. Thirdly, it describes the decolonizing the mind, e.g. a radical or feminist approach, and challenging the western academic standards and conference presentation and publishing (Wakeford and Rodriguez 2018). There are examples of overcoming these challenges in practice and social movements and governments attempting better practices. In cycling and grassroots movements, Leyendecker doctoral thesis performed a reflexive action project, studying herself as a feminist activist within a cycling campaign (Leyendecker 2018). Local governments with local sustainability strategies enabled better collaboration with community-based initiatives, and that PAR elements in those studies encouraged more even power relations, open innovation and mutual support (Macedo et al 2020).

Activist research remains underutilised within the urban planning discipline; many note that young researchers establishing their career may be unwilling or unable to take the time required to ‘manag[e] complex researcher–subject relationships, at a career stage where

scholarly publishing is of paramount importance to advancement' (Siemiatychki, 2012, 157). Some have noted viability and legitimacy issues of activist research, commenting that it lacks the methodological rigour and technical validity for academic research, or has an over-reliance on the case studies and has narrow findings and problems with generalisation (Greenwood & Levin, 1998; Miller & Brewer, 2003; Jordan & Kapoor, 2016). In the cases exposed here, I have sought to overcome these barriers through deeper collaboration with participants and adopting flexible approaches to my research, constantly validating and improving my findings as I obtain new knowledge.

The recognition and embrace that researchers cannot dissociate from approaching the participants in our research cases, because this is how researchers can build trust and engage with them. With the aim of incrementally contributing to the improvement of underlying wider social and environmental issues. It is in the use of these dual roles (as a researcher and activist) where the potential to grow and combine theory and practice lies (Gustavsen, 2003). Theory can be enhanced through activist research because any policy advice is rooted in being deeply engaged in one of the many planning processes (Turnheim et al., 2015; Webb et al., 2018; Wolfram & Frantzeskaki, 2016). The learnings are rooted in observations and backed up by empirical qualitative or quantitative data (Corbetta, 2003).

An activist researcher engages with the immediate struggles of grassroots movements challenging institutions' power and organisation (Choudry & Kuyek, 2012; Jordan & Kapoor, 2016). In much action research the objective of enquiry is the 'I' (Bradbury & Reason, 2003; McNiff & Whitehead, 2009; Reason & Bradbury, 2001). This can be problematic in the relationship with the 'we' (the participants or partners), but the 'we' and 'I' can reduce this by being bonded in values or goals (McNiff & Whitehead, 2009). In this case, lifelong involvement with grassroots movements who espouse the values of sustainability of practice will facilitate a bond over values for social change. Issues can also arise in the reporting of the research about power relationships between the researchers and participants (McNiff, 2013; McNiff & Whitehead, 2009; McNiff & Whitehead, 2011; Whyte, Greenwood, & Lazes, 1991). This is less a problem in activist research whereby it is not a co-opting of a process, but an equal alignment between researcher and participant, i.e. the researcher attempts to assist those activist groups with furthering their agenda.

4.1.4 Development of research design and methodology: synthesising personal and theoretical learnings for an integrative research process and analysis

Over last ten years, I have been an active member of multiple grassroots movements. This included tactical urbanism (better block, parklets, urban gardening, placemaking, and green infrastructure), community renewable energy, and active transport campaigns. Professionally, I have worked with businesses and various governments on sustainable urban planning and infrastructure. For example, how to use life cycle analysis to drive better decision-making, resource efficiency, returns on investment, and operational and capital budgets for delivering sustainable infrastructure. At the same time engaging with the issues of practice in modifying social behaviours alongside infrastructure solutions. I have also experienced the professional and community side of participation in planning and policy changes. Through this work as a tactical urbanism community leader, in my role delivering sustainable infrastructure planning as a resource efficiency project manager for a large multi-campus university, my and roles in a premier transport consultancy and multiple local governments, I have often experienced hesitation to change ‘business-as-usual’ approaches and have seen little empowerment of the people to act alone. It is with this experience that I came to understand and witness many institutional barriers to grassroots movements, the lack of systems thinking within institutions and businesses, and the lack of people working together. It appeared to me that change is happening too slowly, though the benefits to the economy and cities seem obvious. This doctoral degree provided an opportunity to study how to facilitate sustainable infrastructure planning, policy, and physical changes in more detail, thus bridging activism, practice, and academia. How to change things faster and together?

This thesis is a performance and a learning of that performance. There is the activist (myself), the participatory action research objects of inquiry, the socio-technical system it fits in, and the theoretical perspective it lends its learning to. How can transitions be viewed through participatory action research? Can participatory action research work to accelerate the cycling transition? And how can participatory action research be linked to theory and practice? These levels of inquiry are linked to form a practical experience and a theoretical learning. Each has a different methodology that forms the final framework for evaluating the research undertaken. Under action research, research questions and hypothesis are not predetermined but guided by objectives of the group and observations as the project unfolds. In socio-technical

transitions it is guided by the transition itself and analysis of transition features such as scale, power, politics, actors, and other dimensions. As discussed in previous chapters, socio-technical transitions would benefit from understanding the micro-level changes and in-the-moment view of transitions and actions that impact transitions. Grassroots groups as niches form an integral part of this understanding, yet they may not have the knowledge related to complexities surrounding socio-technical transitions theory and application. For example, how would actor network theory be taught or enacted within grassroots groups so that anyone regardless of skill or background could perform that exercise to benefit their understanding of transition complexities? It was with this view of the different elements of transition research and personal understanding of grassroots groups' complexities that I sought to develop a Framework for Change. This Framework for Change would act as a translation between socio-technical transitions and the grassroots group. The tools would be simplified campaign strategies that were developed using my knowledge in the theory of socio-technical transitions, grassroots movements, and previous professional and volunteer experience. These tools in the Framework for Change engage with research objectives and questions surrounding power, path dependencies in institutions, niche-regime interactions, engagement with landscape, and policy; thus providing the basis for simplified concepts as part of the knowledge exchange and engagement within the action research process and how they can speed up the sustainability transition desired.

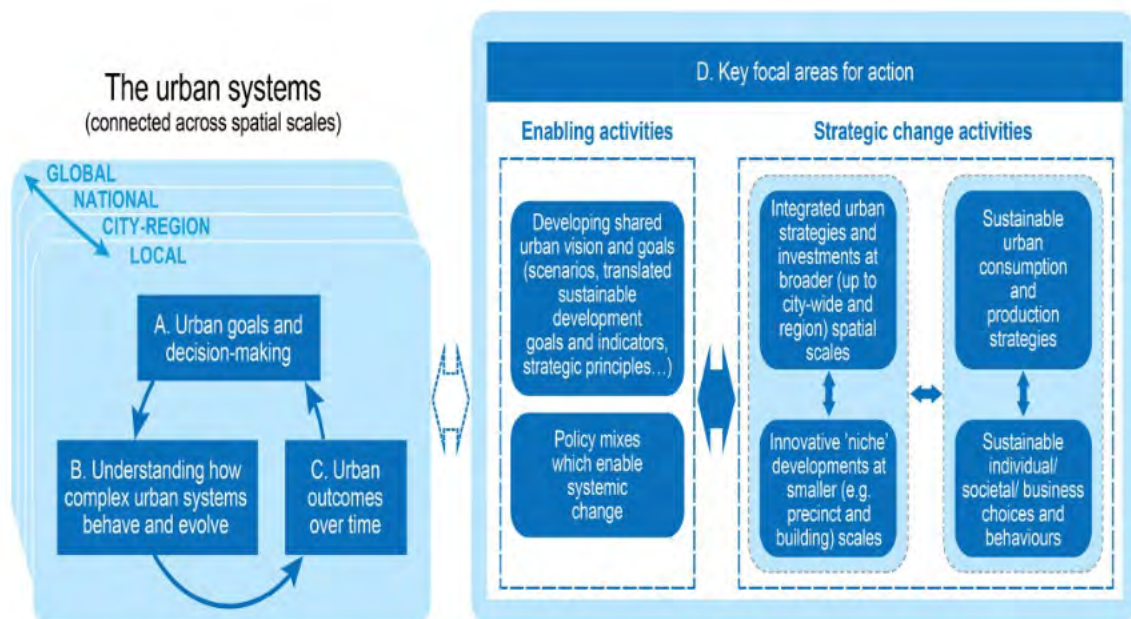


Figure 10 Example of a co-design process with knowledge sharing for sustainable urban development (Webb et al 2018)

Outside of participatory action research and socio-technical transition, additional personal experiences influenced the research and the development of the Framework for change. Over last 15 years, I have been an active member of multiple grassroots movements particularly tactical urbanism (better block, parklets, urban gardening, place-making, and green infrastructure), community renewable energy, and sustainable transport (cycling movement in Newcastle, NSW). Professionally, I have worked with businesses, local and state governments, and infrastructure on sustainable urban planning and infrastructure. For example, how to use life cycle analysis to drive better decision making, resource efficiency, returns on investment, and operational and capital budgets for delivering sustainable infrastructure I have also worked on the professional and community side of businesses and community participation in planning. Through my work as a tactical urbanism community leader (Block, 2016; Sharkey, 2014) in my role delivering sustainable infrastructure planning and as resource efficiency project manager for a large multi-campus University, premier transport consultancy and multiple local governments, I have often experienced hesitation to change 'business as usual' approaches or see little empowerment of the people to act alone. It is with these experiences, that I came to understand and witness many institutional barriers to grassroots movements, the lack of systems thinking within institutions and businesses, and lack of life cycle analysis principles across all areas. This engagement recognized the issue of practice in modifying social behaviours. These barriers mean change is happening too slow, though the technology, perceived desire, and benefits to the economy and cities seems so common sense to me. Having been a big proponent of applied research and getting things done this drove me to want to study it in more detail bridging academic theory and practice.

Lastly, Webb et al.'s (2018) paper influenced the Framework for Change and advice to the local groups. Their Figure 3 provided the output of their co-design process 'elaborating on the key focal areas for action (component D) identified through the co-design process with stakeholders' (Webb et al., 2018, 66). It identified two main overarching policy and decisions drivers, (1) 'extent of shared vision, goals and leadership at multiple levels' and (2) 'extent of systemic and enabling policy cohesion', e.g. how well governance across levels is coordinated (Webb et al., 2018, 65). In addition to Webb et al. providing supporting research for the framework, the Framework for Change took a similar approach in identifying actions that could be a focal point for the groups enabling goals of their transition.

The literature review provided information on socio-technical transitions and transformations. It provided a theoretical view for sustainable transport transitions. The Framework for Change provided (1) methodology on which to evaluate and understand what happens at a particular point in socio-technical transitions on what might enable or accelerate different pathways. The bridging methodology developed by Turnheim et al. (2015) was one theoretical framework to do this, having one of its three tenants as initiative-based learning (in this case action research). A way to bridge the analytical approaches to governance challenges through activist and grassroots enquiry. This ideally creates a synergy to explore the issues and relationship between practice to theory and theory to practice. The theory of transitions with the practicalities of a transition in motion. Lastly, I identified with the ten essentials for second-order transformations from Fazey et al. (2018) and could see the bridging methodology, action research, and Framework for Change as enablers to the second-order transformations (table 3) (Fazey et al 2018). The synthesis of these different experiences, action research principles, and socio-technical transitions theoretical elements helped me to create the research design and methodology.

Table 2 Ten essentials for second-order transformation research and grassroots movements equivalent (adapted from Fazey et al., 2018).

Ten essentials for second-order transformation research (Fazey et al, 2018)	Cycling Social Grassroots Movements
Focus on transformations	Cycling transformations in cities
Focus on solution problems	Transport carbon emissions
Focus on 'how to' practical knowledge	Framework for Change
Approach research as occurring from within	Action research within social grassroots movements
Work with normative aspects	Demonstrations of legal activities not currently being used in transformation
Seek to transcend current thinking and approaches	Framework for Change
Take a multi-faceted approach to change	Template for change and bridging methodology
Acknowledge the value of alternative roles of researchers	Initiative-based learning
Encourage second-order experimentation and change	Niche engagement with regime
Be reflexive	Reflexivity process of the participatory action research: For the actions of the framework for change process as PAR: review actions, change course, and begin again For the research: goals of the research, ethics and power issues of data collection, and anonymity issues of participatory action research. For the researcher: relationship, issues, and power struggles between the researcher and participants; the researcher and

	charity organisation; and the charity organisation and local group participants. For the Grassroots initiative and grassroots movement: interactions, hierarchies, power struggles, structure, and formalisation.
--	--

4.1.5 Summary of initiative-based learning and socio-technical transitions methods

There are numerous theories for institutions, transitions, infrastructure, and grassroots movements that could be used to support this study. None offer the comprehensiveness and grounding that participatory action research does in understanding the barriers that exist, being able to adapt to real-time learnings, and that allow for the activist researcher. Having an integrated framework that bridges approaches can assist the legitimacy challenge of transitions management by recognising the importance of capacity-building and grassroots empowerment, potential for new governance forms, and intermediation problems of transitions management (Wolfram & Frantzeskaki, 2016). Socio-technical transitions analysis can provide a theory with which to understand the system and assist in providing quantifiable data, power relations, and other data for the action research cycles to view the barriers. The grounding of this research however starts from the activist researcher perspective. Exploring these things are unlikely to present a great unifying theory, however, it will develop aspects of each transitions theory broadly within urban studies and system change. Ultimately, participatory action research can be used as to understand the barriers grassroots movements as a niche, or subaltern, regime face in institutional changes towards sustainable cities, and their role in urban studies and system change theories. Providing an activist research project within bridging framework provides a case study that will assist socio-technical transitions theory development for sustainable cities (Geels & Schot, 2007b; Turnheim et al., 2015).

4.2 Theoretical framing of the bridging methodology for participatory action research with grassroots movements

The bridging methodology adapted from Turnheim et al. (2015) is the theoretical framework on ways to bridge approaches to address governance challenges (i.e. the institutional barriers, regime inertia, or path dependencies) faced in creating sustainable transitions (Turnheim et al., 2015). Turnheim et al framework bridged three approaches in transitions research: initiative-based learning (Approach A), socio-technical analysis (Approach B), and quantitative systems

modelling (Approach C). This research utilized the concept of the three layer integration and adapted to reflect key aspects of the grassroots movements and their volunteer capacity. It keeps two approaches fairly consistent with the original methodology, Approach A (initiative-based learning) and Approach B (socio-technical analysis), however, Approach C (quantitative systems modelling) is altered significantly. The adaptation of Approach C in the framework was necessary given how quantitative systems modelling is performed, who the initiative is (e.g. volunteer actors in a grassroots initiative), and the framework for change requirement that anyone could do it. Approach C therefore became citizen science which could produce quantitative outputs.

Section 4.2.1 describes the framework for the bridging methodology, the three approaches, and defines the concepts and typologies for integrating the approaches together.

Section 4.2.2 discusses the integration of the bridging framework between the three layers as an integrative and cyclical process to inform further analysis and inputs of the other approaches and goals or scope of the project.

4.2.1 Approaches of the bridging methodology

The bridging methodology aims to integrate a variety of phenomenon, actors, scales, and data through a linked analysis and iterative processes (Turnheim 2015). The bridging methodology It provides a distinct way of researching three distinct transition areas and integrate them.

Figure 11, shows the three approaches and the interaction of different aspect of the transitions: scale, typology, concepts or desires.

Approaches B and C are the stronger transition elements of this integration, relating to the institutional and path dependency changes of the regime that will lead to changes in the urban systems by the niche (Geels & Schot, 2007b). Approach A is the direct engagement with the grassroots movement, a competing niche within the transition. Here as an activist, I am an insider participating in the movement, though in section 4.6 I discuss the issues arising from the multiple roles. Approach A is grounded in participatory action research; it does not consider the knowledge of theories to be fixed, but supports the understanding that participants create their own knowledge and understanding of the system they are in (Shove & Walker, 2007), thus realising opportunities to overcome barriers and accelerate transitions. These three levels are integrated throughout the project. They are constantly integrated and feed back to the

initiative. This create a synergy to explore the issues and relationship between practice to theory and theory to practice. The theory of transitions with the practicalities of having a transition.

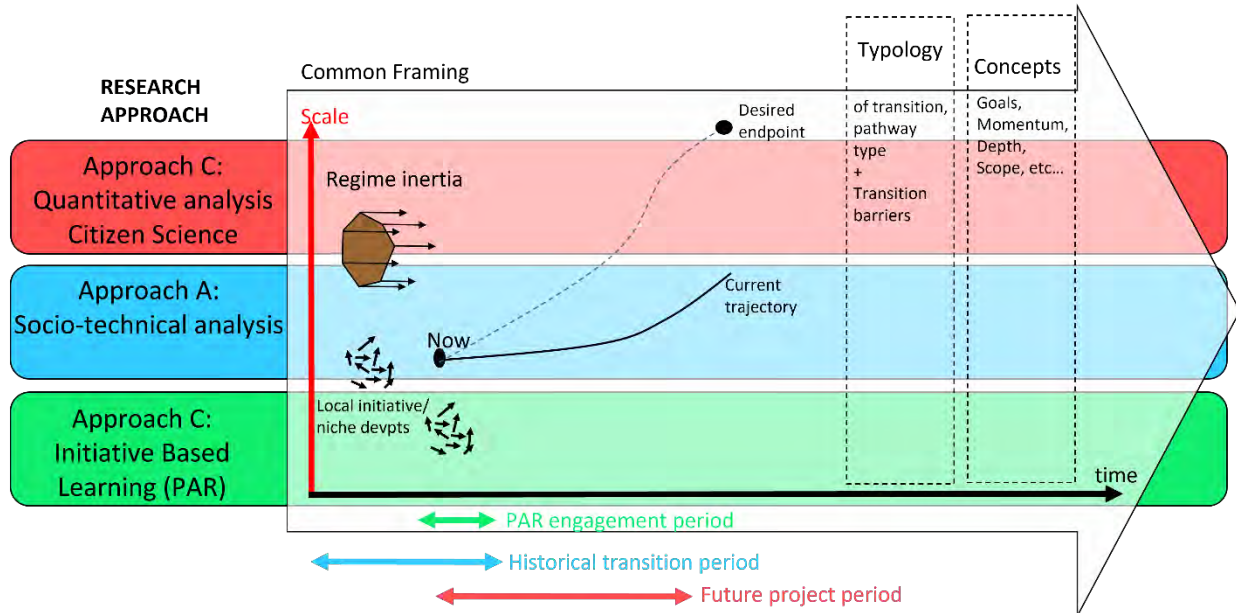


Figure 11 Bridging Methodology Theoretical Framework (Adapted from Turnheim et al 2015)

Typologies and Concepts of the Bridging methodology

Before discussing the three approaches in more detail, it is necessary to understand how typology and concepts are used to guide the focus of each approach and integration of the approaches. Typology and concepts connect these approaches and develop a narrative for the research.

Typology

The use of typology as described in socio-technical transition literature is problematic in this framework and understanding initiative-based learning in general. Typologies in socio-technical transitions rely on the past to predict the future, note how a transition has unfolded, or how actors have acted during a transition (Geels & Schot, 2007a; U. Jørgensen, 2012; Turnheim et al., 2015). Rutherford and Coutard explain the difficulties in typology development by noting that the urban energy transitions are not a ‘clear, homogeneous, singular, consensual pathway of socio-technical change toward a (more) sustainable urban energy configuration’ (Rutherford & Coutard, 2014). The main objective of this research is to understand the inertia of socio-technical transitions led by grassroots movements, i.e. the transition in motion. Typology

struggles to address a transition in motion. It is proposed that the modelling of different policy objectives in relation to the concepts can highlight existing transition barriers (e.g. labelled here as goal constraints). These can map the current trajectory and potential trajectories of different pathways to dominance (e.g. typologies). This quantitative mapping is a way that transition in motion insights on typologies can be formed. These insights can then be used to inform the interactions of the niche with the regime and landscape. Thus, the insights are part of the feedback loop between approaches A, B, and C. This is explored further in section 4.2.3 on quantitative modelling.

Concepts

Concepts are the things shared between the various approaches or that allow interactions between the groups, e.g. goal-setting, momentum, depth, and scope (Turnheim et al., 2015). Concepts are one way to link the three approaches and view their interactions. They also formed a fundamental piece of the Framework for Change for the grassroots groups. Tables 4 and 6 shows concepts in relation to data methods of approach a and b.

Goal setting is the 'orientation towards collective normative objectives' (Turnheim et al 2015, 248). Goal setting provides the context for communication and changes within the socio-technical system. In the Framework for Change, the grassroots group utilised visions, key asks and objectives to set goals. The goals in each group varied slightly but were generally around cycling being ubiquitous and safe for all ages and abilities.

Momentum is 'relative to inertia and incremental change in existing regimes' (Turnheim et al, 2015, 248). At the core of my research questions is momentum and understanding how we can increase the momentum of the goals desired. It relates directly to the transition in motion.

Depth refers to the 'degree of radicality of system change' (Turnheim et al, 2015, 248). How radical is cycling? Cycling is less of a technological shift in that is not a new technology, it requires relatively little infrastructure, and can be achieved by removal of cars from a road. However, in the UK and London context it is a fairly radical reorganising of the way we use cities, in addition to the social and behaviour changes required for cycling to be dominant in the landscape.

Scope is the 'number of dimensions that change in socio-technical systems' (Turnheim et al, 2015, 248). Dimensions could be related to a focus of the niche and goals of the groups, for

example targeted interventions to create an acceleration. With respect to cycling infrastructure, there are a few potential dimensions that are likely to change within the socio-technical system. The list is not exhaustive, but as discussion points that the group could focus on for areas of engagement and opportunity. This includes:

- Road space allocation
- Parking requirements, policy and infrastructure
- Manufacturing
- Employment and maintenance – lack of skills, training, and local businesses to provide maintenance for cycles.
- Knowledge of individuals about cycling benefits or knowledge of individuals in relation to how to cycle
- Culture

A concept not described in Turnheim et al 2015, but important to this research is goal constraints. Goal constraints would be orientated against the collective normative objectives. Here they are representative of the barriers, oppositional forces, or micro-decelerations against the goals of the grassroots groups.

Initiative-based learning – Grassroots initiatives and participatory action research

Approach A engages in real-world initiatives that engage with or are some aspect of the socio-technical transition. Chapters 2 and 3 presented different types of initiatives and methods for engagement with them and learning: participatory action research with a researcher and grassroots organisations who are both activists. The direct engagement is with the grassroots movements, the niche in transitions. The goals of the group are the initial focal point of the transitions analysis and influence research areas of approaches B and C. The attention is on the local level, i.e. the grassroots movements' local groups and their ability to actually implement the changes. In this integration there are two roles at play, the researcher and the activist. Approaches B and C represent the typical role of the researcher undertaking socio-technical analysis and quantitative systems modelling. As an insider, the researcher is seeing interactions of groups, meetings with the local institutions, policy documents, and other materials not necessarily publicly available. This will allow observations of actor-relevant dimensions (Turnheim et al., 2015). For example, how is the group perceived by the local government? Do they have other organisational partners in the community? How does the local place-based community feel about their movement and its goals? What is the culture in the media surrounding their initiative? These questions relate to the behaviour, legitimacy, learning,

inclusion, etcetera of the group (Turnheim et al., 2015). Approach A allows immediate relevance to stakeholders and practitioners (Turnheim et al., 2015), therefore the researcher engagement and learnings can be readily communicated and acted upon. This goes to the cyclical nature of action research and innovation more broadly, e.g. Plan, Do, Check, Act. Lastly, any policy advice is rooted in practice. It benefits by being deeply engaged in the planning process (Webb et al., 2018; Wolfram & Frantzeskaki, 2016), and the learnings are rooted in observations and backed up by empirical qualitative or quantitative data.

Table 3 Key concepts and evaluations to inform across approaches (Author)

Approach A – key concepts and evaluations to inform across approaches (BM= bridging methodology)	
Initiative based learning	Relationship to Theory
Goals of grassroots Movement	Goal-setting (BM concept)
Relationship to local volunteer groups	Ethical and power relationships
Relationship to institutional groups	Niche-regime interaction
Cycling/active transport	Grassroots initiative
Activist resources available	Constraints

Socio-technical analysis

Socio-technical analysis examines multiple dimensions including the roles of actors, scales, power, politics, and landscape in affecting the transition (Geels, 2004; Geels & Schot, 2007b; Smith, Stirling, & Berkhout, 2005; Turnheim et al., 2015). Socio-technical analysis examines the inertia of the regime and the niche and regime relationship in a historical context (see Figure 5). This can highlight the policy and power links between the regime and indicate changes over time in their relationship. The analysis of institutions and changing the ‘rules of the game’, and inertia of existing systems (e.g. path dependency). Path dependency in literature and other case studies can examine how transportation

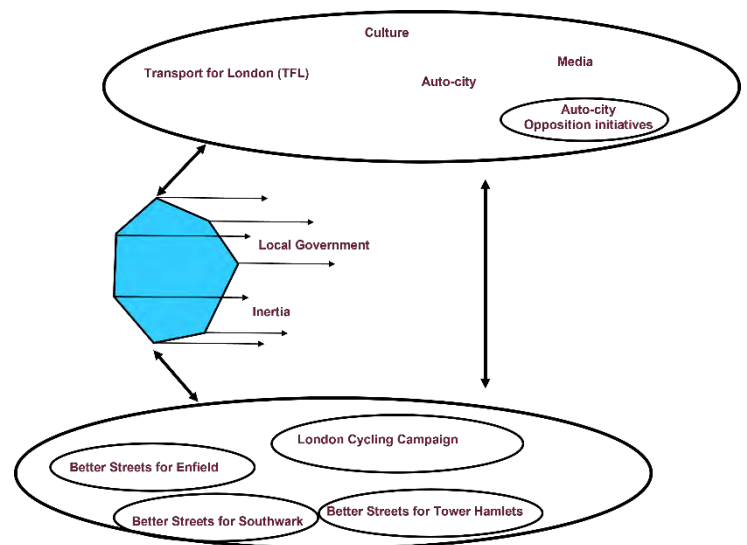


Figure 12 Example of niche, regime and landscape interactions (Author)

budgets, highway codes, and other systems make it difficult to challenge the private motor vehicle paradigm in the landscape. This background knowledge helps with communicating with the grassroots movement.

Table 4 Approach B – key concepts and evaluations to inform across approaches in relation to action research and socio-technical transitions (Author)

Approach B – key concepts and evaluations to inform across approaches in relation to action research and socio-technical transitions (BM= bridging methodology)	
Approach B	Relationship to theory
Goals of local government	Goal-setting (BM concept)
Interactions across actors and scales	Actor-networks
Cycling/transport council policy review	Historical framing and identification of pathway typology
Infrastructure implementation processes	Path dependency
London cycling campaign history	Socio-technical analysis of niche and intermediary
Organisational structure	Socio-technical analysis of niche

Citizen Science and Quantitative analysis

Quantitative systems modelling provides a highly organized way to view complex systems, however provides “oversimplification of social realities, little attention to actors and behaviors (politics, power struggles, beliefs, strategies) [and] limited attention to implementation process” (Turnhiem et al 2015, pg244). It can model the transport policies of relevant institutions and the movements themselves, calculating the effect if implemented on transitions and the required physical infrastructure changes (Turnheim et al., 2015). The quantitative systems model though requires specialist software, highly trained individuals, and the data inputs to deliver. The capability of grassroots groups to deliver quantitative systems modelling is limited and unrealistic. It became evident that this element of Turnhiem original bridging framework was unrealistic for grassroots initiatives. This was for multiple reasons. Firstly, this did not fit in with the Framework for Change, i.e. that anyone could do this to accelerate the transformation desired. Local groups are focused on the short term, have limited time (volunteers), lack access to complete data sets, and may not have the skills for the analysis required. Secondly, it would have required more time from me and specialized software which

was not possible due to the number of groups, meetings, other work commitments, and family support.

The use of quantitative data through citizen science was an opportunity to adapt the bridging methodology to better suit grassroots initiatives. Turnheim et al. discuss the integration of the three levels but note conflict with their own framework: 'an obvious epistemic problem is that once projections are made, reflexive actors will tend to change their behaviour in response to them' (Turnheim et al., 2015, 243). In participatory action research reflexive actors and behaviour is a positive. They can utilize the information in the action research process and understand if those projections will positively create tipping points. Quantitative analysis allows for inputs into the initiative by citizen science to create a story. The use of citizen science to do this allows for deeper engagement by the volunteers which may overcome power relations, highlight local contexts and mobilise resources (Huttunen et al 2022).

4.2.2 Integrating the Bridging Framework for research and analysis

The bridging framework provides the theoretical framing for viewing transitions and action research is the method for collecting data and engaging with the grassroots initiatives and the grassroots movements. The adaptation of the bridging methodology for this research focuses heavily on the transition in motion, micro-level issues of socio-technical transitions, and impacts of power or knowledge transfer to grassroots groups. My research focused on using participatory action research as the initiative-based learning, with non-state actors, e.g. volunteer cycling grassroots initiatives, a social practice-based niche. In contrast to the earlier bridging methodologies discussed, the initiative learns in real time from research, and theories of approaches B and C regularly integrating and feeding into the understanding of the others. The Framework for Change was a tool for the groups to engage with action learning. Figure 12 adapts Turnheim et al.'s representative image of linking analysis for integrative bridging methodology. In this adaptation there are differences in addition to the text changes. Approaches B and C are the stronger transition elements of this integration, related to the institutional and path dependency changes of the regime that will lead to changes in the urban systems by the niche (Geels & Schot, 2007b).

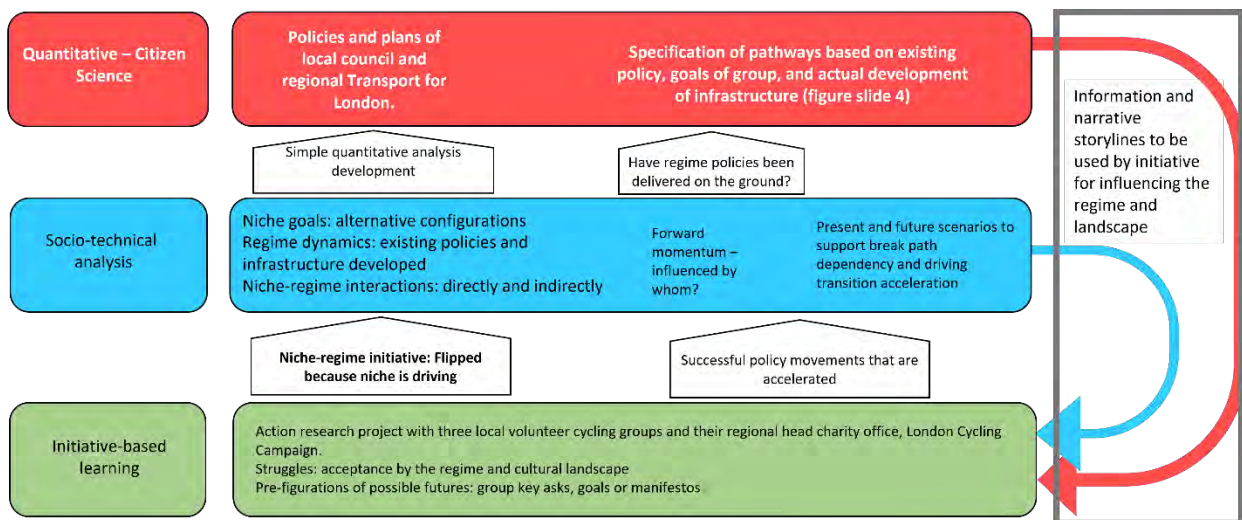


Figure 13 Integrating the bridging methodology analysis (adapted Turnhiem et al)

Firstly, it flips the arrow of the niche-regime initiative interaction with the niche leading the regime interaction as an additional driver. Secondly, it removes the development supporting narrative storylines arrow box from the quantitative to the socio-technical analysis. Instead, my version, creates a loop from approach C and approach B to approach A as an information feedback loop that the initiative can use for storylines that will be used to influence the regime and landscape. Thirdly, it removes the timeline and treats the bridging analysis through a participatory action project, e.g. the present, even though it utilises information from the past and the group's potential future.

4.3 Data collection as part of the bridging methodology approaches

4.3.1 Data opportunities for initiative-based learning, with grassroots initiatives

The initiative-based learning utilizes participatory action research. This is a primarily qualitative approach based on observations applying an ethnographic approach. Table 4 provides a summary table of the data collection and input into the bridging framework. The initial engagement involved my attending their meetings and joining their email conversations. This helped to understand where each group was, what they were doing on a daily, weekly, and monthly basis. How they operated socially as a group, were they cohesive or were there tensions in the group? It also allowed me to understand how the changes that I had requested the group undertake were working and if these had impacts. The informality of many of our interactions caused difficulty in evaluating the effectiveness.

Table 5 Data collection and input into research learnings and bridging framework

Data	Input into research learnings and bridging framework	Reference ID and collection method
<p>Written Journal</p> <ul style="list-style-type: none"> ▪ Observations during meetings with local groups, government and others ▪ Thoughts related to research 	<ul style="list-style-type: none"> ▪ Perceptions of the local group ▪ Relationships and interacts between the local groups and their local government counterpart ▪ Use of language between the niche and regime ▪ Reflexivity of researcher role in the initiative 	<p>Journal dates are noted as the date the observation took place. Day/month/year</p>
<p>Emails</p> <ul style="list-style-type: none"> ▪ Emails from and to the local group with myself ▪ Emails from and to the local group with the local council 	<ul style="list-style-type: none"> ▪ Use of language between the niche and regime. ▪ Communication tools used 	<p>Email dates are noted as the day/month/year and the group the email was pertaining too.</p>
<p>Council cycling work group meetings</p>	<p>Interactions between niche and regime</p>	<p>These are noted as Event ID (Appendix I)</p>

<p>Demonstration days</p> <ul style="list-style-type: none"> ▪ Survey feedback from demonstration days ▪ Observations from demonstration ▪ Strategy and engagement with local government for engagement days 	<ul style="list-style-type: none"> ▪ Quantitative research ▪ Perceptions from the community ▪ Regimes wiliness to engage with niche innovations and trials 	<p>Demonstrations days have a survey noted as the Event Name_Survey. Observations are noted through the PAR_Survey_ID. Strategy and engagement is primarily noted as email dates and group.</p>
<p>Survey regarding campaigning from the LCC local group survey</p>	<p>Intermediary, niche, and grassroots interactions as an organisation</p>	<p>Data from here is noted as LCC_local group survey. It needed to aggregated so doesn't include an identifier.</p>
<p>Qualitative and quantitative Survey feedback on the action research process</p>	<p>Reflective feedback of the initiative and the action research process</p>	<p>Noted as PAR_Survey ID_# and question #</p>
<p>Monthly meetings with local group</p>	<p>Interactions between individuals of the grassroots movements</p>	<p>Email Day/Month/Year; or Journal Day/Month/Year</p>
<p>Workshops with local group</p>	<p>Upskilling, knowledge sharing, niche empowerment</p>	<p>Email Day/Month/Year; or Journal Day/Month/Year; or PAR_Survey ID_# and question #</p>
<p>Council working group meetings</p>	<p>Interactions between local government (regime) and the initiative (niche)</p>	<p>Email Day/Month/Year; or Journal Day/Month/Year; or PAR_Survey ID_# and question #</p>

4.3.2 Data opportunities for socio-technical analysis - linking to the broader transition system

The analysis of the social and technical elements of the transition is important to the feedback loop to grassroots movements. This incorporates a number of socio-technical analyses that can be employed through the bridging methodology. It aims to understand the political, organisation, and path dependent features that the grassroots initiative sits in. It speaks to the analysis of institutions and changing the 'rules of the game', and inertia of existing systems (e.g. path dependency). This data collected for the socio-technical analysis examines actors, power, and politics. The data analysis identifies intermediaries and other elements that influence regime dynamics including identifying path dependency issues. It looks at the organizational structure of the grassroots movements and interactions with the grassroots initiative. The initiative is used to learn about socio-technical analysis, and supports the feedback loop of the bridging methodology and information sharing from me, as the researcher, to the initiative. Can what you found during the analysis of these items facilitate learning and new pathways of engagement to the local groups? This is where the researcher in you performs and shares back with the grassroots groups. There is attention to different levels and temporalities. For example, doing a past history review of cycling in London. What are the policy and power links between regimes?

Council cycling working group meetings

I attended the Council's cycling working group meetings for all three local groups (Tower Hamlets, Enfield, and Southwark). This provided observational analysis of interactions, including power dynamics, and show meeting development against policy goals and the time it takes for the Council to perform functions it has agreed to in meetings.

Organisational structure

Organisational structures are a key featuring of understanding how local governments develop and design transport infrastructure, the power relationships in councils, and opportunities to engage from outside the government structure. The organisational structure of the London Cycling Campaign, local governments (Tower Hamlets, Southwark, and Enfield), Transport for London, and Department for Transport have been explored and communicated. The research provides a high-level view of actor analysis of those involved in cycling policy and implementation. It incorporates this into the framework discussion.

4.3.3 Citizen Science and quantitative measurements

There were three proposed methods for integration into the Framework for Change; all supported by citizen science. They were presented to the group as actions during the participatory action research project. The first was a simplified quantitative analysis to understand pathways and infrastructure change. The second was an analysis of budget spent on walking and cycling. The third was to use quantitative surveys and local data to inform local stories and local council decision making. The participating groups engaged to various extents with the three quantitative methods. In the first quantitative analysis (figure 13) groups would analyse the infrastructure or policy changes.

The first is the actual implementation – assumed to be less progressive than the actual policy or grassroots movements. The second is the policy of the institution. The third is the grassroots movements' goal(s). This highlights what is the difference over time, what is the trajectory of the current pathway (one potential typology pathway).

Variables Potential
distance/time
££/distance
CBA (benefits)

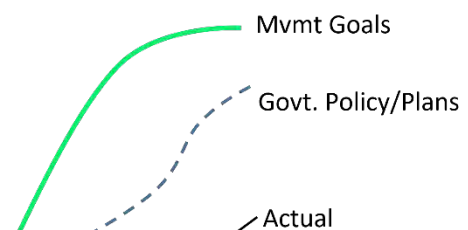


Figure 14 Quantitative measurement of goals and pathways of transition (Author)

This speaks to the ability to calculate effects of policy options on transition pathways, and links policy goals to required physical changes over time. For example, based on the goals of the group and key asks, the simple analysis developed would look at three things: (1) the distance of cycleways delivered over time, (2) the money spent per mile delivered, (3) cost-benefit analysis based on an open-source tool. The second quantitative analysis could identify the budget of all funds spent on walking and cycling in the local government area. The goal of a simplified framework was to enable the groups to be able to complete a quantitative process as above to then be utilised back into the initiative and socio-political discourse. For example, if you model the actual budget spent on cycling and walking infrastructure vs the policy goals. What is the difference over time? What is the trajectory and how does it relate to typology? These questions affect the ability to calculate effects of policy options on transition pathways, and link policy goals to required physical changes over time. It provides robust and highly formalised research methods through quantitative analysis. Now using this information it can be shared back into the grassroots groups for use in the campaign. The third method of quantitative analysis involved identified with the groups what data they could access, what events they were doing, what key problems they had, what information they disagreed with local government regarding, and areas of interest for the group. This identified a number of survey opportunities for the different groups.

The workshops and meeting provided opportunities to integrate quantitative elements into the research. The participating groups were offered the opportunity to engage with the quantitative data collection. The level of engagement dictated the utilization of a quantitative method. The ability of grassroots movements and the researcher to use quantitative data to link into the analysis of the transition is important. This occurs across number of areas. First, the information and narrative storylines to be used by initiative for influencing the regime and landscape. The second it allows grassroots engagement of policies and plans of local council. Third the goals of the group can be analysed towards actual development of infrastructure.

Data collection as part of approach C

Data was collected as a researcher and with local groups. The groups responded to the use of citizen science and quantitative methods in different ways. The below describes the quantitative data collected during the process.

Local groups survey

The London Cycling Campaign undertook a survey of all local groups in London (32) to understand the demographics of the groups, number of meetings, safeguarding, their interactions and engagement with councils, types of events the groups run, tools and methods used for communicating to local group volunteers, support required from LCC. The evidence from the survey was utilised to feedback on actions the organisation was taking, to inform on potential actions the organisation could take, how to better support the group, and which elements of the Framework for Change were most useful. This survey was developed in partnership with the campaigns manager and me, evidence of PAR and co-creation.

4.3.4 Summary of data collected and analysis inputs

The analysis of the data and research process utilised a combined approach. It took the bridging framework as a theoretical understanding of data across the three levels and used the auto-ethnographic approach as a tool of self-reflection for me. The three levels are analysed both separately and as interrelated parts. Initiative-based learning, e.g. action research, is a case study approach and identification of how those case groups utilised the Framework for Change I developed as a co-creation exercise, and how the other two layers were incorporated into the framework continuously. The socio-technical analysis layer was analysed through what impacts the cases had in enabling niche, regime, and landscape changes. We utilised citizen science to incorporate quantitative measurements, ideation of quantitative policy changes, and visual tracking.

The primary data collection spanned a three-and-a-half-year period from January 2018 to June 2021 with the significant period of intense engagement with the cases occurring from November 2018 to November 2020. The secondary data collection related to policy and media occurred over the period June 2017 to October 2021. The data collected consists of over 1000 hours of direct field participation with the three case study groups, London Cycling Campaign, and ancillary groups that engaged with the research through the first two. Chapter 5 discusses in further detail on individual group engagement, their response to the engagement with Framework for Change process, and how their local councils responded to my doctoral research and working with the local groups.

The previous sections (4.2) provided an overview of the potential data that could be collected during the participatory action research project and key data points. Table 9 shows an estimate of the number of interactions in total for the groups, further breakdown for each case group is noted in Chapter 5, 6, and appendices. This provides the basis for the discussion and analysis chapters.

Table 6 Observations counts and activities (Author)

Activity/Event	Observations	Activity/Event	Observations
Local group meetings	Over 100	Local group forum	8 quarterly forums
Local group workshops	10	Campaigners and Active members Committee	4 committees Over 40 active members
Local group events	8	Policy forum	10+
Local group emails	Over 3000	Campaigners Conference	2 conferences
Local group phone calls	Regular weekly phone calls	LCC local group survey	3 years (2018, 2019, 2020)
Local group texts	Regular weekly texts (WhatsApp or SMS)	Local group reflection survey	16 responses
Council cycle/active transport stakeholder or working meetings	20+	Notes and diary	Over 100 entries
Council forums or events	12+	Creation of framework materials	100+ Flyers, images, presentations
Council meetings – other	10+	Social media	Twitter feeds, slack, etc.

Interviews

Formal interviews were not conducted during this research. Local government interviews were considered early in the process, however, after reflecting on the ethics and dual roles of activist research they were not undertaken (see Chapter 8 for further information). Instead informal interviews were undertaken throughout the PAR including individual meetings with councillors or council staff; the notes were captured through journal notes. Further, given the in-depth

working relationship, we did not have formal interviews but numerous informal interviews regarding the process. The qualitative survey at the end of the process was meant to replace formal interviews that would have otherwise occurred, this was in part due to COVID and me and my family having to return to Australia thus finishing through digital means.

There is support for not utilising formal interviews. A study on energy retrofits utilising a historical and ethnographic approach compared interviews to ethnography highlighting differences in information. The study noted ‘interviews are better suited for capturing experiences with intermediaries (i.e., intermediation has taken place but failed or succeeded) whereas ethnography better captures the difficulty and uncertainty of finding and choosing suitable actors in the marketplace (i.e. intermediation is in the making)’ (Murto, 2020, 411–412). This research focuses on the later thus providing further support for not including interviews with the councils during the project. Future research should consider interviewing councillors and council staff as a retrospective view on the movement further down the road.

Qualitative Surveys

The final PAR survey, the reflection survey, sought to understand the overall impact that our working together had, as well as participants’ views of the Framework for Change process and myself as a PAR researcher. The reflection survey was given to the group at the end of our working together so that I could understand a bit more their perceptions of our working together. This aimed to see the overall experience of the members, changes they identified, key things that did not work, and provide an opportunity for feedback on the whole process including myself as a researcher and facilitator. In June 2020, 16 members from the three local groups responded to a reflection survey about working with me in the action research project. The unedited and full response can be found in Appendix E. Throughout Chapters 6 and 7 quotes and notes from the reflection survey are provided as evidence of the Framework for Change process.

The respondents were either part of one group or of both groups, i.e. Better Streets group for their borough and their local LCC group. Southwark did not yet have a Better Streets group at the time of the survey only Southwark Cyclists. In the other two boroughs, Tower Hamlets had 66% of their respondents in both groups and 33% in Tower Hamlets Wheelers only; Enfield had 50% in both groups and 25% in Enfield Cycling Campaign only and 25% in the Better Streets

group only. Individuals got involved in the local groups for different reasons. The answers for initially joining included infrastructure (6 respondents), social reasons (4), they were using cycling as a transport mode and wanted to share in community (3), Mini Holland starting in the local area then wanting to make it safer or engage in consultations (2), visit to the Netherlands (1), and wanted to use bike workshop (1). Those that joined for social reasons or for non-infrastructure campaign reasons eventually became more active. Those reasons included wanting safe, friendly cycling, getting involved in community cycle training projects, a cyclist's death, or a home-owner in the local area. This echoes what I generally experienced in the local groups. The underlying reasons were wanting to participate in the cycling community or for a better cycling community.

Multi-media and materials development

This project has created many resources that were used during the research and after, and has been open sourced to all London Cycling Campaign groups, as well as other grassroots movements. These are noted in the appendices and throughout Chapters 6 and 7.

Researcher and council engagement

The groups requested that I be allowed to attend standing and ad-hoc meetings with the council staff and councillors. We informed them that I was a doctoral researcher working with them and my research aims. The councils, for their part, accepted my presence and occasionally used my expertise by asking my opinion during meetings. For example, 'What research is there on infrastructure and air pollution reduction schemes' or 'What do you think about this particular plan?' I always gave the answer I thought was most correct, and this did generally align with the local groups. My work and research experience, and policy and procedural understanding, was easier to translate into a council perspective. The council staff also sometimes looked to me during meetings to assist with disagreements or identify compromises forward. The difficulty in not signing a participation agreement with the councils was that I couldn't question them afterwards or discuss different tactics. I was very much on the side of the activists and there to support them and do research with them. Chapter 8 covers the ethical implications of this position and the decision not to interview.

For example, Southwark have an agreed upon council advisory group which meets every few months. It was agreed that I would attend these meetings as an observer and would notify the

Council of my position as a researcher. Enfield's local group does not have a regular standing meeting with council staff, but do regularly engage through emails or one-to-one meetings. Tower Hamlets' group have an agreed upon council advisory group which meets every few months. The group and I discussed my attendance, we agreed that I would attend these meetings as an observer and would notify the Council of my position as a researcher with the group. The Council agreed to my attendance and included me in their meetings and emails to the groups. The council meetings were irregular despite them needing to be quarterly or bi-monthly.

4.4 Framework for Change – a template for grassroots campaigns

The research proposal and key questions changed significantly when co-creating participation goals and developing the Framework for Change. Bridging methodology approaches are typically utilised only by researchers. In this framework the grassroots groups utilise, create, and practice within those elements a simplified practical understanding to enable diffusion of their niche. They must understand transitions and how they could become more effective at accelerating the transition and engaging with the regime and landscape changes. The Framework for Change (figure 15) was developed to engage with the grassroots groups and test how the niche diffusion can accelerate and grassroots movements can build skills to engage with transitions.

The initial step was to observe the groups, which is partly how I identified that the support needed would be the Framework for Change. The observations reminded me that everyone needed to understand how to participate in a transition, governmental frameworks, and the cultural and political landscapes. These needed to be translated into a simpler tool that could be used regardless of skill or background. I developed a basic template (or framework) to communicate to the groups the key elements needed for an effective campaign and navigating the structural barriers embedded within government. Taking my previous work in Australia, readings from the socio-technical literature, and understanding the basic elements of grassroots initiatives, this framework attempted to communicate it in a way that anyone could understand regardless of their background. Perhaps it could be used by sustainability niches for quicker change? It was used as a guide to deliver the workshops, guide the groups on the key elements needed for effective change, and focus the grassroots initiatives' energy and

engagement, thereby enabling them to engage with councils in a different way than they had done historically. The ultimate goal being to speed up the transformation that is being undertaken.

The Framework for Change was the idea of how community groups could become more effective through strategic campaigning and understanding the theories presented in literature but for anyone of any education or background. It was to link grassroots activism with the understanding of government frameworks. These ideas were built from personal experience as a campaigner, in particular, my work as the Chair of the CycleSafe Network, learnings from the Centre for Sustainability Leadership systems thinking, and my Master's degree learnings on life cycle analysis. Systems thinking enables understanding of the ecosystem that the active transport resides in. Life cycle analysis enables thinking about how to value the whole and all the impacts of the delivery of the infrastructure or policy changes enacted. Active travel research suffers from having life cycle analysis that are difficult to cost due to the wide-ranging benefits that are not easily quantified.

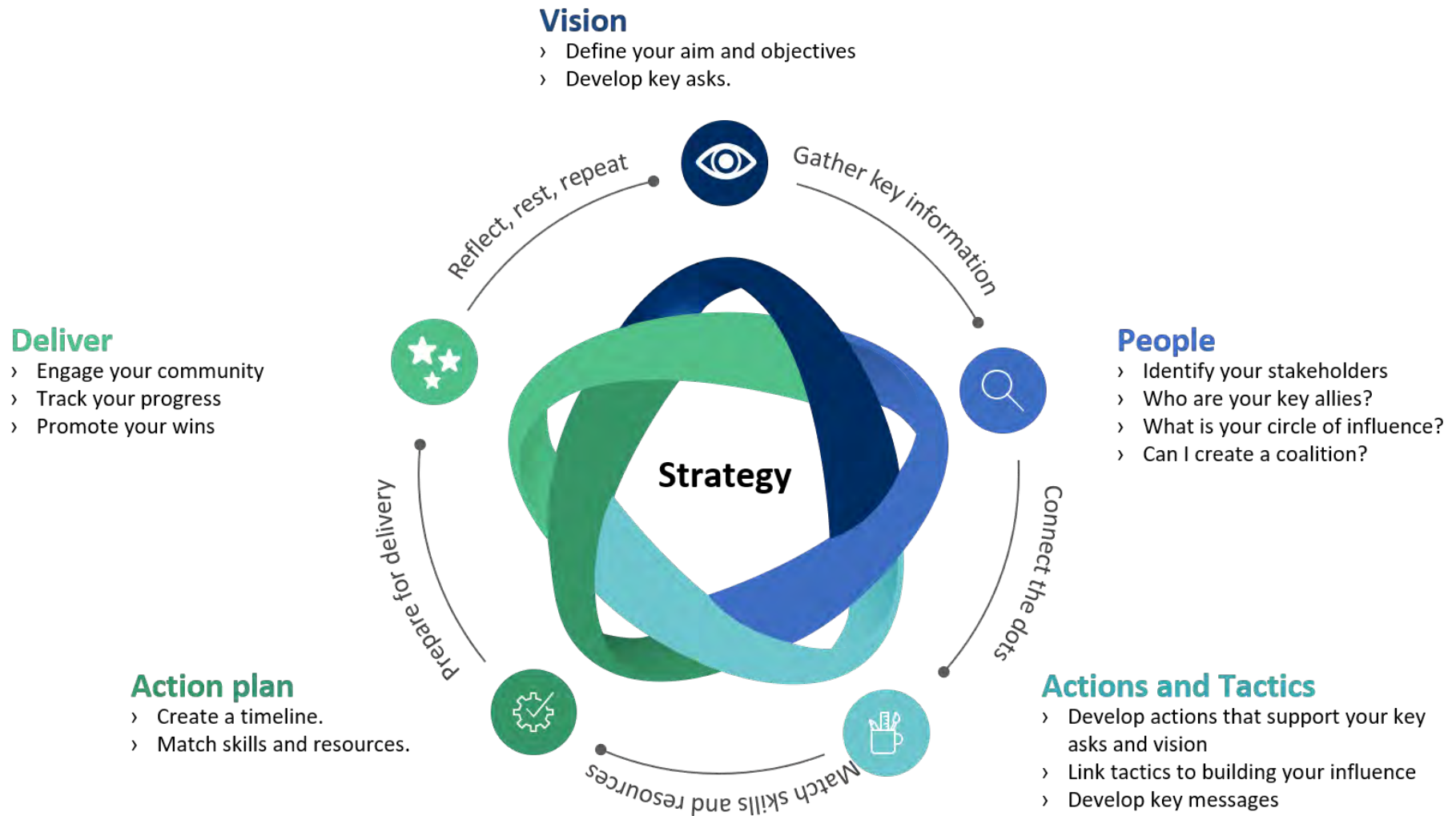


Figure 15 Framework for Change (Author 2018)

4.4.1 Integrating the bridging process, the Framework for Change, and participatory action research

Developing the Framework for Change and the tools for the local groups pulled together thoughts, experiences, and academic research into a coherent campaign tool that could be used by anyone. It connects specifics from the bridging methodology research discussed in Chapters 2, 3, and 4 and my own experiences. It was created with the idea of how grassroots groups or activists might accelerate sustainability transitions and how it relates to socio-technical transitions. Table 8 describes how all these are linked together.

Column 1: 'Framework for change element' lists the tool or action that we used in the framework for change.

Column 2: 'Research translation and learning' describes in additional detail what we are trying to learn or sub-actions of column 1. It represented the brief explanation provided to groups on how or why to achieve the 'column 1' action. Further some research concepts are not accessible or early understood by all, this column highlights how I aimed to provide a translation from theoretical and academic research to a practical everyday understanding.

Column 3: Provides details on the particular theoretical concept, relationship to bridging framework, where the concept for column 2 and 1 came from.

Column 4: Describes the source where the previous columns came from. In some instances it was not a specific academic reference or personal time that could be identified, but rather my experiences and work as a long-time activist in sustainability and transport issues.

Column 5: Describes how column 2 was completed.

Column 6: Describes how column 2 was communicated to other actors.

Column 7: Who performed the activity listed in column 2. For items listed group the researcher was a part of this.

Table 7 Integrated table of Framework for Change and its socio-technical equivalents (Author)

Framework for Change element	Research translation and learning	Theoretical concept or relationship to bridging framework	Source	How it was completed	How it was communicated to other actors	Who performed activity
Vision	Simple goal that can engage multiple partners and provide a frame. Similar to technological niches and business vision statements. It is the goal for the group to measure the pathway against.	Typology, pathway	Turnheim et al. 2015	Workshop, meetings	Media	Group
Define your aim and objectives	Ability to measure quantitatively	Quantitative modelling	Author	Workshop	Key asks	Group
	Relates to 'goal-setting' – how coalitions can join the niche, connects to policy	Concepts of BM	Turnheim et al 2015	Workshop, meetings	N/A	Group
Develop key asks	Communication to other actors			Workshop	Website, Social Media, Meetings with other actors	Group
	Relationship to policy changes			Researcher		
	What we want to change	Depth and Scope of BM	Turnheim et al. 2015	Workshop, meetings		
Gather key information	Understanding the structure of council	Local government policy analysis (socio-technical analysis)	General sociotechnical research	Individual activity, My research	N/A	Researcher
	Organisations who are local	Circle of influence	Author	Emails	N/A	Group
Identify your stakeholders	Who can enable the change within council?	Actors in a socio-technical transition. Socio-technical analysis (Approach B).	Geels 2012	My research	N/A	Researcher
	Other local businesses who have key influences with councils	Bureaucratic power	McTigue et al. 2020	Workshop	N/A	Group
	Who are the councillors and what are their special interest connections?	Characteristics of organisations	Author	Emails Monthly meeting	N/A	Individuals
	Are their council staff influencers?	Policy entrepreneurs	Weber 2017		N/A	Group

Framework for Change element	Research translation and learning	Theoretical concept or relationship to bridging framework	Source	How it was completed	How it was communicated to other actors	Who performed activity
Who are your key allies?	Who in the landscape can help influence the local government policy?	Policy entrepreneurs	Weber 2017	Coalitions Meetings Social Media	N/A	Group
What is your circle of influence?	Who do you know that may be able to support you? Who do you know that may know other people? For example local businesses	Actor network theory Circle of influence	Wittmayer et al 2017		N/A	Group
Can I create a coalition?	Connecting to intermediaries, creating a strong niche under one vision, goal and narrative.	Narratives of change	Wittmayer et al 2019		Meetings Emails	Group
How to engage with opposition and others?	Understanding the viewpoints of those who are not allies	Empathy mapping	Gray 2009	Workshop and emails	N/A	Group
Connect the dots	Thinking about the previous elements and sections and identify intersecting points that could amplify potential areas.	N/A	Author	Workshop, meetings, and emails	N/A	Group
Develop actions that support your key asks and visions	Prototypes that can be understood by the landscape and other actors	Under the socio-technical opportunities, e.g. policy areas that may be readily adaptable	General sociotechnical research	Workshop, meetings, and emails	N/A	Group
Link tactics to building your influence	How to engage that broad coalition so they engage on the niche's behalf	Relates to pressure on regime	General sociotechnical research	Workshop, meetings, and emails	N/A	Group
Develop key messages	Key asks that can be measured	Developing normative features that are easily understood	Author	Workshops	Meetings, social media, print media	Group

Framework for Change element	Research translation and learning	Theoretical concept or relationship to bridging framework	Source	How it was completed	How it was communicated to other actors	Who performed activity
Action Plan and Create a timeline	This idea came from the scrum masters, innovations, hackathons, and previous experience of volunteer burnout.	Part of iterative process Scrum 'sprints'	Author	Workshops Meetings	N/A	Group
	A short burst built around simple actions/tactics to drive the acceleration forward.	Gesalt Theory				
Match skills and resources	This relates to available time of volunteers to run a grassroots campaign.	Availability of resources	Author	Workshops Meetings	N/A	Group
	Skills could be anything. Too many of the groups were focused on urban design or things they didn't have rather than exploiting the professional or personal skills they did have. These were likely easily deployable and better use of time spent on the acceleration/delivery rather direct focus on upskilling.	N/A	Author	Workshops Meetings	N/A	Group
Deliver and Engage your community	Demonstration days, online activities	N/A	Author	Demonstrations Media	N/A	Group
Track your progress	Measurement of progress	N/A	Author		Meetings, emails	
Promote your wins	Internal to keep volunteer momentum up	N/A	Author	Workshops Meetings	N/A	
Reflect, rest, repeat	Review the previous actions and learning so that they could be incorporated into the next model and actions	Looping between the three layers. – BM Reflexivity of second-order transitions. Innovation. Plan, Do, Check, Act.	Turnheim et al 2015 Fazey et al			
	Understanding of what is working to speed up the transition					

4.4.2 Facilitating the Framework for Change with the grassroots initiatives

The Framework for Change was communicated through the data collection methods listed in section 4.2.1, Approach A – initiative-based learning, but the main method for the detailed look at the framework was through workshops, meetings, emails and shared examples, then later the Campaigners' Handbook and Campaigners' Conference.

Workshops were to be held at regular intervals according to each group's journey, there were a minimum of three workshops per group for at least three hours each. Each workshop's goals were suggested by me and agreed with the group. The workshops were developed with my understanding of the Framework for Change, by our participation goals, suggestions based on my initial participant observations of the group meetings and emails, and an initial review of each council's area and policy. Broadly, the first workshop was developed to engage each group in thinking more strategically about their campaign and actions (as noted in the Framework for Change). Many of the actions and activities that each group undertook were not directly related to their goals in their manifesto. The workshop also included information and activities on how to leverage their volunteers' time, constraints, and political environment more effectively.

The initial workshops were initiated a few months after working with each group and attending their monthly meetings. This was to allow time to observe, develop relationships, and understand existing processes of each group. The initial workshops utilised Figure 15, Framework for Change. Each group determined when and where they would like to have their workshop (the university was offered as a location). Each group utilised locations that were convenient to their usual ways of working together (a house, a town hall, or their normal meeting location). During the workshop I took the role of facilitator and mentor. The workshop was guided by me to support the groups, and I would provide advice and guide them to achieving outcomes and decisions. This was often through encouragement rather than a decision making role, i.e. they had to decide the action and agree as a collective but I would offer my advice if they were stuck or needed an arbiter.

The goals of the first workshop(s) were to establish:

- Vision
- Goals of groups (e.g. key asks)
- Actions and tactics

- Action plan and timeline
- How to undertake a circle of influence? (with homework to do it in detail)

These goals were then focused based on feedback from each group.

The workshop(s) lasted for three hours including breaks. Workshops were used to communicate the Framework for Change. Workshops used their locations so they could run these in the future without me (e.g. not using the university and advanced technology with projectors). Workshops used materials that they would have access to or could purchase for a low cost. All the workshops that I completed were undertaken using tools and facilities that the groups themselves could access. This was key and would indicate how they could host and run their own versions in the future.

Appendix B shows the workshops' guides that were used with the three groups; each workshop guide was updated based on the previous workshop and focus of each group

4.4.3 Framing a more inclusive narrative – the case for Better Streets

In section 3.3.1, I described the marginalization of cycling and backlash to cycling infrastructure, as well as, previous projects that sought to overcome this marginalization through more inclusive language. The concept to engage with cycling without focusing on only cycling was a key part of the development for the framework for change; and a fundamental part of the framework was for an inclusive vision. The idea was developed in previous researcher projects as noted in section 3.3.1 to build a more inclusive coalition for changes to the local neighbourhood and streets. During the early conversations with the groups around the vision, the more inclusive framing was provided to the groups and examples from the researchers previous BetterBlocks initiatives, Park2Pacific, and the CSN active travel infrastructure project. The Enfield Cycling Campaign had already identified this as a key framing. The “Better Streets for [insert council]” name originated in Enfield to be more inclusive to those who were campaigning for Mini-Hollands. Thus began the Better Streets for Enfield group (though without the succinct vision or key asks) and was utilized as the framing for overcoming bikelash and engaging more positively with changes that would support many residents and local businesses.

During my first meeting with Enfield where the Better Streets group was presented alongside them and asked if I would work with both groups, I instantly recognized it as a communication tool that I had previously used, as well as, one noted in the research around the importance of a unifying vision for

urban planning and community changes (Ortegon-Sanchez and Tyler, 2016 and Webb et al, 2018). It further encouraged it as a collaborative way to create coalitions and build a movement that could enable cycling, walking, and better places for active travel. Better Streets was chosen and encouraged with the other groups in part to overcome the cycling backlash and anti-cycling sentiment that is pervasive in London (and many other places). The Better Streets branding allowed this broader active travel platform to form. Better Streets aim for a greater range of mobilities so long as they reduce private motor vehicles, congestion, air pollution, etc... Social and environmental issues that benefit from walking and more greenery just as much as they do from greater cycling safety.

Better streets is used to describe a transportation planning and design approach that aims to create streets that are safer, more efficient, and more pleasant for all users, including pedestrians, bicyclists, and drivers. This approach prioritizes the needs of people over vehicles, and aims to create streets that are designed to be accessible, comfortable, and functional for all users, regardless of age, ability, or mode of transportation. The "Better Streets" concept is aligned with the idea of "Complete Streets" and "Healthy Streets" (Healthy Streets 2023). Complete Streets is a transportation planning and design approach that calls for the safe accommodation of all users, including pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities, within the roadway (Halpuka, et al 2012).

The key elements of a Better Street include:

- Safe and comfortable pedestrian facilities such as sidewalks, crosswalks, and curb ramps
- Dedicated space for bicyclists, such as bike lanes, cycle tracks, and bike parking
- Transit amenities such as bus shelters and stops
- Landscaping, street trees and other elements that improve the visual quality of the street
- Designs that encourage slower vehicle speeds and improve visibility for all street users
- on-street parking and loading zones
- Accessibility for people with disabilities

By creating better streets, communities can promote more sustainable, healthy, and equitable transportation systems and help to create more livable and vibrant neighborhoods. Thus, Better Streets became the foundational language of the framework.

4.5 Developing my participatory action research, the selection of groups and participation agreements

During the early development of my research proposal and area of interest I was keen to understand socio-technical transitions, grassroots movements, and sustainable development and what elements create successful transitions and changes. The initial research proposal, however, looked quite a bit different and did not involve action research. After moving to London and beginning my research, part-time, I also begun to involve myself with cycling campaigning, local community groups, and my council housing estate residents' association. It was clear that I was and am an activist for sustainability. Having already secured a position as a board member of London Cycling Campaign, it was suggested to me by university research colleagues and advisors that action research could be a good fit and option for my research and passion. This formed the development of this participatory action research project for socio-technical transitions, grassroots movements, and sustainability development through cycling. It would test how to accelerate transitions and look more deeply at transitions in motion.

Initial selection of grassroots movement sites for activist research occurred through the following questions/steps:

1. Agreement by London Cycling Campaign to participate in action research doctoral project.
2. Agreement by grassroots movement to participate in action research doctoral project.
3. Notification to local institution of my research involvement with local group and position in the group and research institution.
4. Agreement of all parties to how the research will occur, the timeline of the research, and the time support required by all parties.
5. Potential conflicts of interest with the researcher (myself) and the areas in question.

Initiating the participatory action research with LCC and the local volunteer groups

In November 2017 (nearly 11 months after starting at University of Westminster), I approached the organisation of which I am a board member, the London Cycling Campaign, to see if they would be interested in participating in this research. The first step was to discuss with the CEO of LCC if my

research would be amenable to them and the LCC, and the value that they could get out of the extra support and my research and background. Given that the research was focused on grassroots groups, engaged with local government, and with the intent of create transitions; it aligned with a few of the strategic goals of LCC. The next step involved discussing it with the chair of the board and bringing a full proposal to the board. The full research proposal included background to the research request, LCC's role in the research, my role as trustee and researcher, benefits to LCC, the agreement for participation in research, background to research development and my CV, and the PhD research proposal and background⁹.

After presenting to the board at the annual away day (26 January 2018), the board discussed the proposal without me present. The board decided that the research could go ahead and that it was possible to split my board and research roles effectively. They agreed that firstly, the CEO would dictate my research time and introductions to staff who would be free to choose to participate at their own accord; secondly, I would not do research at board meetings (e.g. that meeting analysis or information from the board meetings would not be transcribed and included in analysis); and thirdly, board members were welcome to participate in interviews at their own discretion. The caveat was sub-committees of the board which would form a basis, e.g. the Campaigns and Active Membership committee which would be directly involved with the research and research staff. Board members however began to feel positively about the work that was happening and began asking for advice on how to proactively engage groups, learn more about the framework etcetera. It was led by them.

The CEO, LCC staff, and I met several times to discuss the research and their concerns and develop the research participant agreement¹. During these initial meetings, I provided staff background on how I came to be in London, my interests, my research project, objectives and goals, as well as information on action research. Questions from the staff included issues around time for participation, extra work, benefits of their participation, remaining anonymous in conversations with government officials for publication purposes, my research being a reflection on their jobs personally, and the reporting of illegal activities. Once these concerns were discussed and the participation agreement was completed,

⁹ The research proposal and key questions changed significantly when co-creating participation goals and developing the framework for change.

we formalised it at the end of March 2018. The next step was an introduction to the local groups. There was a local government election in May 2018 taking the attention of LCC staff and the local groups as they fought for cycling to be included in the politicians' manifestos. After the local election, I met with the LCC campaigns manager, a co-participant, at the end of May to discuss local group participation and which groups to contact. We narrowed down the list of 32 groups across London (one for each borough). The requirements for the group were simple:

- Spatially similar so that they were easy to compare (e.g., a focus on inner or outer London)
- Groups that had capacity and might be interested (this was based on the campaign manager's personal knowledge of working with the groups).

The agreement was that LCC would introduce me to the local groups via the campaign manager, and the groups could contact me or not. The email was sent on 25 June to six local volunteer groups². No group had responded as of 16th July 2018, so I sent a brief reminder email and requested that they tell me that they were or were not interested so that I could move on to other groups. At this point, four groups responded that they were interested in learning more about the research and participating. An additional fifth group (Group E) not on the original list also indicated interest. I presented at a panel regarding my previous research and new framework for change. They followed up via email asking to learn more about my research and speaking with group (Group E).

I met with all the groups from August to September 2018³. Below is how each group developed and how they were narrowed down and chosen. Two of the groups, Group A (Southwark Cyclists) and Group B (Tower Hamlets Wheelers), and I met at committee meetings to discuss the idea and allow them to decide if they wanted to move to the next level which would be the research participant agreement. Group C (Lambeth Cyclists) agreed at the committee meeting to proceed and approved the project, however they did not respond to the emails sent regarding the research participant agreement. Therefore, they were removed from consideration and did not proceed. Group E (Enfield Cyclists), I reached out to when in late July the others had not responded, they excitedly interested in discussing with me further my past experiences and research. They were one of the first groups I presented to at the committee. Further they had just started a Better Streets group in the previous months and aligned very closely to the goals of this research. Group D had emailed their intent to work with me and requested I attend their committee meeting on 24 September. However, I was unable to

attend and in an October follow-up I informed them I would be unable to commit to another group⁴. I determined that I was unable to add another group, but would share with them templates that were being made for other groups. This would enable the group to utilise information and deliver results back to me as they saw fit. This became part of the broader work with the LCC head office to distribute learnings from the three groups to the rest of the LCC volunteer groups. In retrospect, Group B (Tower Hamlets Wheelers) and Group D (Newham Cyclists) would have provided an interesting study in connectedness and the influence of neighboring groups as they shared a large local government boundary line.

The London Cycling Campaign research participation agreement was drafted first. Following agreement between each group, LCC research participation agreement was shared as a template, then we discussed the goals for each group and additions and changes to the LCC group that the local group committees wanted (Appendix A shows the general agreements.) These were then discussed with committees without me present and signed by representative members. LCC were notified of groups selected.

Developing research participation agreements

Action research negotiates transparently how each stakeholder group will participate. Before starting the research action research stakeholder groups and the researcher should negotiate what each needs and wants from the research (Herr & Anderson, 2005). This will ensure that collaboration principles are set out from the start, that expectations of the relationship are established, and that reciprocity from research is received. The need to discuss personal experiences and moral obligations are part of action research theory. As a researcher involved in collaborative processes, action research states that you must recognise your own potential limitations and biases, and enable transparency within your research.

These considerations shaped my discussions and questions for the development of the participation agreement. It enabled openness and reflection during the process. I co-developed the participation agreement with each research group separately. I provided a high-level outline and questions for discussion so that we could formulate the points collectively. In the case of LCC, I discussed broad areas with the CEO and the staff who would be working closely with me. This enabled them to raise concerns and areas they wanted addressed prior to beginning the research. There were three areas of

the agreement. Firstly, 'areas of research' relates to the goals of the group and goals of the research. This is what will be learned together. Secondly, 'general agreement' relates to ethical considerations. The ethical considerations of holding multiple roles, HR issues for working with staff, and the working relationship between myself as the researcher and the groups. Thirdly, 'deliverables', which relate to the various outputs and sharing of information that will happen during and after the research. Figure 16 illustrated the relationship between me, the London Cycling Campaign, and the local groups. I had three roles: researcher, activist, and trustee.

Example of Tower Hamlets participation agreement development

Tower Hamlets Wheelers agreed via email they were interested in the project and would like to discuss at their next committee meeting on 18 July 2018. I attended the meeting and described the project and a draft participation agreement, and opened the floor to questions. There were no specific questions. I left the room when they discussed whether to proceed or not. The committee agreed to proceed and delegated two-point people on behalf of the group. These two-point people were the joint-coordinators, who I would conduct regular liaisons with, ask to share details with the group, and develop the research participation agreement with before bringing to the committee for approval. Other individuals also participated in the project, however, to ensure streamlined communication with the group and to keep the committee up to speed this was determined to be the most proficient way. All committee members had access to the shared Google drive of information, the ability to email me, and access to minutes and other communication. As time went on, many additional members would email me directly regarding a particular element of the project they were working on, or an upcoming event. In all cases, the main committee email or Google group was copied into our correspondence for transparency and record-keeping. The joint co-ordinators also dealt with council engagement and attended the council Cycling Stakeholder Group meetings.

Afterwards we emailed the research participant agreement back and forth until we agreed on the details (Appendix A). The group discussed the participation agreement at the August meeting where I was not present due to overseas travel. I then met with the committee liaisons on 31 August 2018 to sign the research participant agreement and discuss the start of the research and get an understanding of their group and their interactions with the Council. In addition, we came up with a game plan for working together over the next few months and immediate actions to be undertaken. The number of point people expanded as I was included on additional emails and asked questions by more members,

however I utilised the joint-coordinators as point of contacts for workshops and organisation of additional events.

4.6 Issues of reflexivity, researcher position within the grassroots groups, intermediary (LCC), and beyond

Over the last five years that socio-technical transitions researchers are advocating for more engagement and not less (Mackard et al 2016; Stefani et al 2022). How we engage becomes just as important as what and why we research. Our method of engagement does not just become one of a typical participant-observer, but as an active, engaged participant. A participant who may mould, create, alter, and even drive the transition at hand. As this continues, researchers will have to engage in reflexivity around their placement and identify ethical issues around this placement. Research reflexivity refers to the process of reflecting on one's own position, perspective, and assumptions as a researcher, and how they may influence the research process and the results. It involves being aware of one's own biases, beliefs, and values, and how they shape the way the research is conducted and the interpretation of the findings. This can include reflecting on how the researcher's background, experiences, and social identity may influence the research, as well as the impact of the research on the participants and the broader community. Research reflexivity is considered an important aspect of conducting ethical and rigorous research, particularly in qualitative research methods (Luttrell 2019). When doing participatory action research. Transparency is key. Transparency of actions. Transparency of data. Transparency of emails. Transparency assists maintaining ethical positions. This created a number of questions that needed to be asked before, during, and after the participatory research:

1. Where in the research did I place myself? Where is this in relation to different groups?
2. How do I respect confidentiality when working across various layers? For example, local government vs stakeholder group (niche)
3. Can I reasonably work with both layers if you have identified as an activist researcher with grassroots group with the goal of helping them to accelerate their sustainability transition?
4. How much to push or insist on the groups doing elements of the research (in this case, the Framework for Change) when they are volunteers?
5. Do I go to annual holiday or social gatherings? If they have meetings or catch-up in bars?

6. Is it the of the researcher role to highlight or embed within that group equity, inclusion, and distribution of the infrastructure implemented?
7. How do I treat anonymity with groups that could be easily recognised? Or where some are fine to be described but their description would give others away? Or where the nature of engaging with the groups and writing about them makes it easy to identify them?

The following sections describe how I engaged with these questions, the participating groups, and those actors engaged with on the periphery.

4.6.1 Position in the research

During this research I occupied multiple positions. There were three main positions: (1) a board member of LCC; (2) a researcher with University of Westminster; (3) an activist. In this project, I was a collaborator and facilitator. In participatory action research and organisational change the position of the researcher, the conflicts of interest that may arise between different roles, issues of power relationships between the different roles, and ethical considerations between them arise. Figure 16 provides a visual image of positions.

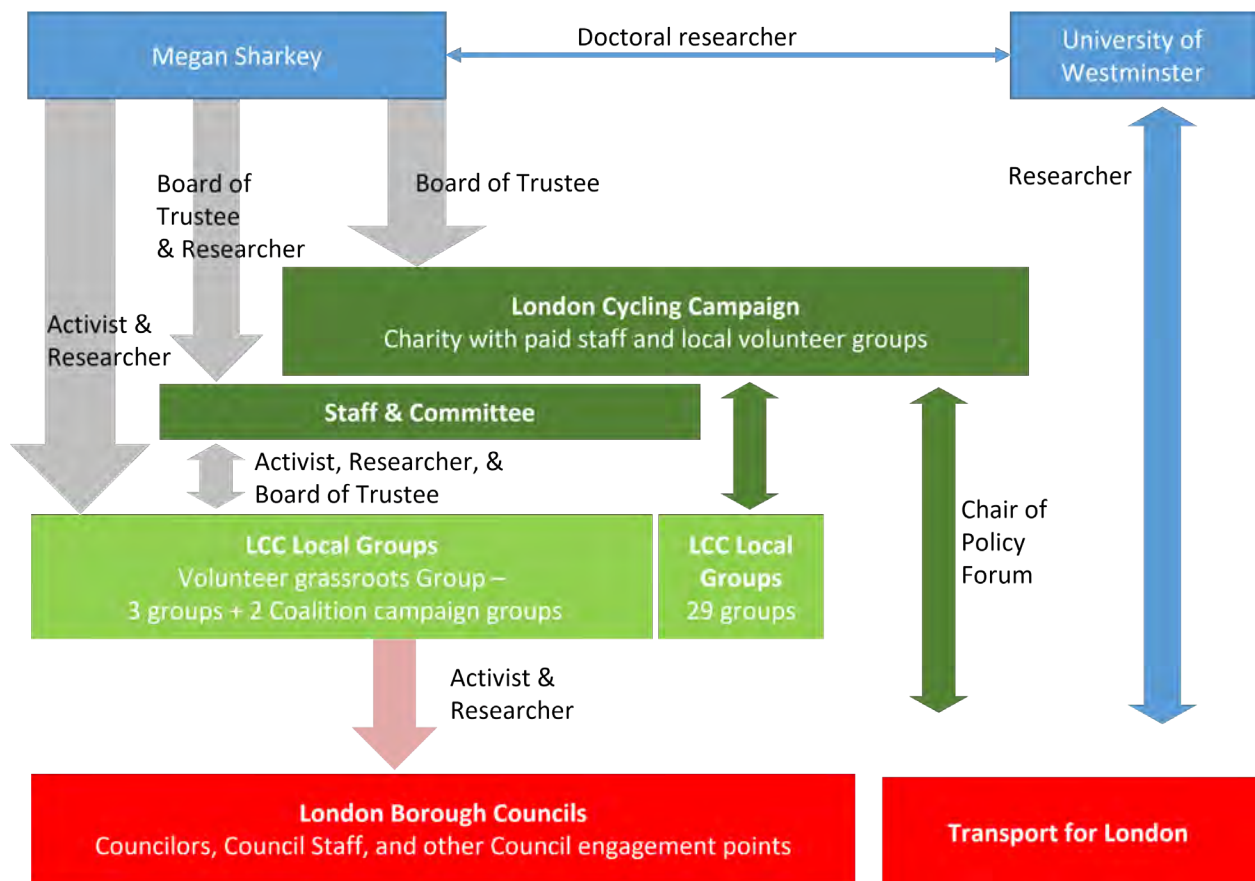


Figure 16 Relationships between researcher, trustee, and groups (Author 2021).

The first position is that of a board member. The board member is a decision maker for the charity and under legal obligation to act in the best interest for the board. When I signed LCC Board of conduct it had a clear guide for acting responsibly, managing interests, and relations with others. In particular, it noted that “Where I also volunteer with the organisation, I will maintain the separation of my role as a trustee and as a volunteer⁵.” As a board member who would be working closely with the staff for the purposes of research, I agreed to not assess the performance of the staff, or make assessments of any other HR-related matters unless I identified a serious legal matter that would put the charity at risk (Appendix A).

The second position is that of a researcher. There are ethical considerations related to academic principles, accepted practices, and university guidance. Utilising a co-design approach to the participatory action research enabled the groups to have a voice in our researcher relationship and meet ethics obligations of the university. During the research agreements I was very transparent and forthcoming with the groups. It allowed them to understand me as a person and my research position. The grassroots initiatives were not the only ones to engage with me as a researcher. The local

government engaged with me as a researcher and a research expert. I put myself firmly with the local groups so that there was no potential conflict. (see section 4.6.4)

The third position is that of the activist. On the PAR scale, I was an insider activist who was part of the research agreement (Herr and Anderson 2005). The participatory action research was undertaken with me as a co-participant in the action research and an insider to the organization. Working with the grassroots movement as an activist organisation adds an additional layer, thus I identified as an activist researcher. Placing myself as a researcher on the side of the grassroots initiatives results in having an outsider status regarding local government (the councils).

4.6.2 Ethics in participatory action research

If transitions research is to increase the use of initiative-based learning across a variety of actors, it has issues related to ethical dilemmas and the role of the researcher. The multitude of roles and relationships within this participatory action research project requires additional ethical considerations. These ethical considerations extend to social practices, power structures, and personal relationships. These considerations require continuous thought and acknowledgement through reflexive practices. This reflect on the role that I played as a board member (outsider to the local groups) and activist researcher (insider to the local group) with the ethical considerations of dual roles. My initial view was that as an activist researcher who was working with the local groups and as a board member of LCC, that it would be unethical to request that the government become a more interactive part of the research and work more closely with the local groups. Further if local government were to ask for something to not be on record it would be difficult in knowing that information and not applying that information for the benefit of accelerating the active transport transition. The decision was made that a request to local government regarding the researcher participation in meetings. Likewise, it took long to get the local groups involved that the idea of additional local government partners and the time to bring them on board seemed unmanageable for one person (who also worked in paid part-time work and had young children). That I was allowed to be involved with council meetings and correspondence seemed sufficient engagement for the research.

The variety and type of actors engaged changes the lens of ethical considerations and responses to such situations. Engaging with activism and activist research, questions arise regarding the goal of the

research and activism themselves. How do these align? There were a number of self-reflection questions that were asked during the early stages of research development, for example:

- (1) Is the goal to change the present?
- (2) Who do you want to engage?
- (3) Are you invited into this space? Or do you already operate in this space?
- (4) Are you forcing yourself into working in this space?
- (5) What are all the roles you are playing and do they conflict?
- (6) Are you honest about all your roles with all parties? And are they documented?

4.6.3 Transparency and trust-building – finding your place within the group

Transparency and trust building are key to a successful action research project with grassroots groups. The groups may have known each other for years, they often live in the same areas, or aligned values brought them together. In some instances, though not with the three local groups with whom I worked, tensions with members in the group must be overcome. Building trust with all parties involved can provide a better working relationship. For two of the groups this was done quite quickly and they were the ones which progressed much faster. The third group took longer to trust me, my research, and the process. It took nearly nine months longer to start to bring the framework to fruition with the third group. The first step was to provide information about myself and my past. I shared openly about myself and my past projects providing examples that they could read or investigate further. The more information the better, so there is nothing to hide. The groups (and their individuals) know who you are and what you are doing. Provide information to them as quickly as possible, then produce something together sooner rather than later – this builds trust and confidence in the action research project you are undertaking together.

Building trust with government partners and other industry groups is also important. Given that you are participating on multiple scales it is important that *everyone knows where you stand and your role in this process*. The local governments were asked if I could attend meetings with the local groups and be included in all touch points. They were provided information on who I was, my research, my research institute, and what work I was doing with the group. All the councils accepted my attendance

at meetings and being included in emails and other correspondence. This likely helped the groups in that the councils became more forthcoming with information with my presence and support. In general, payment for research should not be received from any group. Do not pay or be paid in any capacity. They are volunteer grassroots groups, have relationships with councils, and the head charities. Follow the group's lead on how they choose to fundraise for events. Lastly, ensure there is no quid pro quo arrangements especially with outside groups who could influence the grassroots groups.

4.6.4 Engagement with local government

As a representative of the local groups, the University of Westminster, and the London Cycling Campaign, I decided not to interview council officers and staff during the AR engagement. Drawing an ethical line would be difficult. For example, if the Council said something related to the group in confidence, but that could directly impact the ability of the group to enable the transitions. This would create pressure on myself, as well as reduce the goal of enabling the grassroots groups to accelerate. Given that I was promoting being an activist researcher with the grassroots groups, this would create blurred lines that could not be addressed in this particular project. Therefore, local government participation as a co-design and more detailed engagement was not undertaken.

The grassroots initiatives, however did inform council of their working with myself as a researcher and attendance at any council meetings and correspondence⁶. All the councils agreed. Council staff and council officers regularly engaged with me and openly discuss their struggles at the council, often asking for advice and feedback on the processes at hand. This presented engagement opportunities within the grassroots groups with those local councillors. Attendance at council meetings, inclusion on emails between the local group and the Council, requests by councillors or council officers for meetings (with rare requests to have individual meetings off the record, e.g. less than five out of hundreds of interaction points), and other regular interactions across public events and forums resulted in an interesting problem on the boundaries and ethical obligations of an activist researcher.

4.6.5 Engagement with the groups in social settings and with family

Volunteer groups are often social collectives. Issues may arise about boundaries of relationships. Grassroots groups as communities become close knit-often meeting for a variety of social activities. As an action researcher working alongside these groups, you become part of that group as well. This

brings ethical dilemmas that require thought and consideration. They may have meetings in bars, have annual holiday gatherings, social rides, or other activities. Should you attend these? I was asked to attend these events and given that I was participating as a member of these groups assisting them reach their goals, I did attend. Is this ethical? Only if you act ethically. Attendance at social gatherings which often double as ideation sessions builds a stronger relationship and facilitates trust from the grassroots groups. It may even generate additional enthusiasm for the campaigns or your suggestions. More than this though I was and am an activist. I committed my free time and believed in the work we were doing. They were more than participants, they become my friends and individuals who I had a shared identity that of an advocate, an activist, a parent, a woman, a bicycle rider, and an environmentalist. Another example of where this becomes a social activity is the connection to children and family. I participated in over 120 meetings or events. Nearly of all these were in the evenings or weekends. I have young children, in some instances my husband or child minder wasn't available, so they attended with me. The participants enjoyed getting to know my children and welcomed them into the community, it further reinforced that I was not just a researcher or board member, I was one of them.

4.6.6 Anonymity

Anonymity during the research process is generally a given as part of the ethics and approval process. In action research with grassroots groups this can be particularly challenging. The groups that you are working with are not difficult to find, have social media profiles, local group minutes are generally publicly available, they are not large, and operate in a specific local government area. The activists in these groups are not hiding. This does not mean that you should not protect and limit the amount of exposure that the groups face. This could mean removing any personal information such as emails, anonymising the names, not quoting if a particular quote or phase is easily identifiable.

Anonymity also can protect your relationships with the groups. As an activist researcher I was a part of these groups. A part of their social activity, weekly meetings, etc... When writing up some things that did not have to be anonymous, I wanted to be anonymous to not distract or make judgements on people who were a part of the groups. This can limit personal judgements you feel about the groups during write-up. Further, if it was to be read by other members of the group or local government, then I didn't want a conclusion or opinion I had drawn to adversely affect them.

Early in the development process all members of the group and individuals at workshops signed participation agreements. The researcher indicated to the group that some members may be identified due to activities. Activities, role titles, or public information would make it impossible to keep their identity completely anonymous. There would be a likelihood of identification. There were instances where information was completely removed due to personal factors that would adversely impact an individual. These have been completely removed from thesis. In instances where identification was possible even without their formal name discussion with the individuals took place to confirm they were comfortable with this. Some members provided permission to be identified fully, however all names have been removed from thesis.

4.6.7 Time, volunteers, and project size

There are three-time factors to consider. The first was the volunteer time of the grassroots groups, because it was limited that prevented more in-depth participation with myself and the project. The second was my time as a researcher. My time was constrained by existing factors and this was a very time-intensive project. During my doctoral studies, I worked 20 hours a week on external paid projects and worked on projects that were in fulfilment of my Urban Studies Research Scholar role. This was to support my family and our position as foreign immigrants in London. The second aspect which constrained time was my family as I had two young children and limited family support (e.g. my partner and I only). Thus we were the sole caregivers in London of two small children, aged 3 and 5 in 2017 when starting the project and now 6 and 8 at the end of the project. The lack of funds for childminding and general need for more intensive caring constrained my time. In fact, the children would occasionally attend meetings of the groups when my partner and I couldn't adequately arrange our schedules to ensure one was always home. All the groups were acquainted with my children and they participated in demonstration events with the local groups, this being a benefit of being an activist researcher and working with community groups. They were welcomed, however distractions are not that beneficial for my research. Children did, however, provide interesting points, e.g. how were other parents welcomed into the group as volunteers; and my children's feedback on some of the parklets and walking and cycling constraints – an interview with them was published in *Derivas* magazine on these topics.

Third, the time to reach agreement with multiple groups and multiple scales (niche and regime) for participatory action research. It took nearly a year to get LCC, organisations, and local groups to ensure

ethical practices and develop a trust between us. Participatory action research projects take time to build trust and could be difficult within a two year period. Time commitments is a weakness of using participatory action research with volunteers and working alone during a doctoral thesis. Differences in perceptions of time between myself and the groups as well. A specific example is a Southwark group leader who initially perceived that I would do the majority of the work in driving the strategy, recruiting new members, and other tasks. This contrasted with our partnership agreement. We miscommunicated regarding total participation groups too. A number of personal circumstances changed the committee participation, so it took many months to achieve the same level of collaboration and strategy.

A key failure of the original methodology was to take on two groups who met on the same evening. The primary reason for agreeing to this was they wrote back the quickest and were the quickest to agree to participate in my research. An additional group in Newham struggled to meet up (due to mine and leader timing conflicts), as well as another group I did attend an initial meeting but never responded to my follow-up. Southwark was also close to home. Enfield was already keen and I struggled to say no to a third group giving a committed activist and the rest of the groups excitement and the unique location of being a mini-Holland and outer suburb. Southwark, it should be noted, queried the attendance at Tower Hamlets early on in an email dated 5th September 2018, stating that they “had not realise[d] you are working with other LCC groups.” My response stated that “the intention was always to work with two groups,” and that a North/South London perspective would be beneficial. I stated that group committee meetings would be alternated⁷. Mid-way through the action research project, I realised the difficulty of this, but had already committed. A more in-depth engagement with one group could have been more beneficial to studying localised effects. Moving forward less groups and/or different schedules would have been the better course of action. The other benefit would have been me as a researcher providing more time to one specific area.

In considering those constraints and barriers. One group would have been sufficient to do a deep dive as required and split roles adequately. It would have reduced my workload and produced an in-depth study with that particular-case. Likewise, it may have had greater increase in regime changes. Stefani et al noted that PhD research operates on a separate timeline than academic projects and pose time constraints for the doctoral timeline (Stefani et al 2022). The downside would have been not

understanding how grassroots groups could be more effective at change and LCC as a whole organisation. Instead of one group benefiting, nearly 29 groups benefited.

4.7 Conclusions

Participatory action research with volunteer grassroots groups is not always succinct, timely, or complete as noted in the previous and further sections. It is an inherent feature of participatory action research (Whyte et al 1991). The theoretical framework the bridging methodology proposed by Turnheim et al. 2015 towards sharing framing provides a guide on how to integrate PAR with socio-technical transitions. These three levels are integrated throughout the action research project. They are constantly integrated and feed back to the initiative. This will ideally create a synergy to explore the issues and relationship between practice to theory and theory to practice. The theory of transitions with the practicalities of actually having a transition. In my current analysis, I am taking a social and individual perspective on how this we can understand transitions in motion and can they be shaped. Thus, providing an activist research project within a bridging framework will provide a case study that could assist socio-technical transitions theory development for sustainable cities (Geels & Schot, 2007b; Turnheim et al., 2015). To enact PAR and bridging methodology for a more robust implementation of the above framework, future research should consider a number of different aspects and the relationship between them. This could include undertaking participatory action research with fewer grassroots initiatives, dividing the internal role of the activist and the researcher more clearly and definitely, assessing and understanding volunteer time limitations and impact to researcher goals and time allocation, and the support of the research institute for the participatory action research project.

Chapter 5 Participating groups: background to case studies

Chapter 5 is an empirical chapter providing background information and data collected during engagement with the participating groups. The participating groups in this research are each unique. The groups who participated and engaged in the participatory action research process were the London Cycling Campaign, Enfield Cycling Campaign, Southwark Cyclists, and Tower Hamlets Wheelers. They were located in the Borough of Enfield, Borough of Southward, and Borough of Tower Hamlets (figure 17). The chapter provides a brief history of the group noting how they were started, their engagement with local government or Transport for London, or general background information, such as size, or structure. The sections for each are not exactly the same. This is due to either the level of engagement, the type of group (e.g. head charity or a local group), and details I collected. The sections for the three grassroots initiatives discuss background information on each group, my relationship to each group, goals of the group, initial observations, engagement touch points of the groups, and outcomes. The London Cycling Campaign section is different to the local groups' sections. The LCC section describes my relationship with the multiple roles that exist within this research. It looks at the LCC organisation structure in more detail and how they interact with the local groups. The section then finishes similar to the other group's sections with initial observations and engagement with LCC.



Figure 17 Location of grassroots initiatives in London

5.1 London's cycling evolution, transport actors, and case study

London (and Britain) has experienced periods many different periods of cycling usage and decline. This section is in two distinct parts. The first describes the cycling history and evolution in London a brief view of the rises, declines, and contests for and against cycling in London and Britain. The second section discusses the different actors, transport connections and systems in London and Britain. It provides the background to the case studies and the regime and landscape context that the grassroots initiatives, grassroots movements, and the intermediaries.

5.1.1 Cycling evolution in London¹⁰

Cycle development began in early 19th Century. The ubiquitous bicycle as we know it today arrived around the 1890s. In the UK, upper-class women between the 1890s and 1910s were key actors in driving this niche transition. It offered independence and mobility not previously available. The mass-produced bicycle continued to grow over the next 50 years enabling working-class men to go farther afield for manufacturing jobs and prospective wives – they were less costly to own and maintain than a horse or carriage (Reid, 2015)¹¹. Cycling became a mainstream form of transport through the 1920s to 1940s in the UK. Cycling enabled greater freedom of movement and became a necessity for many, continuing to rapidly grow after WWI. The war and economic depression, along with bicycles becoming cheaper and covering longer distances than walking, made them an attractive alternative to other more costly modes. In the late 19th century the cycle price dropped to as low as £7.50, approximately £960 today. By 1919 manufacturing's economies of scale and price reduction made bikes ubiquitous across London and much of the UK (Reid, 2015). Workers could travel further, up to 40 miles round trip a day, for better employment opportunities and socialise more easily outside their immediate neighbourhoods (Law 2014; Pooley & Turnbull, 2000). Growth in cycling, however, would not continue long term. 'Cycling levels in the UK peaked around 1949, when 24 billion kilometres were covered by bike, representing 37% of all traffic' (Golbuff & Aldred, 2012). After the peak, cycling traffic

¹⁰ Section 2.3.2 was largely written during research for the Department for Transport – 100-year History Chapter on Cycling written by Megan Sharkey and Dr. Rachel Aldred in 2019 on behalf of the DfT.

¹¹ Carlton Reid has written extensive books on cycling history in the UK and are worth reading for extensive references and a great story.

plummeted sharply. Cycling's mode share has been approximately 1–2% on average for the last 70 years.

During the early 20th century, cycles were used heavily, but were not embedded into governmental policies or the regime. Some infrastructure for cycling was built including the first segregated cycleway installed in 1934 (*The Manchester Guardian*, 1934). A few more segregated paths were built and remain as originally cycleway remnants across the UK (see Reid 2014). Planning and policy were notably missing with cycling being marginalised even though it had a strong mode share growth during this time. For example, the Ministry of Transport Act of 1919 did not explicitly refer to pedal cycles, instead talking of mechanical road traffic and horses. The 1920s Road Act updated the Finance Act and Motoring Acts, which included an open-ended 'mechanical vehicle' statement. Later regulations such as the Road Traffic Act 1930 were even more heavily motor vehicle focused, with only one mention of the bicycle (in relation to the need for riders to give audible warning of their approach). Policies and rules were planning for motor vehicles thus giving them a legal status and acceptance via governmental regulations. If cycling had been better integrated into the various road acts would the trajectory have been different?

In this early period, both cycles and motor vehicles were niches and competing for dominance. Cycling as a niche achieved a level of market penetration and cultural acceptance (a key landscape feature). It failed to be accepted by the regime (government) and was not provided with policy assistance to enable an acceleration. The infrastructure and policies that would have allowed for a cycling tipping point to achieve dominance across actors and scales did not occur. Instead, the investment in the private motor vehicle niche post-WWII was a tipping point towards becoming the dominant regime. In the 1950s, cycling became marginalised in planning and policy which hindered the delivery of segregated cycling infrastructure. The 1950s–1960s saw a clear shift away from cycles towards motor vehicles. Much of the WWII manufacturing infrastructure reverted or was redeployed in support of the vehicle motor vehicle supply chain. The UK government provided the support to enable this transition which coincided with a need and desire to rebuild after the war. It provided access to jobs and increased infrastructure construction for non-war purposes. Motor vehicles were much more

expensive to buy than cycles and were marketed as a status symbol for wealth, and many other opportunities related to growth.¹²

In the 1970s the environmental movement brought a renewed focus on cycling and sustainable transport modes more generally. The DfT began writing reports and studies and referenced the concept of ‘cycling potential’ (i.e. a consideration of the potential for cycling trips that could be cycled). However, the Department’s work did not translate into any major physical infrastructure provision. From the 1990s onwards, there has been an increasing interest in cycling as a means of addressing different policy problems ranging from obesity to climate change. For example, sustainable development placed a renewed attention on cycling as a mechanism for carbon reduction.

In 1978, the London Cycling Campaign (LCC) was founded and worked to develop the London Cycling Network and campaign Mayor Livingstone for cycling changes. Mayor Livingstone provided funding and a plan to enable cycling, however the Greater London Council was abolished in 1986 before it could be enacted. The last 15 years have seen a cycling resurgence. The DfT has provided funding for a number of cycling towns, research projects, and templates and tools for local government to use for cycling (and walking) projects (DfT, 2022a).

Table 8 Four stages in the life, and hoped-for death, of the London Cycling Network (Turner 2018)

Landscape Architects summary of the ‘Four stages in the life, and hoped-for death, of the London Cycle Network can be identified’ (Turner, 2018)

“Four stages in the life, and hoped-for death, of the London Cycle Network can be identified:

Conception 1978-1981. The London Cycling Campaign (LCC) was founded in 1978 and helped plan a 3000 km web of signposted cycle routes

Design 1981-1986. Ken Livingstone became leader of the Greater London Council (GLC) in 1981. He set up a cycle planning unit in the GLC and allocated 1% of the transport budget (£2m/year) to cycling. Its work ended when the GLC was abolished in 1986.

Implementation 1981-2008. The GLC’s work on implementing the London Cycle Network was transferred to the London Boroughs after 1986. Some, like Camden, were fairly active. Others, like Westminster, developed a hatred for cyclists. In 2001 LCN Plus (LCN+) replaced the earlier London Cycle Network project with the aim to producing a ‘higher quality’ network to link strategic centres. Since its length was reduced from 3000 to 900 km it should have been called LCN Minus.

¹² For a more detailed account of the historical nature of cycling in the UK, see Carlton Reid Roads were not built for cars. These books provided an in depth historical account of cycling in the UK and struggle between cycling, pedestrians and motor vehicles as they fought for prominence and dominance on our streets.

Afterlife 2008-2018. Active promotion of the London Cycle Network drew to a close with the election of Boris Johnson in 2008. Focus shifted to the two phases of the Cycle Superhighway programme, with the LCN winning an afterlife in the form of the Quietways programme. The length was much less than LCN+ so it could well be called 'LCN Minus Minus'. “

In 2008, Boris Johnson was elected Mayor of London and accelerated the delivery of cycle superhighways. The LCC was becoming a much stronger grassroots organisation. The newly appointed CEO had two pivotal campaigns to encourage and support the cycling niche to win greater acceptance across London and the UK. The first campaign, Love London, Go Dutch was targeted at the Greater London area and targeting mayoral candidates including the re-elected Mayor Boris Johnson (LCC, 2021). The campaign was directly tied to the development of three Mini Holland funding pilots which saw approximately £30 million allocated to three local councils for the delivery of Mini Hollands, 'creating three flagship Love London, Go Dutch developments'. The Mini Hollands are located in Enfield, Waltham Forest, and Kingston upon Thames. The "Mini-Holland" scheme is a program implemented by those London Boroughs to promote cycling and walking as a mode of transportation, and to make the streets more pleasant and safer for people. The schemes includes a range of measures such as the construction of new cycling infrastructure, such as protected bike lanes, redesigning junctions to prioritize pedestrians and cyclists, and creating more public spaces for people to enjoy. The Mini-Holland scheme in Waltham Forest was launched in 2014, the scheme in Enfield was launched in 2016 and the one in Kingston up Thames experienced a number of setbacks with changing political parties, then COVID, so whilst launched in 2015 the schemes momentum was largely 2019 to 2022⁸.

Each local council area took a slightly different approach to the development of their Mini Hollands. Waltham Forest Council combined segregated cycling schemes with a low traffic neighbourhood approach to maximise funding and increase the geographical area where interventions could be delivered. Low Traffic Neighbourhoods are areas that utilise street closures to reduce through traffic. Low traffic neighborhoods are residential areas where there is relatively little vehicular traffic. These neighborhoods are often characterized by low-volume roads and limited through-traffic, which can make them safer, quieter, and more pleasant places to live. They may also have less pollution, increase physical activity, and reduce vehicle usage (Aldred et al 2021 and Aldred and Goodman 2021). In urban planning, low traffic neighborhoods are often designed with the intention of creating more livable and sustainable communities by promoting walking, biking, and other forms of active transportation.

Motor vehicles can access all areas in the neighbourhood but it makes it difficult to take short cuts through the neighbourhood. Enfield developed the CycleEnfield portal and focused on a few separated cycleway flagship schemes (Enfield Council, 2021). Kingston Upon Thames developed the Go Cycle programme and have delivered approximately 13 kilometres of two-way cycle routes. These cycle routes have considered to be lower quality than the other two Mini Holland schemes, and much further behind in delivery.

Table 9 Love London, Go Dutch campaign tracking release (LCC, 2021)

Love London, Go Dutch campaign tracking release (LCC, 2021)

“On 27 April 2012, the day before the Big Ride took place in central London, then-mayoral candidate Boris Johnson agreed to the commitments laid out in our Love London, Go Dutch campaign. The prospect of the UK’s biggest-ever protest bike ride taking place without his support was too much, as was the pressure from the 42,000 people who’d signed our petition calling for streets that are safe and inviting for everyone to cycle. Johnson was the last of the five leading candidates to sign up to our campaign, making it our most successful ever.

In the days after he won the election, we announced our ‘First 100 Days’ campaign to monitor what steps the Mayor was taking to comply with his three Go Dutch commitments. While we recognise these commitments are to be implemented over a whole four-year mayoral term, it’s vital to get off to a good start. That’s why we decided to scrutinise the Mayor’s performance after 100 days, as we would for any senior politician, to make sure he sticks to his election promises.

The three commitments to be implemented over the lifetime of his mayoral term are:

1. creating three flagship Love London, Go Dutch developments on major streets and/or locations;
2. making sure all planned developments on the main roads that TfL controls are completed to Go Dutch standards, especially junctions;
3. completing the Cycle Superhighways programme to Go Dutch standards.

Our Love London, Go Dutch standards embrace Dutch-style street design, exemplified by their Sustainable Safety model:

1. high-quality segregated bike tracks or lanes where speeds or volumes of motor traffic are high, allied to cyclist-friendly junctions

2. priority for walking and cycling on shared-space residential streets by removing rat-runs and reducing motor traffic speeds.”

The overarching principle must be to prioritise cycling and walking above motor vehicle use, including the reallocation of roadscape. While we accept transforming a city of London’s size to being truly walking and cycle-friendly will take many years, our three Love London, Go Dutch commitments are meaningful steps in this process.’

As a follow-up to the Love London, Go Dutch campaign, LCC created the Space for Cycling campaign to target the local boroughs because ‘though local politicians don’t have the resources that London’s Mayor has, they can support or frustrate the thousands of local cycle schemes that can build into a pan-London cycling network’ (LCC, 2015) The Space for Cycling campaign then spread to a coalition of local and national cycling campaigns which resulted in a marked turn in cycle infrastructure perception across the cultural landscape. The successful campaign generated quality materials and relationships between cycling groups across the UK. LCC noted,

“If you’ve got a great idea share it with like-minded organisations. All the know-how from London was spread and developed through cooperation with CTC, Cycle Nation and other city cycling groups. London can be a pioneer in improving cycling conditions, but we need the whole of the UK to be on board to match the successes in the Netherlands or Denmark” (LCC, 2015).

Similar to how motor vehicle organisations’ collaboration as an industry offered access to government officials, the Space for Cycling campaign created cycling’s own industry collaboration to target government officials. The campaign was focused on ‘local elections, local asks’, and aimed to get councillors to pick one specific local improvement from six categories (LCC no date). The campaign included a number of tools specific for activists. The first was an [Activist Pack of Policy Themes](#) ‘which form[ed] the basis of the pro-cycling measures we’ll be calling for’, and a supporting guide called, [‘Creating Space for Cycling: A guide for councillors’](#) (LCC no date). The guide enabled active volunteers to target councillors in the elections. LCC also organised large bike rides around different local authorities to raise awareness. The campaign was successful with 50% of candidates agreeing to an improvement measure translating into ‘47% of Councillors who were elected’ (LCC, no date d). Further, the campaign was picked up nationally by the Cycling UK and others, and even replicated internationally (for example, [Space for Cycling Brisbane](#)) (Space for Cycling Brisbane, no date).

In 2016, Mayor Sadiq Khan came to office for first time before winning a second term in 2021. London now has an estimated 116km of protected cycle lanes that are complete or under construction, over 750 docking terminals with 11,500 hire bikes across London, three Mini Holland boroughs, and, more recently, liveable neighbourhood schemes have been introduced (GLA, 2021).

5.1.2 London's transport actors and systems

In the United Kingdom, there are multiple countries which operate as a devolved entity to the respective countries, then sub-nationally (Marsden and Docherty 2019). London is located in Britain where the Department for Transport leads the national transport agency. Transport for London is a statutory body operating transport planning, funding, and delivery across Greater London as outlined in the Greater London Authority (GLA) Act 1999 (TfL no date a). The Department for Transport (DfT) give policy and guidance support to London, however the GLA is the only local government area that the Department of Transport does not regularly fund (TfL, 2020a)¹³. Across the rest of the England, both the DfT and the Ministry for Housing, Communities and Local Government (MHCLG) provide funding for local roads.

TfL note that the GLA 'Act gives the Mayor of London a general duty to develop and implement policies to promote and encourage safe, integrated, efficient and economic transport facilities and services to, from and within London' (TfL, 2020b). The GLA consists of 32 local government areas and the City of London. Regional councils form combined authorities, acting and operating as pseudo-states for the purposes of transport planning across their cities or regions. Transport for London is under the GLA Act, whereas other regional authorities are under the Combined Authorities under the Local Government Association (LGA, 2019). TfL is funded from a mix of fares, other commercial activities, grants, and borrowed and cash reserves, and in some years has been supported by an operating grant from the DfT (TfL 2020a). In 2020 and 2021, the global COVID pandemic has put a significant strain on TfL revenue sources and has required the national government (DfT) to provide funding for continued transport delivery (especially public transport services and infrastructure) (TfL, 2022).

¹³ COVID changed this a bit with TfL receiving funding injections from the Department for Transport.

Local councils maintain approximately 95% of the London roads, thus focusing on the policy changes and budgets that they control enable the key asks to be achievable via a local change. For example, one council could choose to build parklets or convert car parking without requiring approvals or permission from TfL regardless of what neighbouring councils are doing. The local government councils can each have unique organisational structures. The three related to the local research groups are noted here (Enfield, Tower Hamlets, and Southwark). Commonalities in the three boroughs include: they each have a mayor, at least 20 councillors, have a Councillor who looks after the transport portfolio (which includes active transport), and have a planning and infrastructure or transport division. Enfield Council have a stand-alone scheme called 'Cycle Enfield' and was funded in part by the 'Mini Holland' scheme (Cycle Enfield 2020). This includes dedicated officers to support delivery of that major grant. Southwark Council do not have a cycling officer; instead, the council hosts a monthly Cycling Stakeholder Group meeting. This group is made up of a number of Southwark staff (including planning officers, transport infrastructure delivery, and community engagement), as well as key industry groups (Southwark Cyclists, Living Streets, the Police Force, etcetera). Tower Hamlets do have a council officer for cycling, however they work under a general planning division. Tower Hamlets Council meets monthly or bi-monthly with the Tower Hamlets Wheelers' leaders and go over projects and programs.

5.2 London Cycling Campaign

The London Cycling Campaign (LCC) represents the main focal point through which my research materialised. In this chapter, I describe the background of the LCC and their relationship with the historical policy development of cycling in London, my role as a board member of the charity and how this links to action research and my role as an activist, and their involvement with my doctoral research.

In this project, the LCC can be considered an intermediary in the transition process. It is one of the largest urban cycling charities in the world and is a member-based organisation whose members can directly influence its policies and campaigns. In London, LCC acts as an intermediary in a number ways:

- (1) Between volunteer grassroots groups and Transport for London
- (2) Between local government organisations and Transport for London

- (3) Between other environmental and cycling groups
- (4) Between the media and volunteer grassroots groups
- (5) As a representative of micro-mobility, sustainable transport, and general urban planning groups

5.2.1 A brief history of the London Cycling Campaign

LCC is a cycling charity in London campaigning for cycling infrastructure and that encourages Londoners to cycle. The charity was started in 1978 and has since become an authority on cycling in London. LCC are regularly featured in the media promoting cycling and they liaise with Transport for London (TfL) and local borough councils, as well as a variety of other stakeholders.

‘LCC was launched on 28 September 1978 at the Cheshire Cheese pub in Fleet Street. [...] In December 1978, LCC undertook its first piece of direct action at Albert Gate in Knightsbridge by implementing a cycle crossing scheme using white tape and cardboard signs (with the Press in attendance). The scheme had been proposed in 1977, but had been turned down by the [Greater London Commission]. [...] The cycle crossing was soon to become a reality, one of LCC's first campaign successes in the city.’¹⁴

The charity employed roughly 15-25 people during my participation with them and has over 11,000 members and 32 local cycling groups representing each borough. In addition, it is operated by a Chief Executive Officer and has a trustee board of 10 people who help ensure the charity is meeting its statutory duties as a charity and advising on the overall strategy of LCC; I became a trustee in July 2017.

LCC have undertaken many major initiatives and campaigns over the last ten years, these include: (1) Love London, Go Dutch; (2) Space for Cycling; (3) mayoral campaigns; (4) Climate Safe Streets; and (5) Campaigners Conferences. Each of these initiatives and campaigns represent a potential for a micro-acceleration or deceleration of the cycling transition. Numbers 3, 4, and 5 are discussed further in Chapter 6.

¹⁴ In 2020 LCC updated their website, this was used before the updated website. This page is no longer active.

Climate Safe Streets

The Climate Safe Streets campaign was developed in 2020 to coincide with the London mayoral campaign. It included the [Climate Safe Streets: Delivering Zero Carbon Roads in London by 2030](#), examining the impacts of transport on climate and how to make climate safe streets utilising active transport and place-reconfiguration. COVID delayed the launch and the campaign, in addition the mayoral campaign was pushed back a year to 2021. The group provided a '[Climate Safe Streets One Year On](#)' update to coincide with the new election date and campaign. The campaign depended on one volunteer from each London borough to support the campaign and be a Climate Safe Streets Champion. This was LCC's response to Extinction Rebellion and the climate strike movement – their own personalised campaign.

Researcher relationship and participation goals

Shortly after moving to London, I became involved with the London Cycling Campaign. As a previous active transport and healthy streets activist and campaigner in Australia and the US this was a natural fit with my historical volunteer and work areas. In 2017, I became a board member of LCC. Shortly thereafter when developing my doctoral research, I was made aware of action research and the possibility of linking my initial overarching research (how grassroots groups enable faster changes) with actually doing the activism. After discussing it with the Chief Executive Officer, the Board of Trustees, my advisors, and the university ethics committee, we came to an agreement on proceeding with action research using my position as both a researcher and a trustee of the board. It was agreed that the board meetings would not form part of my thesis (e.g. business, finance reporting, human resource issues, or charity obligations). The following step was to discuss with the CEO and the Campaigns Team questions, issues and concerns about this action research project (discussed further in Chapter 8). The participation agreement was then developed with the CEO and the Campaigns Team in line with my overall research objectives. The areas and process of engagement with the London Cycling Campaign (LCC) were different to that of the local groups.

5.2.2 Participant agreement with London Cycling Campaign

In section 4.5, I described the process for developing the participant agreement with London Cycling Campaign. Table 11 provides the elements and appendix A a copy of the full agreement. During the

development of the participation agreement, a number of areas required reflexivity. My position on the London Cycling Campaign as a member and board member existed first. Prior to my approaching the CEO and Board regarding participation in this research a number of factors needed to be considered. Chapter 4 explored the positionality of the researcher across the different areas.

Table 10 Research participation agreement elements (Author)

Research participation agreement elements

Areas of research:

- Working with LCC to identify barriers to creating infrastructure changes in London
- Working with LCC local groups to identify barriers to creating infrastructure changes; identifying (or creating) tipping points for quicker transition; and role of life cycle analysis (or other modelling) is used by local government to make decisions.
- Identifying capacities and skills of the community movements in relation to barriers.

General agreement:

- No financial contributions to either party are to be made as part of this research agreement.
- Information and researcher provided by local cycling groups will only be provided to LCC with the consent of the local group.
- The CEO and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, staff, and other material relevant to research with activists, government, and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
- Liaise with associated local groups on the research project as required.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not assess the performance of staff, or make assessments of any other HR-related matters; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory, or reputational risk, then these shall be reported to the Chair and CEO.

Deliverables:

- LCC will receive a consultancy report at the end of the research detailing findings, recommendations, and conclusions. LCC will have full publication rights of the report provided.
- Any templates, workshops, modelling, or engagement material developed by the researcher will be providing to the participants during and after study.

All or part of the content discovered during this project may be used by the researcher in:

- In the doctoral thesis, in academic papers, policy papers, or news articles, on our/my website and in other media that we may produce such as spoken presentations, on other feedback events, and in ethos.

5.2.3 Organisation structure of London Cycling Campaign

The London Cycling Campaign is a registered charity with a small consultancy subsidiary to support consulting work. The organisation has approximately 15 to 25 paid staff. It has a fairly flat organisational structure with five division managers reporting to the Chief Operating Officer. The five divisions are the 'Campaigns Team' responsible for organising and running campaigns across London, for elections and supporting the local groups and activists, in addition to responding to consultations, policy, and government engagement. This team delivers the strategy and action plan for LCC. They also engage most deeply with government officials, media, and industry. The second division is the 'Cycling Projects Team' which primarily function as the consultancy arm delivering paid projects to local government, Transport for London, or industry. For example, they have undertaken the Urban Cycle Loans program, Cycle Infrastructure Database auditing, and advice for e-bike companies. Their secondary function is to support major events or ad-hoc projects, for example, Ride London Free Cycle or major rides. The funds from the consultancy arm are delivered back into the charity to support volunteer activities. The third division is the 'Finance and Administration Team', providing office administration, financial management, and due diligence. The fourth division is the 'Partnerships Team' that supports charitable partnerships and the patron network. Lastly, the 'Marketing and Membership Team' manages individual member recruitment, membership support, marketing of the charity, membership benefits (for example insurance, lights, etc.), and website and data management. The Board of Trustees historically consists of an average of ten trustees. The trustees are voted on in the annual general meeting (AGM) by all registered members. A chair, treasurer, and chairs of the variety of sub-committees (Business Committee, Campaigns and Active Membership Committee (CAMS), Infrastructure Committee, and Policy Forum). I was the chair of CAMS, the Infrastructure Committee, and the Policy Forum. In 2019, with my two-year trustee period ending, the organisation voted to add another year to my position in order to continue facilitating the local group research and other local group support.

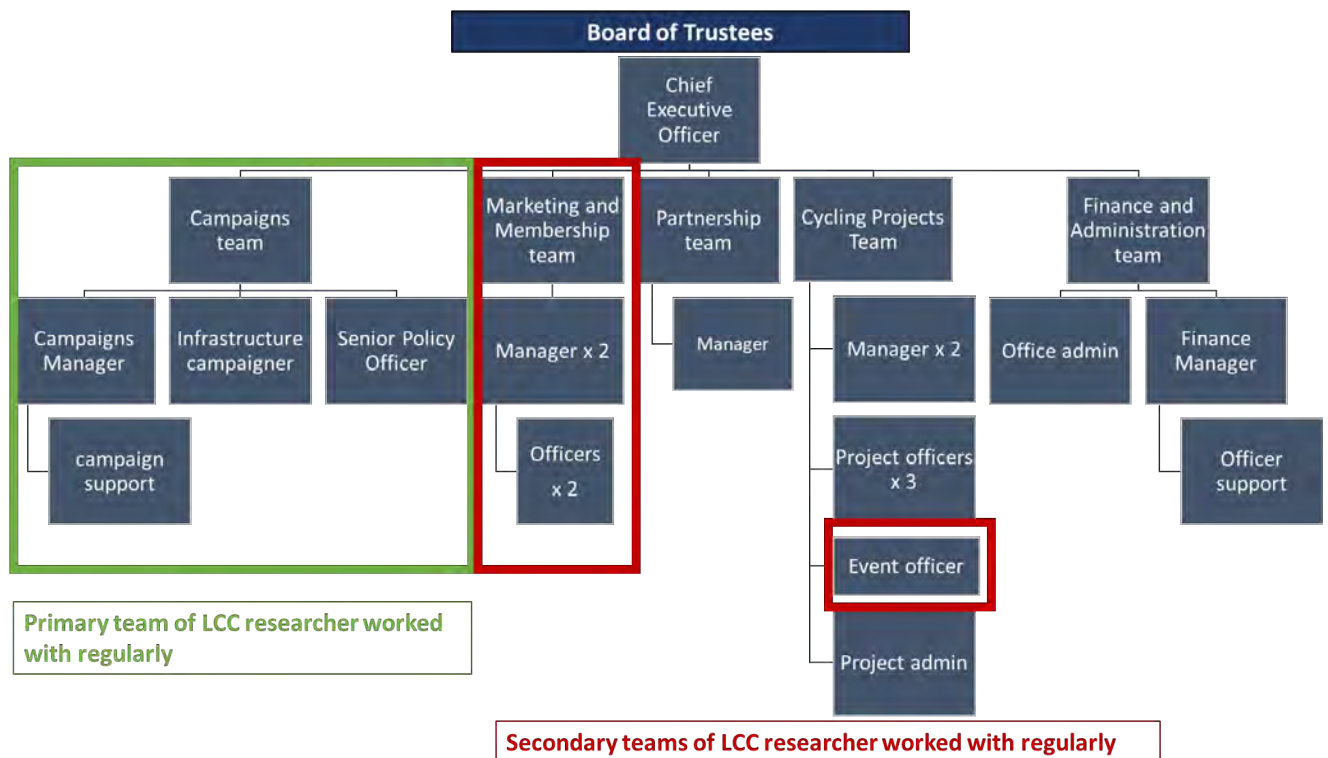


Figure 18 Adapted organisational structure of LCC

5.2.4 Initial observations

LCC engages with their local volunteer grassroots on a regular basis. Understanding the effectiveness of LCC’s engagement with local groups, how local groups run their campaign, and how LCC shares knowledge with the local groups to improve their effectiveness in campaigning were an important part of the action research project. The following sections describes the background and initial observations of this process. The evolution and the local groups’ response to LCC engagement and outreach are discussed further in Chapter 6.

LCC is one of two major cycle charities in London, the other being Sustrans. They differ in that Sustrans does not have local groups or a volunteer membership base and LCC perform the majority of their works as charitable works. LCC, like many organisations, had a majority white older male Board of Trustees and their local groups were overwhelmingly the same. This has changed quite significantly between 2017 to 2021 and diversity increased. LCC sought to improve this in a few areas. They actively sought female, younger, and diverse board members. They led several internal workshops and meetings with external activists on how they could improve their outreach and acceptance of more

diverse groups. Existing board members, like myself and a few others, sought out existing volunteers who could be a good addition and rising activists who were not part of LCC but aligned in values. Hiring policies had always sought to include more diversity, however issues of a lack of applicants applying meant they had limited impact. LCC began to review advertisement as a way to attract a greater and more diverse applicant pool.

Local group development

Local group development is a key strategic action for the London Cycling Campaign and a key component of my doctoral studies. LCC depends on its affiliated local volunteer groups to enact campaigns and deliver change across London. There were initially 29 local groups one for each of the London boroughs with two not active, in late 2022 there are now 33 (LCC 2023). These local groups act both strategically in support of LCC and individually on local issues and actions that matter to them. The local groups are a significant volunteer base with continued engagement with local government. They have the capacity to influence and engage with local government, local councillors, residents, and business groups.

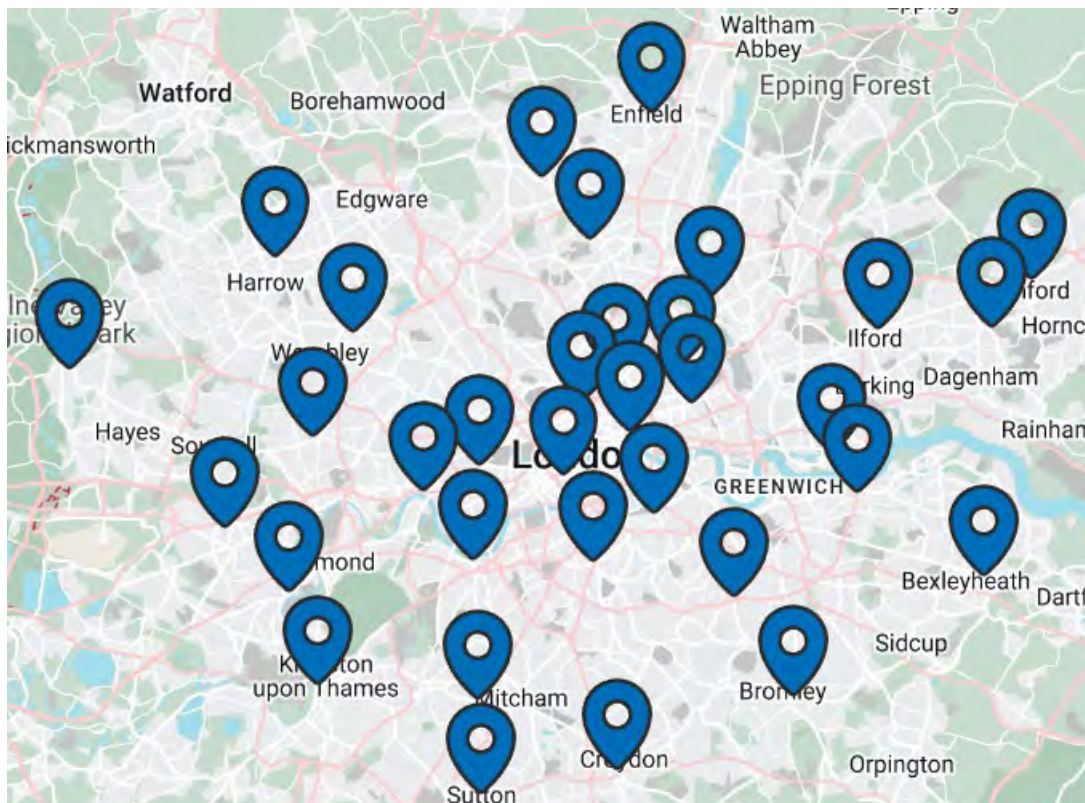


Figure 19 LCC local volunteer groups (LCC 2023)

In addition to the avenues that local groups have to engage with LCC noted in table 11 and the section above, LCC have developed a series of tools and handbooks. This includes, the [Campaigning Handbook](#), [Infrastructure Handbook](#), [local group Coordinator Handbook](#), an activist portal with [local group resources](#), and a Campaigners' Conference. All these tools and handbooks were refreshed or created in 2019 and 2020. The [local group resources](#) include: local group safeguarding policy, COVID guidance policy, photos and images, how to send emails in Civi (an organisational communication data base), webinars and reports, and useful cycling data sources, as well as links to other useful information from other organisations (LCC, no date e). This is discussed further in Chapters 6 and 7.

Groups have a few different avenues to engage with LCC (table 11), these are discussed in the next sections. In addition to the avenues that local groups have to engage with LCC have developed a series of tools and handbooks. This includes, the [Campaigning Handbook](#), [Infrastructure Handbook](#), [local group Coordinator Handbook](#), an activist portal with [local group resources](#), and a Campaigners' Conference. All these tools and handbooks were refreshed or created in 2019 and 2020. The [local group resources](#) include: local group safeguarding policy, COVID guidance policy, photos and images, how to send emails in Civi (an organisational communication data base), webinars and reports, and useful cycling data sources, as well as links to other useful information from other organisations (LCC, no date e). This is discussed further in Chapters 6 and 7.

Table 11 LCC communication avenues with local groups

Name	Communication type	Frequency	Data collection
Direct communication with staff	In person, via phone, and email	Ad hoc	Observations
LCC Slack channels	Online	Daily to weekly	Observations (minimally used)
LCC Twitter, Facebook, LinkedIn	Online	Daily to weekly	External communications and broader engagement
Local Group Forum	In person and online	Quarterly	Observations, deepening engagement between LCC and the local groups, and communications regarding my research
Policy Forum	In person and online	Quarterly	Observations
Annual general meeting	In person and online	Annually	Observations at public AGM.
Trustees local group contact	In person, via phone, and email	Ad hoc	Initiated by researcher Limited to no observations
Local group survey	Online	yearly	Re-initiated through research. Used as quantitative and qualitative analysis.

Campaigns and Active Membership Committee

CAMs coordinates campaigns and involvement with activists. The committee develops strategy, action plans, and social media content for campaigns at all levels (local government, London-wide, or national involvement). Further, they are involved with local group resource development, surveying the local groups, building activist capacity, infrastructure consultation responses, and engaging in policy changes. This is why in contrast to the rest of the areas of the board and committees, CAMS is directly involved in the research objectives and goals. In 2018, I became the chair of the committee and worked with the Campaigns Team closely on the Framework for Change and many other elements in the research.

Policy Forum

The Policy Forum assists in developing and researching policy positions, and producing reports and white papers for LCC. Any registered member of LCC can bring a policy change or discuss policy issues at the forum. Any amendments or motions brought forward by members or the board are debated before the AGM which provides an opportunity to refine or research the motion or amendment. The Policy Forum meetings may be attended by any paid-up member of LCC (but they do not have a vote at meetings). Lastly, the Policy Forum is a support committee for CAMS which feeds into the Board of Trustees. During the 2018 to 2020 period, I was the chair of the Policy Forum.

Local group survey

The annual local group survey was operated on a casual basis, prior to 2018 it had not occurred for two years prior. In 2018, we revived the local group survey and completely changed the format. The information in the local group survey allows LCC to understand the needs of the local groups better, monitor the progress of the local groups, their engagement with local government, and other groups, and discern the characteristics of their progress. It also looks to understand how LCC can improve their outreach and direct their limited resources effectively and with the greatest impact on change. Some survey results are noted in Chapters 6 and 7.

Trustee local group contact

Each local group has a trustee representative that was a contact point for groups. This was a new program developed during 2018. It allows direct communication from the local group to the Board of

Trustees and vice versa. Trustees occasionally attend the local group's meetings or training activities. I acted as the local trustee for the three groups that I was researching.

5.2.5 Engagement with LCC

The research engagement with London Cycling Campaign took a different approach than with the local groups. The engagement was primarily with the Campaigns Team, CAMS, and the local group forum. The action research with LCC examined how LCC engaged with local groups, how they could become more effective in engaging with those local groups and local activists, and what resources or strategies for local groups could be more effective. I supported the Campaigns Team, providing feedback, and things for them to reflect on. The primary methods for engagement were emails, phone calls, individual meetings, committee meetings, local group surveys, and the Campaigners' Conference. This engagement provided observational data, quantitative data and qualitative data. This data was utilised in different ways. Firstly, during the participatory action research the observational data provided insights into the relationships between the local groups and the LCC head office (both individual staff, campaigns, and the board). Secondly, how the head office utilised the framework for change and learnings from the three groups into the LCC campaigner's handbook, campaigners conference and the local group survey. Thirdly, the local group survey was utilised to understand changes in LCC's understanding of local groups needs on their activist journey and where they were on their activist journey. Lastly, observational data assisted in understanding the culture of London Cycling Campaign.

5.3 Enfield Cycling Campaign

5.3.1 Background to Enfield Cycling Campaign and Enfield Borough

The grassroots initiative in Enfield consists of two groups, Enfield Cycling Campaign (ECC) and Better Streets for Enfield (BSfE). Enfield Cycling Campaign were founded at least 15 years ago. The Better Streets of Enfield group was established a few months prior to my engagement. Much of the initial membership was identical to the ECC, however this had changed dramatically by the end of our research.

Enfield is an outer borough area of London based 12 miles from the centre of London. It has approximately a population of 332,705 with a large proportion of 0-14 year old and elderly residents

and a significant percentage identifying as Greek¹⁵ or other non-British background (Enfield, 2018). Enfield is a very large borough bounded by the outer ring of London. It has medium to low density housing with some higher density housing located near select railway stations. In the western part of the borough, socio-demographic factors of income, home ownership, etcetera are in the higher brackets.

5.3.2 Local government transport policy

Enfield was one of three council areas who secured Mini Holland funding of £30 million to create a network of cycle routes (London Assembly, 2018). The implementation should be completed by 2021. This funding is ring-fenced, meaning it cannot be reallocated or taken away. The Council received the funding in 2014; since then, the Council and ECC have seen significant opposition to the development of the cycle lanes in Enfield, in particular the Green Lanes separated cycleway and the A105 (Powell 2016; Gillett 2017;). The consultation process for the first scheme of the mini-holland funding lasted 18 months and survived a judicial review. The majority of the allocated money has been spent on separated infrastructure and intersection improvements, meaning any new infrastructure may need additional funding streams or reallocation of priorities. It is a gap that the ECC group is trying to understand, i.e. how much of the £30 million has been spent and where. It was during this time that the groupw originally called We Support Enfield Mini-Holland changed its name to Better Streets for Enfield since “half its members were not cycling campaigners” (Hill 2017).

Enfield Council was the second mini-holland scheme following closely behind Waltham Forest Council in delivery of cycleways and the mini-holland scheme. Enfield Council received significant opposition and during the initial consultation of the cyclelanes. In particular, the local volunteer cycling group, Enfield cyclists, experienced “vitriol” against them personally as campaigners and the council as well⁹. This led to the development of Better Streets for Enfield in 2018. The development of Better Streets for Enfield (BSfE) was to enable inclusivity for road users that weren’t cyclists (e.g. pedestrians, wheelchair users, or local businesses) and effectively brand the group as independent from Enfield Cycling Campaign. Further it allowed volunteers who were part of the London wide living streets

¹⁵ Greek was noted by the local group as strong minority group particularly in the east part of the council, further the Major and key councillors were of Greek origin.

movement to support a group that aligned with those goals (e.g. healthier, greener streets). The BSfE branding has enabled wider and greater diversity. The ECC group was primarily older white males, however, it has since started to attract more females, parents, and younger people. Most of the members are in the wealthier western side of the borough.

5.3.3 Research participation and participation goals

In April 2018, I met one of the joint coordinators at an annual Public Policy Forum an event I spoke at. We spoke at length about the Enfield Cyclists, my previous work in Australia, and current research in London. We kept in touch via Twitter and after the original groups had not responded to me, I reached out to the coordinator about participating in our research. I presented my research project to the Enfield Cyclists group. Enfield Cyclists agreed to participate and requested that Better Streets for Enfield also participate. Both committees agreed and discussed the participation agreement.

Enfield Cyclists had multiple goals and for the purpose of my research they selected some specific goals we could work on together. These included:

1. Working with Enfield Cycling Campaign and Better Streets for Enfield to identify barriers to creating infrastructure changes
2. Identifying (or creating) tipping points for quicker transition; role of life cycle analysis (or other budget modelling) is used by local government to make decisions; and identifying capacities and skills of the community movements in relation to barriers.
3. The goal of Enfield Cycling Campaign and Better Streets for Enfield includes delivering a low traffic neighbourhood (LTN) in the Fox Lane N13 area, as a possible test case for LTNs in other areas

The goal of the action was to 'get stuff done faster'. How could they speed up the changes desired? Gain better traction and policy wins with the Council to enable active travel infrastructure? Though all the groups were cycling based, walking was often included in their goals (more on this later).

5.3.4 Initial observations

Enfield cycling campaign were an active and passionate group who were keen to learn and improve their campaigning tactics. The local volunteer group is made up of predominately white older males,

whose leadership and most active member was a white female. I make note of that here as the group were happy to be self-reflective and discussed this quite freely. The group recognised and were the first group to discuss how to attract and increase the number of diverse members. They were also first to identify several steps to broaden their group. Initial research observations indicated keen organisers with enthusiasm and time, but not as effective as they could be, spending their focus on the process, emails and meetings¹⁰.

Regime interactions

The local group regularly engaged with the Council but did not have a standing meeting with council staff. This created a gap between the local group and the Council. In contrast to Tower Hamlets or Southwark who have standing meetings, the lack of a standing meeting was met with frustration by the local group. Though the group did not have a standing meeting, the group did regularly engage, primarily by phone and email, with the manager of the Cycle Enfield program which directs and manages the Mini Holland roll-out.

In 2019, a political leadership change meant large changes in councillors' roles and political alliances. Even with these changes, the group's non-political stance enabled them to build new relationships whilst utilising or continuing the old ones. One of the groups actions was to try and engage all councillors regardless of political affiliation and location in the borough. They reached across party lines and secured support from members of both parties and members with cabinet positions. Further to this, it has helped them engage with individuals in the eastern part of the borough which they hadn't previously done.

Cycle Enfield (the division who runs the cycling program) did not share much information nor did the councillors involved. It was identified as a missed opportunity to engage more collaboratively and deeply with Enfield Cycling Campaign or Better Streets of Enfield, (and possibly others)¹¹. It is unknown whether this is due to capacity issues, reluctance to engage to be seen as political, or any other number of things. The layer above the Cycle Enfield Manager is the Director of Place. These positions represent middle and senior management. It is possible that they represent an additional barrier to more rapid change, in addition to the reluctance of councillors to stand up to small, but vocal minority opposition from residents and businesses.

Landscape

The cultural landscape in Enfield is dominated by motor vehicles. Similar to the narrative argument, locals create a small but loud oppositional force. The opposition to the transition relies on false narratives to scaremonger and detract from proposals at hand. The main opposition talking points included: cycle lanes will bring more traffic, cycle lanes will bring more pollution, removal of car parking will be bad for business, cycle lanes cost too much money (Walker, 2019). Whilst this has not been effective in stopping the major separated cycleways of Green Lanes and the A105, it has presented a challenge for any additional infrastructure including low traffic neighbourhoods, parklets, and other supporting active transport infrastructure. This may be a barrier to greater political action as the group are still trying to get greater and stronger support in the government. This may be why, in comparison to Waltham Forest mini-holland schemes, it has been rolled out more slowly and lower quality of infrastructure.

5.4 Southwark Cyclists

Southwark Cyclists are an active affiliated group of the London Cycling Campaign. One of the largest groups membership groups of LCC, they have also been one of the best fundraisers for cycling in the organisation. Southwark Cyclists represent Southwark, an inner London borough located on the south side of the river Thames with a population of approximately 288,300 (Southwark 2021). It is a major transport thoroughfare for London as a whole with freight, motor vehicles, rail, and buses travelling through Southwark to the north side or from east to west (Southwark 2019). Additionally, it is a major network point for cyclists coming from the south into London's city centre.

5.4.1 Participation goals

The Southwark cyclists were one of the original groups that received the research request email from LCC. I first met with their coordinator and other committee members at their twice monthly Dr. Bike session to discuss my research project and whether they would be interested in participating (July 2018). They agreed they were interested and would take it to the rest of the committee. We exchanged emails, questions, and the research participant agreement. I attended a committee meeting in September 2018 where we finalised goals of the group, and my group liaisons. The research participant agreement was agreed and signed by the Southwark committee representatives on 2 October (see Appendix A for agreement).

Southwark's research goals included:

1. Working with Southwark Cyclists to identify barriers to creating infrastructure changes
2. Identifying (or creating) tipping points for quicker transition; the role of life cycle analysis (or other budget modelling) used by local government to make decisions; and identifying capacities and skills of the community movements in relation to barriers.
3. Council engagement and the Cycling Joint Steering Group (CJSG), cycling infrastructure implementation, and improving volunteer and engagement with the cycling group.

5.4.2 Initial and ongoing observations

Southwark Cyclists are currently involved in many campaigns and operate based on the interests of the committee members who are willing to take up projects. Therefore, the group is very project focused and less goal focused. For example, one committee member likes to run cycling events, another prefers to map critical infrastructure fails, and another is into Dr. Bike (a twice monthly drop-in bike fixing session where riders can pop in and have their bikes checked for free, get their tyres pumped up, and other simple maintenance jobs). Southwark Cyclists have 1,100 members from LCC in their borough group, a membership base that is one of the largest of LCC local volunteer groups. This group initially was in a strong position as they do more regular local rides than the other two groups, already have established connections to other groups, the budget of the campaign group is extremely healthy, and they are already a well-known entity. The group are very events focused and hold multiple charity events every year which are highly successful. Those events have provided Southwark Cyclists with a strong financial position to deliver additional events, cycle support, or campaign activities. The group, however, has difficulty in attracting new volunteers and an activist base for their borough. They do have a notable volunteer who is also part of another group advocating for streets change, e.g. Living Streets. This dual role has provided ties to others across the borough.

This group has been quite a bit different than the others. It took a while to get momentum. This was likely due to a few reasons, the leader of the group who undertook the majority of the event management, council engagement, and campaigns had a sudden personal issue that reduced their activity significantly. Secondly, the group focused more on infrastructure consultations, individual events, bike maintenance, and bike rides, and less on strategic campaigning of the local council and councillors. Over the course of the engagement, the group slowly had existing members begin to

participate more and new members join who wanted to be active. After the Campaigners' Conference in 2019 more members attended and engagement increased.

The group regularly meets and also has quarterly meetings with the Cycling Joint Steering Group (CJSG). These meetings are not always strategic, but the group has become more effective at directing them and the outcomes. The group were able to provide feedback on the Local Implementation Plan bid, Movement Plan Survey, and other documentation prior to release to public. Even though the mayor's office and the TfL office are in Southwark, the Southwark Cyclists can face heavy opposition to cycling infrastructure plans and similar to Tower Hamlets are a major thoroughfare to centre of London. The Council is moving, but moving very slowly.

Recent actions to support the strategy, such as new postcards with the key messages, will likely grow the group's outreach. New coordinators, new jobs, and a website overhaul may help as well.

5.5 Tower Hamlets Wheelers

Tower Hamlets received a more in-depth socio-technical analysis in contrast to the other two groups. Tower Hamlets analysis was started first, then issues related to COVID, time and requirements for paid employment led to the other groups not receiving the level of detail of Tower Hamlets.

5.5.1 A brief history – background to Tower Hamlets Wheelers and Tower Hamlets Council

Tower Hamlets Wheelers are an active group within the London Cycling Campaign founded over 30 years ago. They were one of the first local affiliated groups of LCC, and represent Tower Hamlets, an inner London borough comprising approximately 304,900 people. It is considered a more underprivileged area of London despite having the financial centre of Canary Wharf within its boundary. According to the Tower Hamlets Council, 'Three in ten households in the borough are in receipt of Housing Benefit, a means-tested benefit which helps low-income families with their rent [...] [and the borough] has the highest rate of child poverty in the UK' (Tower Hamlets, 2018); and Tower Hamlets is one of the 'most deprived 20% of neighbourhoods in England' (Leeser, 2019). Additionally, the borough regularly exceeds the high levels of pollution targets by the EU (Tower Hamlets Council, 2019b).

5.5.2 Local government transport policy

Tower Hamlets Council was enacted in 1965 and has a rich history due to its location in Greater London. In 2003, it released the 'going by bike' campaign, establishing the five Es, Engineering, Engagement, Education, Encouragement, and Evaluation. In 2008, 'Making Connections – towards a climate-friendly transport future 2008–2033' the green transport strategy was released. In 2009, the 'Cycling Connections (a strategic policy and plan for cycling) 2009–2020' was released setting out numerous ambitious targets for cycling. It utilised the five E's set out in the 2003 plan. It was here that I was able to identify the first cycling targets (table 15 illustrates the changes).

Under Mayor Johnson and his TfL administration, the Mayor's Transport Strategy 2 required the Local Implementation Plan (LIP2) (a document that requests funding from TfL and sets council plans that align with the mayor's transport strategy) to meet its objectives and councils prepare a transport strategy. In response, Southwark prepared the 2011 Southwark's Transport Planning Strategy (2011–2031) was released (Southwark 2011). It is a consultant-driven document, heavy with engineering focus, existing funded projects, and potential for TfL-backed funding streams. The community

engagement element of this document was lacking with no external consultation notes, they did have internal stakeholder workshops including departments within Tower Hamlets, TfL, and the London Thames Gateway Corporation (LTGDC). The document thoroughly prepared for an internal audience. The 2011 plan highlighted the 'current funded infrastructure improvements and policies that are already underway [rail, bus]' to accommodate the 50% population and jobs growth expected. On initial reading it appears as a document with graphics modelling increases in car trips, however much of the focus and delivery is actually on trying to reduce car usage given the constrained road network. The delivery of the action of the 2011 plan would have transformed much of Tower Hamlets and represented a shift towards active transport policies. Further it would have provided a communications campaign on impacts of motor vehicles to the borough. The stakeholder workshops (council officers, councillors, and key stakeholders) noted that the parking interventions here have a high deliverability risk, but did not specify why. It would seem that the issue of backlash from car users was feared (PAR meetings held during development of strategy). The consultants noted that the 'high level of flexibility and low cost' of parking made car ownership attractive and that parking interventions should be a short-term project. Permits in 2011 only cost £55 per annum, and users are entitled to 'unlimited parking within their own zone and up to 3 hours per day in any other zone' (Southwark 2011, 84). In 2020, this still has not changed.

In 2015, John Biggs, Labour party, was elected as mayor of Tower Hamlets. His role in the transition is discussed in later chapters. Prior to his election, many of the proposed interventions in the strategy were not delivered. In 2016, some of the suggested parking policies in the 2011 strategy began to change. Many of these were promised in Mayor Biggs's Labour manifesto. The 2009 cycling strategy and 2011 transport targets were replaced by the Tower Hamlets Cycling Strategy in 2016 which set goals for 2025 (Tower Hamlets 2016). This document set out 32 pledges as an action plan to enable the 2025 targets. This was the first cycling strategy that noted the 'involvement of local cycling clubs is a key part of this strategy in increasing levels of cycling. Evidence shows that peer-to-peer engagement is the most effective method of ensuring sustained involvement.' (Tower Hamlets 2016, 25). It recognised Tower Hamlets Wheelers as one of two local cycling groups. Further it stated, Tower Hamlets Wheelers 'has become a key stakeholder for the Council. Wheeler's members help report cycling issues through their website and the group is an important conduit for wider consultation with cyclists.'

In 2018, the council released its 'Community Engagement strategy', a co-production strategy initiative with the New Economics Foundation. It provided thematic partnership delivery groups ('responsible for delivering the outcomes of Community Plan'), though not a specific one for transport. The document was developed with the input of locals and stakeholder feedback. Further, in 2018, the UK national government, stated 'that every authority in the country should have a Sustainable Modes of Travel Strategy (SMOTS)'. The 2020 Tower Hamlets transport strategy takes a much different focus than the previous plans, being driven by the community engagement strategy. It is a people-focused document that focuses on outcomes rather than targets.

During 2019, the Community Engagement Strategy was utilised to develop the Mayor's Transport Strategy released in January 2020 (Tower Hamlets 2020). The plan utilised a co-production process. The THW were consulted and invited to provide feedback prior to the strategy being released. The previous strategy in 2011 was consultant driven and appeared to have little to no community input. This version was delivered utilising the new Community Engagement Strategy, thus input was at draft stage and it was built around understanding key movement principles and the quality desired by the residents. It was not engineering driven and instead focused on goals and visions. The council started with an initial internal workshop held in late 2018. The council staff and specific councillors discussed issues of behaviour change and working with children in schools, however they did not note the lack of infrastructure being a key driver of the perception of safety issues. Nor did they note any internal staff issues as barriers to their transport strategy, e.g. the issue of staff not supporting active travel measures. This was further noted in the invitation.

Table 12 Tower Hamlets Transport Strategy Internal Workshop Summary (Author)

Tower Hamlets Transport Strategy Internal Workshop Summary (PAR notes)

"Key findings of the internal workshop are:

- a. Issue of ingrained behaviour change: need to consider what more the borough can do tackle this issue.
- b. Working with children and schools: link with schemes currently being delivered by the Council, including Super zones, Schools daily mile and Health schools.
- c. Involvement of businesses: explore the possibility of engaging businesses more.
- d. Road safety: cycling is perceived as unsafe. Need to tackle road safety issues and the perception.
- e. Young people in the borough: this is an opportunity for the borough as they are physically able to cycle."

The council did not note any internal issues in their development of a council transport strategy, nor did they highlight issues around the lack of infrastructure being a key driver of the perception of safety issues.

The focus group and mini-summit – which Tower Hamlets Wheelers were included in were to discuss ‘three key issues that we need to tackle through the Strategy: increasing road congestion and overcrowding; air pollution, and; physical inactivity of the population. Transport is the main contributor of London’s air pollution.’ Further the invitation highlighted issues of air pollution, stating ‘it is known that children, unborn babies (pregnant women) and older people are more vulnerable to air pollution. It is also known that physical activity has benefits for both physical and mental health.’ Lastly, they stated as part of this engagement it ‘is critical that the Strategy is informed by a range of stakeholders to tackle these issues and encourage behaviour change’. The mini-summit had stalls from various projects that the council were involved in and was an ‘Opportunity to learn more about Tower Hamlets Council’s projects on transport, air quality and health.’ The speakers included Mums for Lungs. This mini-summit formed part of the external consultation as a co-design process. Many Tower Hamlets Wheelers and Better Streets for Tower Hamlets coalition members were in attendance (at least 15 that I am aware). Myself, and my youngest son, attended on the evening as observers.

The external consultation and individual surveys noted infrastructure as a key driver. Over 2,000 people completed a survey prior to the draft strategy being released. It had a large focus on walking, cycling, and healthy streets. The Council stated that their current mode share for sustainable transport is 80%, but offered conflicting statements and evidence regarding this breakdown. The strategy noted it had a goal of 90% of trips made by walking, cycling or public transport trip by 2041; it highlighted that only 8% of its cycling potential had been fulfilled and nearly 200,000 additional trips could be taken by cycling. The 90% target is in line with the Mayor of London, Sadiq Khan’s, Mayor’s Transport Strategy. It grouped the walking and cycling together so understanding the mode share split or target is difficult. Whilst this is beneficial in achieving active travel, it makes understanding infrastructure needs for cycling (and diverse cycling) difficult. Further, it doesn’t consider other micro-mobility modes or their role in car-free cities. It notes that at least 40% walk and cycle. Car ownership in Tower Hamlets is still at 37%, so quite high considering they state that only 20% of trips are made by car. Further, 29,000 car permits are issued for 25,000 on-street spaces. They note that ‘some of our parking rules enable short car trips to be made at all times of the day’ (page 7). This is referring to the issue of low-cost parking permits and the ability to travel to another zone and get three free hours of parking in addition to unlimited in zone parking. This is an issue that Tower Hamlets Wheelers routinely discuss as a problem. The cycle hanger parking permit is £72 pounds a year. A goal of the

strategy is to, 'Reduc[e] the number of estate parking permits to people who don't live in the borough.' It defies logic why and how non-residents can continue to get residential parking permits. No clear reason was identified for why this was permitted.

'School streets' are a growing infrastructure and policy direction across many councils including Tower Hamlets. An initial 20 school streets are planned with a total of 50 school streets to be delivered by 2041 (PAR meetings). This is in contrast to the 113 schools that exist in Tower Hamlets. On the 8 June 2020 Tower Hamlets monthly meeting, Councillor Tarik Khan, Councillor James King, and Gemma Ganadin (who leads consultations for school streets) were on the Tower Hamlets Wheelers zoom call. It was noted, by me, that at the current rate of installation, all current school aged children will be matriculated before they are installed. Further to this, the plan is not based on full coverage, however the strategy was to focus on areas with high air pollution, and areas with ease of installation¹².

Table 13 Tower Hamlets policy analysis (Author 2019)

Policy Name	Actual or target	Year	Walk	Cycle	Bus	UG/DLR	Rail	Car	
2001 Census	Actual	2001		4%					
Making Connections – Towards a climate-friendly transport future (2008-2033)		2008	no targets	no targets	no targets	no targets	no targets	no targets	
Cycling Connections – The Cycling Plan for Tower Hamlets	Actual	2008		2%					
Cycling Connections – The Cycling Plan for Tower Hamlets	Target	2020		6%					
Transport Planning Strategy (2011-2031)	Target	2006/ 2009	40	2%	15%	18%	4%	21%	
Transport Planning Strategy (2011-2031)	Actual	2011		7%					
TH Cycling Strategy (2016 Policy)	Actual – Journey to work	2016		7 (2011 census number)					
TH Cycling Strategy	Targ	2025		15%					
Transport Strategy (2020-2041)	Actual	2019	40%	unknown	39%				
Making Connections - Towards a climate-friendly transport future (2008-2033)	Target	2033							
Transport Strategy (2020-2041)	Target	2041	40% walking (90%)						10%

5.5.3 Participation goals

Tower Hamlets Wheelers had multiple goals and for the purpose of research they selected some specific goals we could work on together. These included:

1. Working with Tower Hamlets Wheelers to identify barriers to creating infrastructure changes
2. Identifying (or creating) tipping points for quicker transition; the role of life cycle analysis (or other budget modelling) used by local government to make decisions; and identify capacities and skills of the community movements in relation to transition barriers.
3. The manifesto goals of Tower Hamlets Cyclists, including (1) significant new cycle routes, (2) low traffic neighbourhoods, (3) increase in bicycle parking.

The goal of the action was to 'get stuff done faster'. How could they speed up the changes desired? Gain better traction and policy wins with the Council to enable active travel infrastructure? Though all the groups were cycling based, walking was often included in their goals (more on this later). The general agreement between the local group and myself was different to the one between LCC and myself (see Appendix A).

General agreement:

- No financial contributions to either party are to be made as part of this research agreement.
- Information and research provided to/by Tower Hamlets Wheelers will only be provided to London Cycling Campaign (LCC) with the consent of the Tower Hamlets Wheelers committee.
- The committee and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, volunteers, and other material relevant to research with activists, government and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
 - The level of confidentiality or anonymisation (if any) which needs to be applied to any material gained by Megan through accesses provided by Tower Hamlets Wheelers.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not assess the performance of LCC staff, nor make assessments of any other HR-related matters, nor have any form of involvement in the arbitration of any kind of disciplinary matter or dispute which may arise relating to LCC members and

supporters who are active in Tower Hamlets Wheelers; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory or reputational risk, then these shall be reported to the Chair and CEO of LCC.

5.5.4 Initial observations

This section provides an overview of early observations and learning of the Tower Hamlets Wheelers, Tower Hamlets Council, and interactions between the group and the Council, as well as the London Cycling Campaign. Tower Hamlets Wheelers have over 400 paid members under the LCC membership framework (Tower Hamlets, 2018). They have won many awards at the LCC AGM in last five years. In the last few years, the group has focused on providing responses to infrastructure consultations, campaigning in the local elections, and participating in Dr. Bike and local rides. They host a popular monthly bike maintenance workshop where you learn how to fix your own bike with basic skills which can help save time and skills.

In 2017 and 2018, they developed a cycling manifesto and ran a campaign during the 2018 Tower Hamlets mayoral contest to have candidate support for their cycling manifesto (Labour, 2018). The manifesto had three key asks that they wanted to achieve by 2022, which can be summarised as ‘[1] Significant new cycle routes [...] all five routes in Tower Hamlets identified in Transport for London’s Strategic Cycling Analysis [...], [2] submit a bid for TfL “Liveable Neighbourhood” funding [...], [3] radical increase in bicycle parking [...].’ Each one included additional information and deliverables (Labour, 2018). The group noted in our initial meetings that the Labour party adopted all of these platforms into their Labour manifesto. The wording is nearly identical in much of the Tower Hamlets Labour Manifesto 2018–2022 (Labour, 2022). It was at this point, shortly after the 2018 mayoral elections, that I became involved with the group as part of this research.

Monthly group meetings

The group hold monthly meetings in a small community hall easily accessible by public transport, however, due to stairs, it is inaccessible for wheelchairs users. The agenda is set at the beginning of the meeting or just a few days before. It is not a fixed agenda and anyone can suggest additions or speak during the meeting, though the meeting is not very

welcoming to new members or new attendees. It is straight into business, so to speak. The agenda can be heavy on infrastructure design, council updates, and Dr. Bikes sessions. Initial meetings prior to our stakeholder meetings were not very strategic or focused on yearly goals and agendas. It reduced the effectiveness of having everyone in the room to discuss these issues. The group were successful because they had some key people doing lots of work, not necessarily because they were being effective collectively.

New attendees were not introduced or asked why they choose to attend, and the fact that many of the regular committee members had been around for a year or two meant that they could often talk about things these new attendees would have no idea about. Thus they wouldn't get returners and they weren't keeping the new volunteers they did have. Local group meetings changed during COVID to online formats and saw an increase in the number of attendees and new attendees to meetings.

Council advisory group

Tower Hamlets Council have an agreed upon council advisory group which meets every few months. It was agreed that I would attend these meetings as an observer and would notify council of my position as a researcher. The council agreed to my attendance and included me in meetings with the council. The council meetings were irregular despite them needing to be quarterly or bi-monthly.

Chapter 6 Grassroots groups enacting the Framework for Change, engaging with PAR, and creating transition actions

The Framework for Change is the research strategy that provides a pathway for grassroots initiatives to participate in the socio-technical transition progress. It is the tool via which the research learned about grassroots initiatives potential to accelerate the transition of cycling and walking (active travel). How the groups responded, engaged, and participated with the Framework for Change forms the basis of this chapter. The chapter describes the journey that the grassroots groups went through and the outputs that they achieved whilst doing so. It provides reflection on the framework for change process, details of the learnings of the process, and changes that occurred within the groups during their engagement with me and the Framework for Change.

The first section provides the description of how the grassroots initiatives interacted with the Framework for Change, and developed skills and knowledge-building capacity through workshops and support. My role as a facilitator is discussed in Chapter 4, section 4.4.2. The second section discusses grassroots initiatives engagement with other actors and attempt to grow influence within the niche, with the regime and broader landscape. It describes the stakeholder, allies, and other actor engagement including the building of a coalition, and the role this played engagement with local communities and government officials. The third section discuss the quantitative actions the grassroots initiatives undertook through the use of citizen science. It describes the type of citizen science, the role it played in the grassroots initiatives, it's impact and the challenges. The fourth section describes challenges in utilizing the framework for change, challenges in growing the grassroots initiatives, tensions between the framework for change and the social cohesion of the groups, and challenges of researcher roles in the participatory action research project.

6.1 Framework for Change – facilitating the engagement with the framework for change, knowledge transfer of the frameworks tools and how to use them, and the frameworks process

The Framework for Change was a campaign strategy that could be used by the grassroots groups to clarify and accelerate their transition vision (Figure 18). It was an opportunity to engage the grassroots groups to understand transitions in motion. It further allowed me to understand how these practical strategies relate to the theory of socio-technical transitions. I further sought to build in a systems thinking approach in some elements of the change framework. Teaching a systems thinking approach to the groups would build skills and capacities beyond the participatory action research engagement period. The participatory action research utilises continuous reflections for a causal loop to a new action (plan, do, check, act). The framework does the same but with a campaign focus.

The Framework for Change structure and information was exchanged in a variety of ways. Firstly, through research attendance at monthly meetings and through email discussions. These two forums allowed for reinforcing the elements of the graphics and responding to each group's discussions, questions, or decisions for their campaign. Secondly, specific workshops regarding the framework were delivered. This allowed for clarifying the vision and key asks, and creating a campaign strategy. Thirdly, through the London Cycling Campaign Campaigners' Conference and Campaigners' Handbook. Each offered an opportunity to engage with elements of the Framework for Change.

6.1.1 Workshop development and communicating the framework for change

The groups developed their visions and key asks over different time horizons and through meetings and emails. None were able to complete their visions fully in one workshop, however they made significant progress during workshop one. The initial workshop provided a solid foundation to bring them together. The exception was Southwark Cyclists which took much longer to get to their vision and key asks due to changes occurring within the group.

The Tower Hamlets Wheelers held their first workshop in early 2019. In the monthly meeting prior to the workshop we discussed and established the below, and sent an email

inviting everyone to the workshop that the goals of the strategy workshop would include: building a coalition and navigating stakeholders; turning Tower Hamlets Manifesto into a strategy/vision/principles; list of upcoming events; and an action plan including attracting new volunteers and call to actions. This group was the quickest in identifying their key asks. They were further along in a clear vision having within the previous 12 months put together their manifesto, a longer document for a local government campaign.

The Enfield group developed their vision and key asks over two workshop sessions, as well as one of the monthly meetings. The first session focused on the group's goals, mapping stakeholders, and brainstorming actions. The discussion at the first workshop was excellent and in-depth, however it meant we couldn't get through the whole workshop agenda. The discussion and points continued into the next monthly meeting, then a follow-up workshop which focused on developing detailed actions, strategy, and a timeline for the group.

The Southwark group's first workshop occurred much later than the other groups. The workshops were split over multiple time periods with the first workshop taking place in mid 2019 and others in late 2019 and early 2020. The group identified three areas of opportunity for engagement through the Framework for Change for the first workshop: (1) Identify goals and vision for the group; (2) Work on building volunteers; (3) Re-imagine council cycling committee meetings. Their group and workshop cadence was quite different to the other two groups. The first workshop was held at their monthly meeting place, however a follow-up workshop for the group was at the University of Westminster. The workshop focused on building the information developed by the group in the first workshop. The Southwark group worked to change the group structure including meetings, how committee members functioned, and website changes. This was, as noted earlier, in part due to the previous leader and activist having to step down rather quickly. It was changing from an events-based group to a campaign-based group, as well as from an older volunteer group (over the age of 50) to a younger volunteer group (under the age of 40). The group then proceeded to engage with the Framework for Change. The downside of this transition was that longer term and older members were not necessarily brought along the campaign journey. Further there were some key pieces of information missing in what I was trying to achieve. This is discussed in more detail in the challenges section 6.3.

Creating a vision

Visions provide the grassroots movement or niche a way to present a future view of the transition desired. It enables others to envision a future for the local government area. It assists the groups with really looking at their aims and objectives, then provides a basis for the goals of the groups, the key asks, and the actions that will be taken. The vision becomes the typology pathway of the transition desired.

Developing the vision took place during initial workshops a few months after my engagement with the groups began¹³. The workshop opened with the question of ‘What is our vision?’, but used a so called ice-breaker game (The Suddenly Game) to open creativity and enable the group to think about what could happen across the city if barriers didn’t exist. The Suddenly Game is played by providing a statement and finishing the statement with ‘then suddenly.’ The next person then continues with a new statement finishing with ‘then suddenly’ until everyone has completed a turn. This game was played twice. It encouraged participants to write the first thing that pops into their mind and not think too much about what they think the right answer is. The group began to use the Post-it notes more freely, establishing that there was no wrong answer and to respect what others in the group were contributing. We then morphed this into a personal goal for the group and a goal for their local government area.

Table 14 Group visions created¹⁴ (Author)

Group	Vision
Enfield Cyclists and Better Streets for Enfield	<i>We’re calling for safe, healthy, people-friendly streets in Enfield</i>
Southwark Cyclists	<i>A child and their grandparent can cycle to any Southwark destination, easily and safely</i>
Tower Hamlets Wheelers	<i>We want better, healthier, and safer streets for everyone in the borough</i>

Each group was then split into smaller groups. Each group wrote: who, what, when, why and how, this was used to guide their vision development. I then led the group through an exercise to narrow down from lots of ideas to one that the collectively we were happy with

(co-design). Turning the vision into a clear vision was initially difficult for the groups. They had to make an actionable vision without it being an action that the group would undertake. It differentiated between the what and the how. It effectively asked what would the action that was taken achieve, what would be the outcome, for example ten low-traffic neighbourhoods. In this exercise, I primarily acted as a facilitator, however when asked by the group I provided my opinion, prompts to other parts of the framework or information previously collected about the environment or examples. For Enfield Cyclists and Tower Hamlets Wheelers, these visions grew into key messages for their Better Streets online and print media campaigns, as well as descriptors that connected to their key asks (table 16). Southwark Cyclists used their descriptor to highlight key issues that society faces.

Table 15 Vision descriptions with key messages¹⁵(Author)

Vision description with key messages (Author and Groups)	
Better Streets for Enfield (Enfield Cycling Campaign)	Better Streets for Tower Hamlets
<p>We're calling for safe, healthy, people-friendly streets in Enfield</p> <p>Safe streets – with safe space to walk, cycle and cross on busy roads and quiet, low-traffic streets in neighbourhoods</p> <p>Healthy streets – where active travel is the natural choice for short journeys and air is clean enough for children to breathe</p> <p>People-friendly streets – with lots of plants and seating, and where motor traffic doesn't dominate – especially on high streets</p>	<p>We want better, healthier, and safer streets for everyone in the borough</p> <p>Streets where we can choose to walk, bike, skip, scoot, or skate in safety and comfort.</p> <p>Streets that enable children to travel to and from school without cars.</p> <p>Streets with clean, unpolluted air and green public spaces for everyone to enjoy.</p> <p>Streets thriving with people relaxing and socialising, supporting local businesses to build our community.</p> <p>Streets that provide space for pedestrians and cyclists encouraging healthier, more active lifestyles.</p>
Southwark Cyclists	
<p><i>A child and their grandparent can cycle to any Southwark destination, easily and safely</i></p> <p>Achieving this vision is central to Southwark addressing three key issues our society faces today: tackling the climate emergency, improving public health and creating a thriving community.</p>	

In order to track the progress of a vision, goals needed to be created. Groups' goals are the key asks, e.g. what is it that they want the local government to achieve or enact. These key asks are the basis of the policy change desired. They provide a measurable or scalable action that can be taken by the local government. Further, the use of the phrase key asks is meant to be inclusive and enable a wider range of individuals and groups to join the call for change.

All key asks must be something that the local government can do without the involvement of additional regulatory bodies (for example Transport for London or the Department of Transport). These key asks when initiated or completed will enable the vision to come to fruition. Further, the key asks allow for tracking of progress on the transition. The key asks can provide a research question and area of focus for quantitative outputs as an action of citizen science. The key asks also provide the basis for the campaign and engagement with the local community and councils, as well as key measurables. Table 17 provides the key asks for each group.

Table 16 Key asks of each grassroots group¹⁶ (BSfE 2022, BSTH 2022, Southwark Cyclists 2022, Author)

Better Streets for Enfield (Enfield Cycling Campaign)	Better Streets for Tower Hamlets (Tower Hamlets Wheelers)
<p>Low traffic neighbourhoods in every ward</p> <p>A joined-up network of safe, direct walking and cycling routes</p> <p>Pedestrian-friendly high streets to boost local business</p> <p>20mph as the default speed limit</p> <p>Traffic-free school streets at school run hours</p>	<p>‘Schools Streets’ closed to motor vehicles at pick up & drop off time.</p> <p>Low-traffic neighbourhoods in every ward</p> <p>Zero days with air pollution over the legal maximum</p> <p>More secure residents and visitors’ cycle parking from the borough and developers</p> <p>More spaces without motor traffic to increase high street footfall & create spaces for people</p> <p>Improvements to main roads for people walking, cycling and living, alongside wider motor traffic reduction policies (added in 2021)</p>
Southwark Cyclists (2020)	BetterStreets for Southwark (2021)
<p>Low traffic neighbourhoods for all Southwark communities</p> <p>Safe walking and cycling network to every school, high street and station</p> <p>End free car parking by 2025</p> <p>School street for every school in Southwark</p>	<p>Low traffic neighbourhoods for all Southwark Communities</p> <p>A joined-up network of safe, direct walking and cycling routes</p> <p>School Streets at school run hours</p> <p>People-friendly high streets to boost local business</p> <p>A community safe from road danger and traffic harm</p>

Gather information

Gathering information was key to the campaign. The groups and I collected different information to inform the framework. As a researcher, I provided the groups with information and locations of the local council's policy, organisational structure, and committee structure. Knowledge exchange and questions occurred through individual meetings, the workshops and emails. This was an input to understanding potential engagement points and actions that could be taken by the local group. A high-level analysis of local government policy and publicly available organisational and committee structures were provided to the groups via email, discussed at group committee meetings, and discussed during workshops.

Actions and tactics for change

Actions are used to support achieving the key asks and visions. These actions should be something that is achievable in a short time frame, support building a coalition, have a knock-on effect, connect to one of the key asks, gather more volunteers, engage councillors and other local government staff, or generate awareness of the group. The actions the group took are described in further sections and in chapter 7.

Understanding your impact and existing actions

"if it isn't working, then stop doing it" (Megan Sharkey)

A key issue groups face is doing the same thing over and over without success. The Framework for Change encouraged reviewing the actions in the reflection cycle and their effectiveness. There are a few areas where the groups' energy and time was spent without much success or movement. In nearly all the situations, there was a particular reason why they did it, for example:

- A particular member was concerned about the issue, or
- It was an ongoing issue or annoyance to multiple members and LCC in general, or
- It was what an activity they were comfortable with or skilled in.

Early on in the discussion in group meetings, I suggested that if they have been doing the same thing over and over without much movement then to try something else. This has been a consistent issue that I have seen with grassroots groups. For key members who cycled the route frequently it was (and is) important to them. Thus, that is not to say the group should ignore the issue nor that it isn't valid, but that if it is an issue that is cared about then new ways, which may be more effective, to meet their goal should be considered. The framework for change was offered as a way to identify new ways. If not, then years of not feeling like you are achieving can have negative effects on the group's moral. During the reflection survey, one participant noted "Clarity of thoughts and goals. I think it made me more aware and conscious of not spending too much time or energy on things I do not have a real input or impact on. It made me more aware of what different persons in the group can or want to do - and where there is unexploited potential.¹⁷"

Matching skills, resources, and time

Identifying a timeline or action plan requires incorporating the burnout that can occur in volunteering and continued actions. The timeline identifies sprints that the group can do with a workload simulating a peak and trough throughout the year. The intense and sustained action generates momentum (a micro-acceleration) for your goal, but time to rest and reflect so that you can improve for the future. I suggested that four months is a reasonable time for a volunteer-based grassroots group to campaign. Pick a time where you do lots of work, then have break times where volunteers may not be as active. In these three-to-four-month sprint periods¹⁶ what would we want to accomplish? This short period also allows groups to think about their own time they can provide and narrow ambition to something that is achievable, which links to the need to celebrate wins. Celebrating wins is a key element of the framework. It keeps up moral of the group, it highlights progress the group is making, and is an important element in tracking and accelerating transitions.

¹⁶ This time period was chosen due to personal campaign experience, PRINCE2 project management experience, and ability to target this around different seasons or school cycles.

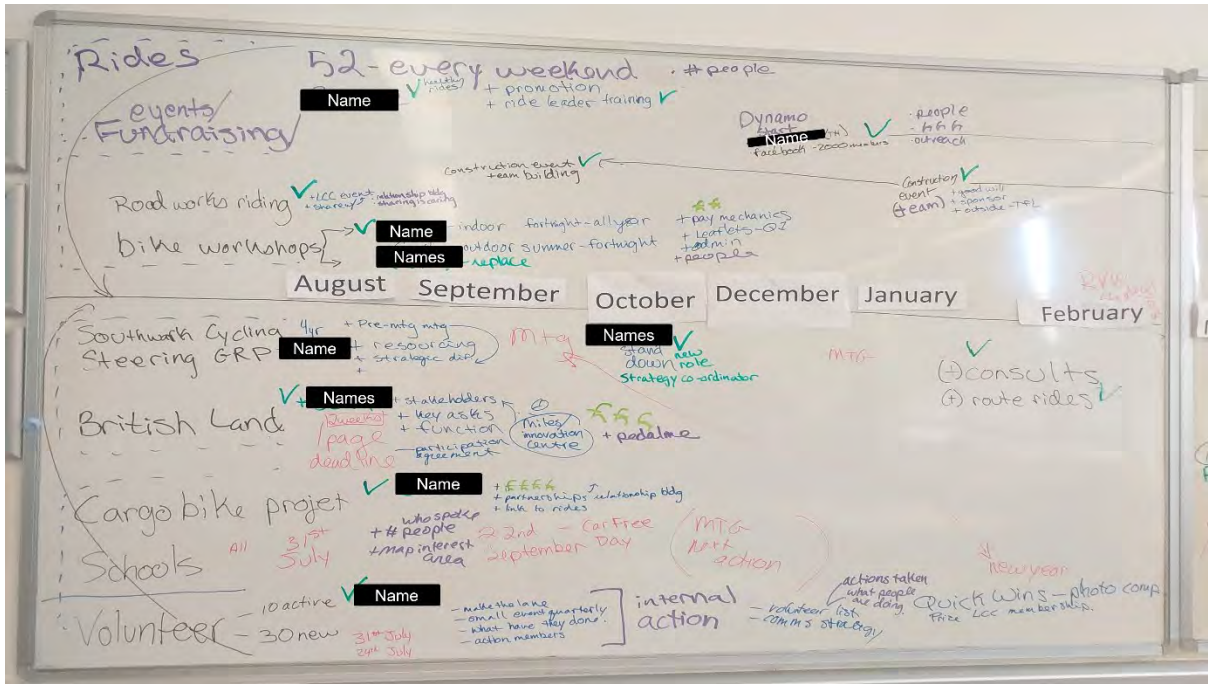


Figure 20 Southwark Cyclists Timeline and Resources Mapping Workshop (Author)¹⁸

Tracking your progress and promoting your wins

Volunteer fatigue is a real issue; one way to mitigate this it to celebrate small and key wins regularly. It allows the group to feel movement towards their goals even though they have not achieved the vision or goal itself which can be a multi-year long pursuit. By celebrating small wins the group can identify stories that can be used for the group, new members, or the Council. This is an additional task that gets pushed to the side (all groups did not celebrate the small things).

In June 2020, I attended an online meeting with one of the grassroots groups to discuss the reflection survey of the doctoral project and any questions they had. In addition, I provided some of the initial feedback from my case studies to get them motivated. I did this because of a discussion I had with one of their committee members who reviewed the draft reflection survey for me. This person was deflated due to the perceived lack of movement in the group, particularly as other boroughs seemed to be making faster and stronger progress.

I provided the group the overview of their activities and key wins, and used it as a teaching moment, that these are the sort of small wins and reflecting that can help give the group

energy to do more and continue. They hadn't celebrated the wins they did have. After I spoke, the group said when I recapped it for them it made them feel a lot better and, yes, they could see how they had come a long way. This is part of volunteer fatigue. Feeling like you aren't getting very far. These small wins are a motivating factor.

Reflect, rest, repeat

The reflection workshops were utilised to review the progress made to date and reflect on our personal and group actions. This occurred for the Tower Hamlets and Enfield groups approximately 12-15 months after the initial workshop. The Southwark group did not complete the reflection workshop prior to my leaving London. The workshop was made into a PowerPoint template so that all responses could be provided into the PowerPoint and shared as a pack to the whole group including those who did not attend the workshop (Appendix D).

The reflection workshops aimed to have the groups review their activities and understand what had been working for them and what had not. The groups began by listing the best and worst parts of their campaigns for them both personally and as a group. We then selected the top seven of each and organised them into themes. These themes were explored to understand what happened that made them successful or not successful, and what actions we could take to improve going forward. Following that we reviewed our goals, e.g. the key asks, evaluating if we had succeeded in the goal or how much progress we made towards achieving that goal. Did it get support and from who, was there a policy shift, or did we gain key allies? We investigated why some goals moved more and why those goals resonated.

The next step was to review the actions we took towards achieving those goals. We put all the actions we took that year into a list and the actions we wanted to take. We then organised these into a modified quadratic analysis. The quadratic analysis was how easy/hard the action was and if the impact was low/high. How many people did it require? How much time? How many other groups did it require? Was council approval needed? The low/high aspect looked at the impact it had on our goals or group. What was the impact? Was it well received? Did it help further the goals? Did we get new members? We then went

back to the goals after we reviewed the actions. Which actions that we did or did not do might have had a greater impact on our goal trajectory moving forward.

This analysis allowed us to begin to highlight our stakeholders. We then discussed stakeholders in more depth asking: What stakeholders did we not engage with? Who could we engage with more effectively? How can we effectively use the coalition? What are our main gaps? How many stakeholders are connected? Have we used this to our advantage? Who is the main opposition? Untapped resource? Any actions/strategy to engage and what would that task be? We then went on to forward planning. The timeline needed to include a break for the group (bringing back the concepts of sprints and rest given the voluntary nature of activism). What do the next 7 to 12 months look like? What are the key events? What are the key actions (immediate and short term)? What time commitment do people have? What are the highest priority (e.g. easiest with high return) for the time available? Lastly, we discussed any other items and reflections the group had.

Reflection Survey – Enfield - Things we did well	
Theme	Outcome
LTN Commitment	We secured the LTD Commitment we wanted
Independent For Lane Group	We have new groups joining us and non-cycling members.
Comms/awareness	<ul style="list-style-type: none"> ▪ 1000 Facebook friends ▪ Parklet ▪ Residents – FL ▪ Internal comms.
Positivity	<ul style="list-style-type: none"> ▪ Emails are friendly, welcoming and show easy conversations and respectfulness towards others ▪ We are a friendly group and that shows to new members.
Councillors	<ul style="list-style-type: none"> ▪ Met with the head of Cycle Enfield and gained their support ▪ Reached out to both parties
Parklets	<ul style="list-style-type: none"> ▪ There will be four more parklets to come. This first was a demonstration for the council. ▪ At least 10 councillors from both parties showed up, plus head of cycle enfield.
Demo Rides	<ul style="list-style-type: none"> ▪ These were well received. ▪ VIPs and Councillors enjoyed them and help them understand the key asks better.

Reflection Survey– Enfield Things we could improve on

Theme	Outcome
Business and other stakeholders	<ul style="list-style-type: none"> ▪ Need more groups and diverse groups as part of the better streets coalition. ▪ Schools were not addressed adequately
Energy – Focus – Awareness	We need more new members and ACTION people
Waiting for Change	<ul style="list-style-type: none"> ▪ The speed of change is still to slow. We need to work on ways that this could be speed up. We may need to do smaller thing (like parklets) to get to larger changes.
Actions	<ul style="list-style-type: none"> ▪ Business signage was not done ▪ No Car Day ▪ Monthly rides were reduced due to capacity and comms ▪ Bolder actions should have been taken
Councillors	<ul style="list-style-type: none"> ▪ Which councillors did we miss? ▪ How does this relate to a power map? ▪ Need to address connections and alliances better, for example the council leader and her mother.

6.2 Stakeholders, allies, and other actors - understanding and identifying how to grow the initiative and social movement organisation

Grassroots initiatives grow beyond their initiative to be a niche intermediary, into a grassroots movements, or just more effective at embedding changes at a local level. This growth is based in understanding the stakeholder and actor networks in which each initiative operates. In order to engage with or grow influence among regime actors, niche or regime intermediaries the group must first identify stakeholders, understand their circle of influence, and empathise with the actors or individuals they wish to influence.

The first step, mapping key stakeholders internal to government, provided the basis for understanding policy, local government, and committee networks. This allowed for identifying actors in the regime (Geels 2012) and potential policy entrepreneurs existing within the regime who may be aligned to the goals or are creating organisational windows (Weber 2017). Mapping key stakeholders external to government, for example local businesses or key groups in the local government area identified those who may have key influences with the local government (e.g. regime) (McTigue et al 2020). This activity (see figure 21 and 22 for Enfield’s example of this activity) opened additional pathways to engagement and influence that were available.

After identifying key stakeholders, understanding their current circle of influence identified potential connections to those key stakeholders, e.g. the individuals they know (family,

friends, colleagues, or acquaintances), or places they visited frequently and had acquaintances, for example, their regular coffee shop, bar, GP, etc... It is their community. These are people that they can share and reach out to enabling a greater reach of their vision and goals for the community area. The circle of influence is a grassroots interpretation of actor network theory (Wittmayer et al 2017). It provides a mechanism the grassroots initiative to engage beyond themselves to their local community. The two activities were then combined, i.e. the stakeholder map with the circle of influence map to identify any potential interactions.

We discussed how to map stakeholders and who key stakeholders were. I started a basic Excel template for them to use in google drives which could be linked to a visual systems map. In addition to the Excel template, I brought (and emailed) lists of potential stakeholders to the workshop of councillors, key council staff, key groups in the area, etcetera. During the workshop, we completed a stakeholder map and identified key stakeholders that they had relationships with (figure 21 and figure 22). The stakeholder map was then combined with the principle of circle of influence. I explained the circle of influence to them, e.g. their potential area of influence, and provided a small example. These are people that they can reach out to enabling a greater reach of their vision and goals for their community area. These individuals may know decision makers or people who can influence key decision makers. This highlights a key research outcome, 'one of the biggest learning point[s] was making sure that you are communicating and focusing your energy on the real decision makers¹⁹'. The Enfield group performed this exercise as individuals and as a group. The group went through each councillor identifying and describing their support for LTNs and the goals of the group, and whether anyone in the group had met or knew them. Each individual undertook a circle of influence map of all friends and colleagues that they knew across the borough.

A number of the identified stakeholders were known to be oppositional to the niche or subscribed to the "Auto-city or Electri-city" (Marletto, 2014; Moradi and Vagoni, 2018). Examples included previous groups, such as in Enfield local businesses along Green Lanes who claimed lost business revenue as part of the cycleway and the loss of parking (Allin 2019). The ability to understand the viewpoints of those who are not allies is called empathy

mapping (Gray 2009). The empathy map was employed to show how to better engage these potential stakeholders and influence areas when they might hold opposing views (Appendix B). Empathy mapping provides an opportunity to shift the communication and engagement narrative suited to the beliefs, position, and experience of that actor.

An empathy map was provided in each of the attendees (Appendix B workshop example)²⁰. The task was to take an existing oppositional group, a potential oppositional group, or individual and to empathise with that organisation or individual. This would assist in understanding the actors perspective and shift their initiative narrative towards that actor perspective. It helped them understand how they could navigate the oppositional aspect of the campaign proactively and positively. The group noted they understood this, responding in the reflection survey, 'the importance of understanding the concerns of others and identifying the needs and areas of common interest, e.g. residents may have no interest in making space for cycling or LTN's but if you tap into their concerns about rat running and pollution they will start to see that the merits of an LTN.'²¹

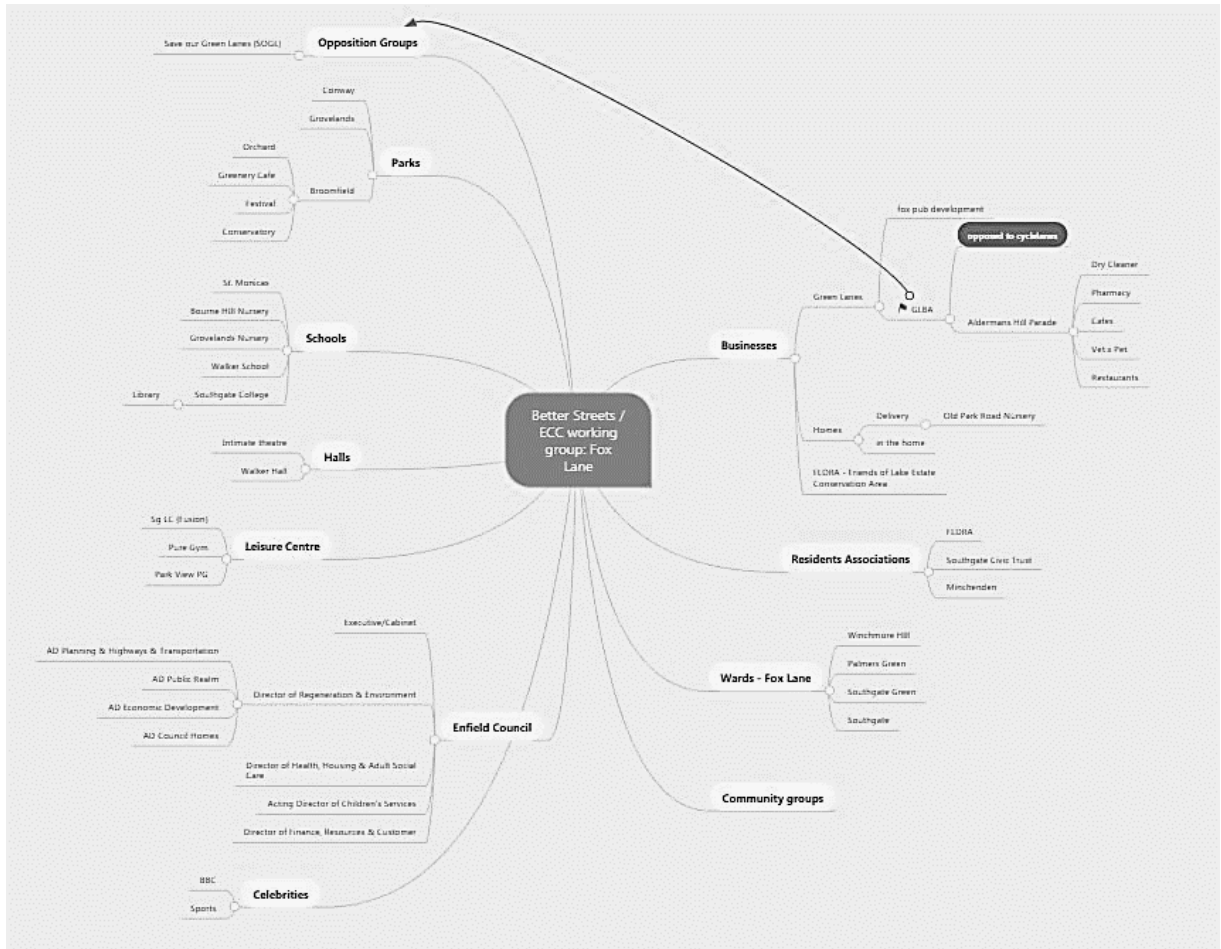


Figure 21 Better Streets for Enfield, example of Fox Lane LTN stakeholder mapping (Author)

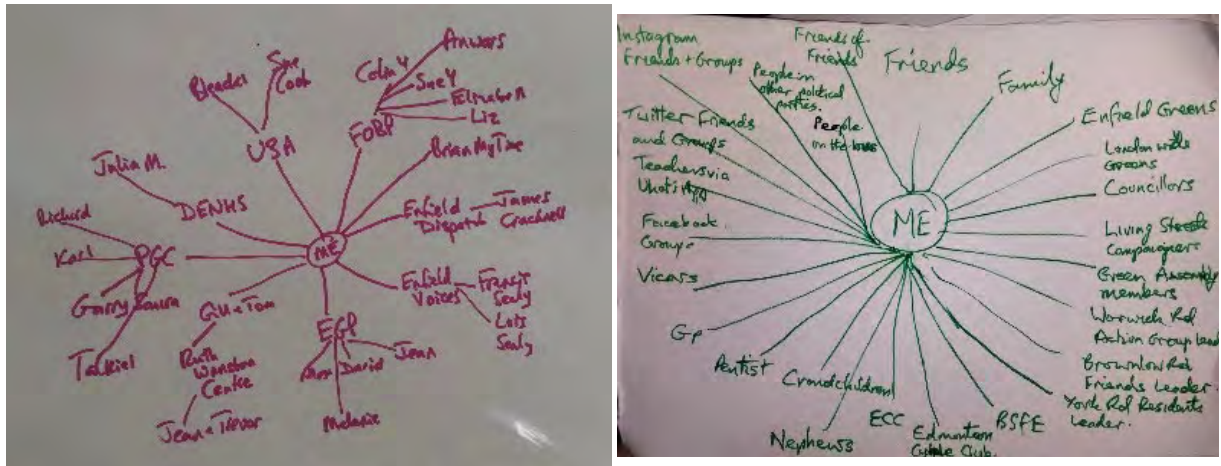


Figure 22 Examples of the circles of influence completed during Enfield Grassroots Group Workshop

6.2.1 Utilising actions to grow allies – Better Streets of Tower Hamlets example

A significant partner that grew from the parklet and supported business engagement was the Roman Road Trust. Roman Road Trust is a business association made of businesses located along Roman Road in Tower Hamlets. Roman Road Trust became involved as a coalition member to Better Streets for Tower Hamlets. BSTH and the researchers supported the Roman Roads Trust developing a ‘Common Vision’ for their local businesses. The Roman Roads Trust adopted the BSTH vision and key asks focusing them with a business view angle. The Trust identified an event opportunity to share the ‘Common Vision’ with the wider community. This formed a second action event in which the Better Streets for Tower Hamlets group participated, though it was initiated by the Roman Road Trust. The initial action sought to do a tactical urbanism demonstration and street party that would include street closures, parklets, and walking and cycling tours of the area (see Figure 23). However, the innovation ambition was limited to the Council refusing approval for full transformative demonstration of Roman Road stating that London Buses told the council it would cause significant disruption and did not understand why it was necessary to close the road to motor traffic²². In addition concerns were related to the requirement for water filled barrier blocks, the closing and use of the carpark utilized by the local market, and, lastly, the closure of the footway for the event (which in fact would have remained open to pedestrians)²³. The event was able to proceed only with the closure of the car park (see figure 24) (Roman Road Trust, 2019). Better Streets for Tower Hamlets played a supporting role and provide a number of stall information. The stations showcased a number of activities and workshops with the Romans Road Trusts and Better Streets, as well as, a parklet demonstration. These stations aimed to “experience” the Common Vision via different stations set up to showcase each key idea”, e.g. what each key ask and goal might mean for Roman Road²⁴.

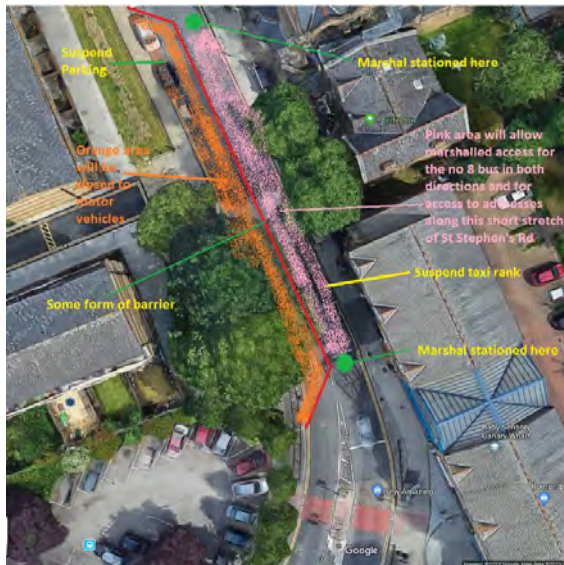


Figure 23 Roman Road Festival - original proposed activities (Roman Road Trust, Better Streets for Tower Hamlet, and Author, 2019)

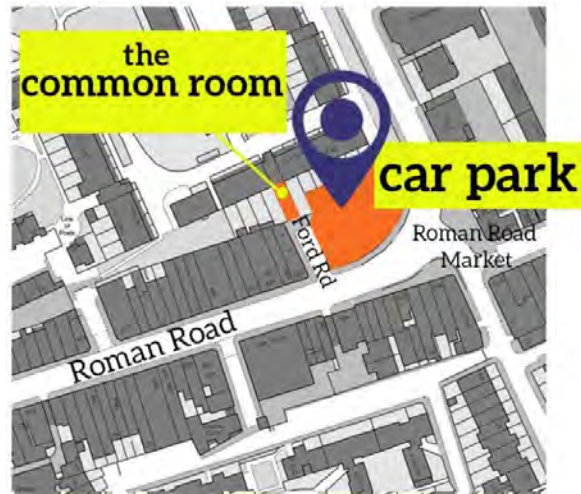


Figure 24 Roman Road Festival - actual location of event in car park (Roman Road Trust, Better Streets for Tower Hamlets, and Author, 2019)

6.2.2 London Cycling Campaign – resource capacity building through the framework for change and grassroots initiative

Grassroots movements need to build and grow to enable wider landscape changes and bring more people to support their organisation’s goals. As noted in chapter 5, the three main groups are run with volunteer time. London Cycling Campaign has paid staff yet rely on volunteer time significantly to support many of its campaigns and local actions. In literature, LCC could be considered an intermediary. They operate between the niche and regime, they connect and link actors and activities, and are a membership organisation (Kivimaa et al 2019). A key component of this research was to enable the LCC charity to learn from this research and increase the capacity of all the local volunteer groups to build the broader cycling and Better Streets movement. The initial engagement with the three groups provided the evidence base and testing in order to do this successfully.

This transfer of knowledge occurred in a few ways. It should be noted that some of the ideas did not originate with me, they were part of the group or developed by the group during our discussions. The Framework for Change was incorporated into many aspects of the

organisation, workshopped, and key documents created, plus I provided continued support and feedback to LCC and the groups. This included:

1. Providing LCC with feedback on the organisational structure and barriers to creating growth.
2. Assisting in developing the local group survey with alignment towards organisational strategy goals, the Framework for Change, and activist groups development.
3. Developing the Campaigners' Handbook and organising the Campaigners' Conference.

Supporting the campaigns Team, the Campaigns and Active Membership Committee (CAMS), the Local Group Forum, and the Policy Forum.

Local group survey

After a period of hiatus, the LCC's local group survey was revived in November 2018; I assisted in developing their new version. The purpose of the survey was to understand the representation of the local groups, their engagement levels with councils, knowledge gaps, and successes. Out of the 29 LCC local groups, 21 completed the survey. The survey enabled LCC to view gaps in its role as intermediary and facilitator to increasing the skills of the activist individually and their collective local group. Thus, the survey provided information for further development of my template for change and redeveloping the Campaigners' Handbook to illustrate this template.

The local group survey was a precursor to a Campaigners' Conference. The LCC Campaigners' Conference was hosted on 6 June 2019 at the University of Westminster. The purpose of the Campaigner's Conference was four-fold. In previous years it was part of the London Cycling Campaign AGM and included various discussion panels or workshops to support members. These activities, though, did not fully connect the local group survey outcomes and development of local groups' skills; The first aim of the Campaigners' Conference was to address this point. Second, other local groups who were not participating in my research, but regularly attended the quarterly local group forum or other networking activities, were interested in the dissemination of my interventions and the Framework for Change approach with the three main grassroots groups. Third, the local group survey

identified gaps in campaigning, gaps in skills, and requests for additional support. Fourth, it provided an opportunity to disseminate and teach Framework for Change and promote the development of the [Campaigner's Handbook](#) which included the framework. This conference provided a data source about the knock-on effects of the Framework for Change I developed to enable groups to create infrastructure change and how niches can coordinate against London's devolved transport infrastructure regime.

My work with LCC and key strategies led to the new event format. The conference was co-organised by me and the LCC's campaigns manager. The workshops were led by different staff of LCC and key volunteers, however I designed the workshops' objectives and connected them to different sections of Campaigners' Handbook. These sections related to the template for change, so that groups could return and enact the process on their own. The responses indicated that it was a very useful event that broadened their knowledge.

In 2020 and 2021 this conference was run again, but online due to COVID. It was very similar to the first conference however with an increased focus on COVID, the emergency StreetSpace program, and forming Better Streets groups. For the online conference, I focused heavily on the reflection workshop for the groups as this was a key issue – each group was not reflecting on what they had done and what had worked. LCC likewise started incorporating this into their annual board meetings as a result of my work with them.

The campaigner conference activities included short presentation and workshops on aspects of the framework for change and campaigners handbook, these included:

- Big Climate Campaign and changing our campaigning: how do we achieve zero carbon roads?
- Hold the Press – how to generate press coverage of your campaigning
- Sharing your stories – how to create effective communication plans
- Decoding a scheme plan – how to do it and the key questions to ask
- Risk and safeguarding – understanding LCCs policies and your role
- Go bigger, better and bolder – how to create a Borough Vision and why it's so important
- Better Streets for London – how can you build networks to support active travel in your borough?
- Risk and safeguarding – understanding LCCs policies and your role
- Chatting to councillors – how to build and maintain effective relationships with the council

- Growing a healthy group – how to get the best out of your group and recruit new members
- Cycling swipe (LCC and Author 2019).

Table 17 Total attendance at the LCC Campaigners Conference

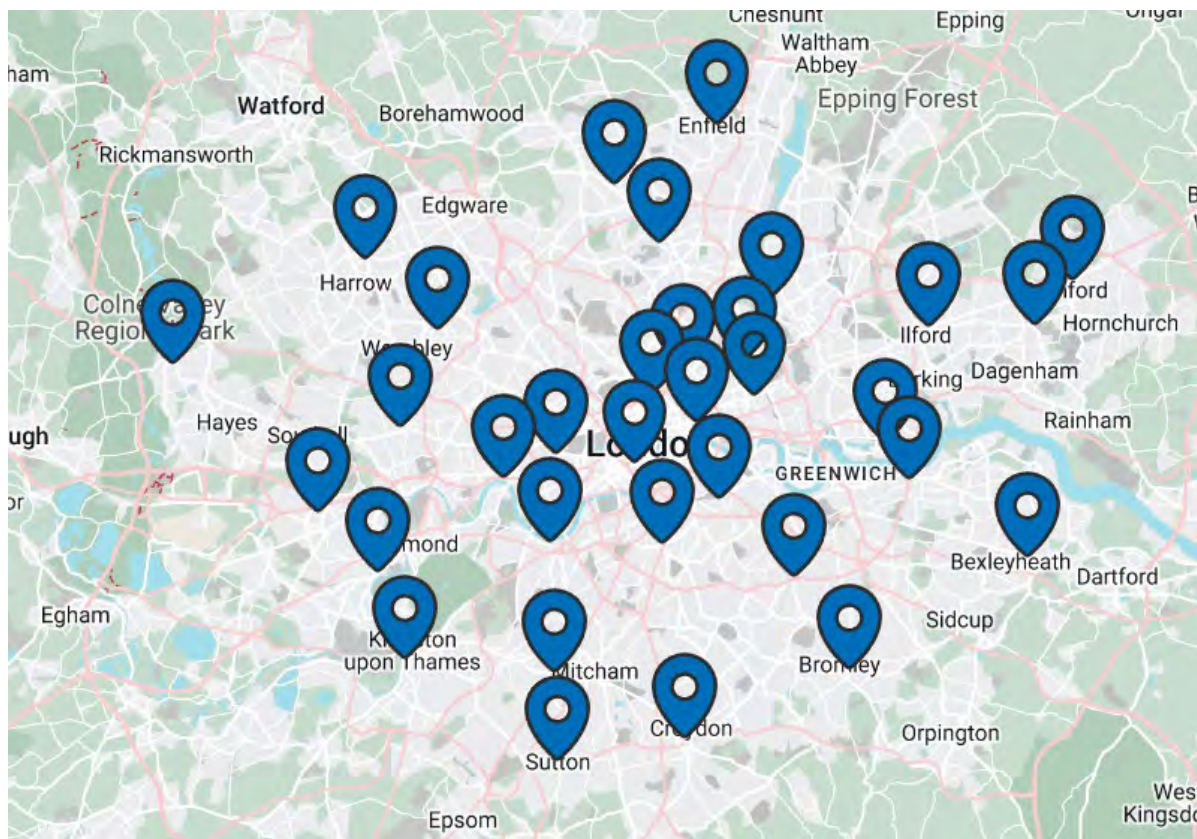
Borough	Attendees	Borough	Attendees	Borough	Attendees
Barnet	3	Haringey	3	Redbridge	2
Bexley	3	Havering	1	Richmond	4
Bromley	2	Hounslow	2	Southwark	7
Camden	3	Islington	2	Sutton	3
Croydon	3	Kensington and Chelsea	1	Tower Hamlets	13
Ealing	1	Kingston	1	unknown	6
Enfield	4	Lambeth	4	Waltham Forest	4
Greenwich	3	Lewisham	6	Wandsworth	2
Hackney	4	Merton	2	Westminster	4
Hammersmith and Fulham	4	Out of London	5		
Total attendees				102	



Figure 25 Campaigners Conference Welcome and Introduction (Photo taken by LCC Staff member).

Cycling Swipe was an end of the event speed dating type session to meet other LCC activists and groups. The local group survey noted that members wanted more opportunities to meet other LCC members and get together with them. The cycling swipe had the knock-on effect of the groups establishing their own quarterly get-togethers, connections to other groups, and sharing skills in other areas.

Figure 26 London Cycling Campaign local volunteer group affiliates (London 2023).



6.2.3 Tensions in the changes of the grassroots initiative

Tensions, however, arose during this engagement across multiple areas, for example within the groups and between the group and research arose during the grassroots initiative engagement. These tensions have been identified in two key shifts in the grassroots initiatives. Firstly the changing membership and regular volunteers who are actively engaged. Secondly, the changing focus of the initiative from social cycling activities to infrastructure campaigning and the framework for change.

Changing membership base

In Southwark, there was a tension in the grassroots initiative as volunteers were changing. In the engagement there were differences between members of the group.

Whilst I engaged with the group by attending local meetings, the council meetings and remained engaged online, it took nearly a year to complete the first workshop. At the same time new volunteers were coming into the group, inactive existing members becoming active, and a key leader stepping down from committee positions. The newer or newly active members were responding to the focus on strategies, goals, and creating a vision for the Borough²⁵. Some members found that the strategic goals were key noting that “strategic goals has really helped me when I became co-ordinator because it gave clear goals on what to focus on.²⁶” Other members though found that whilst it was useful “to think in terms of ultimate goals [...] it tempts people to think that only the ultimate goals matters and everything else can be discarded.²⁷” The focus on infrastructure building and the long process on change left the social aspects of the cycling group behind. The differences in the respondents was directly related to a “new guard” versus “old guard.” The new guard were more receptive to the goal focus, whereas, the old guard felt that social aspects were being missed, COVID only exacerbated this feeling²⁸.

Similarly, Leyendecker and Cox highlighted the old versus new guard in cycling campaigners related to the “vehicular cyclists” argument versus the everyday cyclists led from a feminist perspective (Leyendecker and Cox). In that discourse though the women activists/campaigners experienced interactions that could be isolating, combative, or dismissive. In contrast, this research identified an old versus new guard, however the difference was not around the vehicular cyclist argument, both the old and new guard agreed in the everyday cyclist and safety perspective. Only in one of three groups was their a combative element which was related to how the groups focus was shifting to fully campaigning and less of a focus on social engagement with other members (qualitative interview). This raises two points. The difference between a social cycling club and an activist cycling campaign and whether they are mutually exclusive or require balancing. Second, is the change in direction of cycling activism between the new and old guard. The

old guard who have been cycling advocates, social members, or activists for longer than before most of the new guard were born.

[This shift in balance from social activities to infrastructure campaigning in the grassroots initiative](#)

Due to having so many groups I did not watch or give the time required to assist them in group dynamic changes. In the reflection survey the following quote particularly stuck with me because I was reminded of the bonds that successful grassroots groups are likely have. They involve everyone and toward a common goal, but they don't turn others away. This person, a key group member, said:

“I found it a more useful experience than I had expected to think in terms of ultimate goals, missions or vision (whatever terminology used). OTOH [On the other hand] I think it tempts people to think that only the ultimate goal matters and everything else can be discarded. It narrows the group and can lead to otherwise useful stuff being discarded.

When the goal is ‘wonderful infrastructure’ over-emphasis can lead to frustration and burn-out in the long gaps when infrastructure is being considered, consulted on, altered, re-considered, run out of funding [...] and finally built.²⁹”

My focus was on enabling grassroots groups to speed infrastructure transitions. The strategy included the volunteer task list and understanding of tasks and responsibilities, however it did not include enabling greater social connections which is key for development of additional members. This extreme focus could lose sight of the fact that grassroots groups are social entities as well. Cycling organisations in particular bond over social rides for example. Though this response noted that they didn't think these changes were solely due to me and were in response to personal changes in the group. It did highlight power structures within a group and competing interests in campaign groups. Lastly, the respondent did not know that building coalitions was part of the project, stating ‘we are not trying to do this, or at any rate not trying hard enough to notice’ (Reflection Survey, Author 2020).

In my reflection, it was pretty clear that this was an issue. In the other two groups this was not an issue. The point of difference between the two was about social connections and continuation of the things that came before. For example, in the two groups where this was not an issue, events, bike maintenance workshops, and other social gatherings continued, however in one group these things were pushed aside, at least temporarily, for the group's realignment to enable a more focused campaign.

The group where this was an issue was a bit different than the other two groups. This was due to a few things I believe. Firstly, two prominent and very active members who had enabled events, fundraisers, etc. and were very successful stepped down due to personal issues. Secondly, new members and new active members caused a stark dynamic change in the group with different personalities and ways of working being implemented. In contrast to the other groups that largely kept their existing members as they were gaining new ones. Thirdly, the Framework for Change, with a particular focus on getting the group to have a vision and goals, in part, caused the group to become hyper focused on infrastructure campaigning. Fourthly, the group did not focus on building coalitions and relationships. This was a key part of enabling a transition to accelerate however was not achieved or focused on.

I did not recognise that the fundamental members of the groups focused more on events for influence versus the Framework for Change. There were a few key elements that the group were already doing which enabled a greater reach, for example the bike maintenance, social rides. The framework however didn't preclude these things or discourage them. It did focus on the goals of the group. Members who held this view did not attend the workshops; this may have altered the decisions of the group or perhaps they forgot to include them because they weren't heavily involved with those aspects previously. This touches on the fact that grassroots movements are about the whole, the social, etcetera. It is something to consider further in action research projects; e.g. the actor is part of the group and cannot not engage with any internal politics no matter how much they want to be diplomatic.

6.3 Challenges in growing the grassroots initiatives and movements, enacting the framework and utilizing participatory action research

The Framework for Change worked well in many ways, it was easily understood and easily digestible for tasks. The participatory process of the Framework for Change highlighted many opportunities for engagement across individuals, the initiative itself, and external to the grassroots initiative. The groups were highly receptive to my involvement as an activist researcher and the goals that we were looking to achieve, and responded and engaged in a variety of ways.

A number of challenges arose during the practice and implementation of the framework for change that were not adequately addressed during the process. For example, some individuals at the beginning of their activist journey, others were further along, and one was at the end of their activist journey with cycling groups. The groups themselves were heavily reliant on singular or few individuals to drive the groups' activism and success. Further, changes in group dynamics when newer members or less active members wanted to change the groups' goals, trajectory, and outputs also impacted the ability of the groups to move together. The following sections discuss these challenges and tension in more detail, including reflexivity on my role as the activist research in the participatory process.

6.3.1 Volunteer initiatives and charity outcomes – conflicts between grassroots initiatives, institution and volunteers

Issues between organisations and grassroots groups – data, messaging, and branding

The local groups wanted more autonomy over their data, however the parent organisation (LCC) had concerns over data security and GDPR, whereas the local groups utilised whatever internal processes they had for decision-making. This was seen most predominately in the rise of the Better Streets group. LCC had conflicts between their head office and the group in terms of the data of the group and how Better Streets groups were being organised, i.e. what were the risks and how they might dilute LCC branding. This is an ongoing issue which will look to be resolved over the next few months. It is important because of the underlying goals and aims of the group. LCC success may require a narrative shift to overcome the cyclists image to a more inclusive active travel and social perspective. Within the London

Cycling Campaign, the local volunteer groups are leading this messaging change. The grassroots initiatives want to use a Better Streets vision and reduce the emphasis on cycling given the strong anti-cycling views in London. The number of Better Streets, Healthy Streets and similar groups affiliated with London Cycling Campaign or attending their campaigners conference indicates the shift. Further their campaign on Climate Action also broadened their narrative (LCC 2020).

6.3.2 Citizen Science and quantitative actions to engage or evaluating policy changes

During the engagement process, the researcher provided each group with either discussion (emails and google drive templates), a mapping exercise, or information to be able to complete the quantitative analysis. The framework called for data collection as part of the process and I discussed the use of quantitative analysis to do this. The bridging methodology does require a quantitative element which was changed to a citizen science activity tailored to volunteers. During the workshops and meetings, I discussed actions that could be measured. Each group participated in quantitative outputs differently. The quantitative outputs for groups included surveying, road speed analysis, and mapping of cycle paths. Both the quantitative graphic (Figure 14) and how to use the Propensity to Cycle tool was shared with the groups. These tools were meant to engage with the fact that local groups are focused on the short term, have limited time (volunteers), lack access to complete data sets, and may not have the skills for the quantitative analysis required. The groups could use the Propensity to Cycle tool analysis and their own mapping, so that they could use it in future discussions and engagement with the local council. It is an open-source tool that requires little technical knowledge, but does require time and effort to complete. I was not able to adequately address the importance of being able to track, measure, and utilise that into campaigning tactics and discussions. It is a significant aspect of a socio-technical transition, understanding the quantitative aspects of pathways, and delivering of either social or technical changes that drive a transition over time.

6.3.3 Volunteer time, fatigue and building new activists

Organisations and grassroots movements run by volunteer time have a few constraints around capacity. The individual members are not paid, yet campaigns require significant work and time. In the case of my research groups nearly all members had full-time employment with a few either part-time or retired. In the case of one group, the retired member took on a significant amount of the group's event activities (bike maintenance and bike rides) and annual reporting. Volunteer fatigue in campaigns is real. Embedded into this framework are 'sprints' – set timeframes of a few months when all members can come together to focus and achieve large actions or coalitions – each followed by a break. This is a short, sharp increase rather than doing little things all the time: do something bigger at once.

In the final PAR reflection survey, the majority of respondents (75%) said 30 minutes to five hours per week were spent on group meetings, emails, or actions (19% less than 1 hour, 31% were 1–3 hours per week, and 25% were 3–5 hours per week). The other 25% were split, with two individuals ranging up to 10 hours per week (12.5%), and two individuals spending up to 20 hours per week (12.5%)³⁰. The members who did 10–20 hours per week were more active members who led campaigns, prepared documentation on consultation responses, and organised campaign-related social media, correspondence, and meetings with officers and the Council, and distributed Civi emails (a mass email tool from the LCC head office) to the local group lists.

This was recognised by individuals in the group who noted 'the importance of engaging support beyond your core group to share the workload and become more effective. Local groups have finite resources and effective campaigns need to tap into the concerns of the wider community.'³¹

Inclusive committee meetings

The committee meetings were not inclusive. There were a number of issues, including: the time and locations, welcoming new members at the meeting and keeping new members engaged. They were generally from 7:30 – 9:30pm which was difficult for parents to attend. In one group, I was the only parent to regularly attend and another parent would participate

through emails or weekend workshops. They noted that the time in the evening made it difficult with the ages of their children and that both parents would like to be involved but the meetings are difficult and they struggle to necessarily know what they should do at home³². The second group, myself and one other parent (leader of the group and middle-aged children) attended. In the third group, myself and one other parent (recently had a new born child who they would bring with them). Two of the meeting locations did not have disabled access with only stair access. Welcoming and keeping new members into active roles within the grassroots initiative could be difficult for the group. New members were not always sure what they should get involved in or how to get involved³³. This formed part of the knowledge exchange with the groups to assist them in understanding how they were being received by other groups. It was key to, 'Updated the "Get involved" page with clear ways for people to get involved³⁴.' Groups recognised this in the reflection workshop and worked to address for a more welcoming experience. COVID has appeared to change this in groups as well, noting: 'The committee meetings are now split into two. Due to lockdown we have moved meetings to Zoom and have as a result had 5_8 new meeting attendees at each meeting. We're hoping we will be able to build a core group of volunteers this way³⁵.'

6.4 Researcher impact and role in the grassroots development

A question that arose during discussions with my advisors was, 'Are you an accelerant too?' The Framework for Change was meant to be the accelerant, however I played multiple roles in the group beyond giving them the tool: building skills, delivering resources, and initiating power to the groups. In Chapter 7, I describe my role as a niche-intermediary and a leader in the grassroots initiative. At a practical level there were areas where my role in the group reflected a leadership position, where the groups looked up to me for advice.

Power relations between myself and the individual grassroots initiatives did not appear to be a factor. My experiences as an activist and researcher were welcomed, with feedback including: "The most useful learning experience was your presence in our local meetings, the way you brought perspective and constructive suggestions based on personal experience and evidence to help us achieve our goals³⁶." Many noted 'helpful guidance at meetings on strategy and approach.³⁷' This included guidance with the local councils was appreciated, "Your presence in the meetings with the council was useful - both for

contributions made but also the sense of the process being observed. The idea of an observer made me reflect on the process/effectiveness of the meetings.³⁸

On a job performance review a manager of mine once wrote, “your enthusiasm is infectious.” In the local group this was evident as well. “Just the sheer wealth of ideas and information you always had to hand. Finally, your whole 'can do' approach is very inspiring and empowering. That might have been my favourite part!³⁹” And “I feel that you have given the group new energy.”

My input and experience may be harder to replicate, noting “Your methods - you give a lot of direction which is helpful. But may mean now you are gone it is harder to replicate. Yes you have handbooks, guides which is helpful. But we dont have the individual that gave the direction. Perhaps consider how you can consciously build one individual in the group to take on this role.⁴⁰” In relation to the role as a board member and knowledge sharing across the organisation, the local groups wanted to share more information, stating “It was always good to hear what other groups were doing as inspiration or suggestion, but this seemed a bit adhoc, and that there was much more you could potentially share.⁴¹”

Knowledge exchange versus accelerating the transition

Southwark struggled with changing internal dynamics that delayed the ability to capitalize on the work with the researcher. Further, the difficulties in those dynamics and unwillingness for the researcher to push them forward more quickly (as I equally wanted to observe the issues they had in developing the organisation.) Noted in the PAR reflection survey “I think you are really nice and your track record is impressive. Maybe you need to take more account of personalities ie the way that certain personalities can interpret stuff. Or maybe that is just obvious 😊 and nothing can be done about it.⁴²” There was a balance between wanting to understand if they could enact the Framework for Change themselves with support from me versus me leading and delivering the activities on their behalf.

6.5 Conclusions

The need to accelerate has been a focal point for my research question and objectives. London Cycling Campaign and its local affiliated volunteer groups, e.g. niches, want to

accelerate the transition of transport to cycling and active transport. The vision behind this is to accelerate to a healthier more sustainable transport system for cities. Utilising participatory action research and the Framework for Change I created, these tools were used to engage, co-create, and enable grassroots groups to accelerate transitions. However, the quantitative outputs as described in the research methodology was not completed or realised to its full potential. A key part of this is 'better understanding of how we can push councils to go faster'⁴³ (2020, reflection survey, Author).

Chapter 7 Transitions in motion – impacts of grassroots movements in socio-technical transitions: an analysis

The ‘transition in motion’ is a particular moment in a socio-technical transition to a new dominant system. In this case, from the auto-city to the eco-city, e.g. automobility dominance to active travel dominance (Marleto, 2015). The transition period can be long and take time for the niche to reach a tipping point, this is impacted by many internal and external factors. This chapter presents the theoretical analysis of the grassroots initiative and movements’ ability to influence its acceptance as a niche and gain greater acceptance in the sustainable transport transition. It utilizes the bridging methodology framework to analyse the different approaches (initiative-based learning; socio-technical analysis; quantitative – citizen science) and interactions between the approaches. It utilises the bridging methodology to evaluate and analyse the impact that the Framework for Change and initiative-based learning (participatory action research) had on the transition in motion. Transitions in motion occur at different points in the niche trajectory to regime and landscape dominance.

The first section focuses on the initiative-based learning, i.e. the participatory action research with grassroots initiatives and grassroots movements. It analyses the actions and communications of the grassroots initiative, the interactions between the initiative and the institutional social movement organization (London Cycling Campaign), and innovations and citizen impacts. The second section explores the grassroots initiatives diffusing to the grassroots movement through Better Streets. The third section explores the exogenous factors that arose during the project and the influence on the goals and acceleration of the grassroots initiative and grassroots movements.

The fourth section focuses in on the broader socio-technical context, including how the regime and the landscape engaged with the grassroots movements. It identifies regime communication practices and engagements with the initiative, the shifting accountability of the regime and power dynamics at play, how niche and regime intermediaries in London have impacted the grassroots initiative goals, and challenges and barriers to regime acceptance of the niche.

The final section presents a new concept for identifying micro-accelerations and decelerations in order to understand transition in motion. It aims to sync learning about grassroots initiatives with the transitions literature on tipping points and how niches become the dominant form (Geels 2002).

7.1 Grassroots initiatives – building the initiative, community the vision, gaining legitimacy and growing resources

The local volunteer cycling groups of the London Cycling Campaign and the Better Streets are two grassroots initiatives. London Cycling Campaign (LCC) is a grassroots movement that is a social organization movement. It has a formalized social movement response to cycling in London recognized as an environmental charity (Jalali 2013 and Johnston 2011). The London Cycling Campaign has affiliated local groups that are volunteer-based, bottom-up grassroots initiatives operating across London. Three of these initiatives (Enfield Cycling Campaign, Southwark Cyclists, and Tower Hamlets Wheelers) were the initiatives participating in the participatory action research project (e.g. initiative-based learning). When executing and performing the Framework for Change there are three key areas that emerged relevant to grassroots initiatives literature. First the actions and communications of the initiative and the role it plays in growing the capacity of the initiative to be a stronger niche. The second is the growing individual and collective capacities of the initiative, as well as, its interactions with the institutional agent of the grassroots movement (LCC). Thirdly, the role that innovative practices and citizen science had on the impact of the grassroots initiative narrative and reception from the regime and perception from other actors.

7.1.1 Actions and communication of the grassroots initiatives

Grassroots initiatives undertake a number of actions and communications to progress their cause and development as a niche. These actions can be innovative or part of the existing communicative planning practices (Collier et al, 2013). Actions taken by the grassroots initiatives encourage niche-regime interaction either directly or indirectly. Direct actions may be through existing communication avenues offered by the regime (Sarzynski, 2015) or direct conflict actions such as protests within the regime space (Van Til et al 2006). The direct action is engagement examples include: attending council meetings, participation in

council engagement, taking councilors on infrastructure tours on bicycle or protesting and blocking streets from motor traffic. The indirect actions utilize more innovative practices, such as, parklets, demonstrations days, or use of citizen science for the niche to engage the regime.

An extension of this idea of power is highlighting the opportunities of what may be against a cultural norm (e.g. challenging the landscape), but is legal (e.g. challenging the regime practice). The direct action and events were an innovation aimed to demonstrate transition solutions that are possible now within our current frameworks. The grassroots initiatives used these actions as innovations to create engagement and interaction opportunities between all three levels of the multilevel perspective (niche, regime, and landscape).

The parklet was a key action that two grassroots initiatives delivered (Enfield and Tower Hamlets). Parklets reconfigure and reprioritise the existing road infrastructure, and aim to create a more equitable distribution of space to increase in diversity of users. For example, those who don't own a car and may take public transit, walk, cycle or some other form of micromobility will have priority access to public space. In contrast to a technical innovation, parklets are a social practice. It is a social change to the way we use a public good, e.g. roads, rather than a technical innovation on the road itself. Two of the three initiatives utilized the parklet as a local business demonstration, took photos themselves, then manufactured media releases they sent to local news organisations⁴⁴. The positive media about Better Streets supporting local businesses, greening streets, and encouraging seating for pedestrians created opportunities for additional communications with other activists, local businesses, the council and additional news outlets⁴⁵.

For example, the Better Streets for Tower Hamlets parklet event and coalition-building began to spark additional events and activities in the borough through imitation. For example, pop-up parks with non-committee members who were part of Tower Hamlets Wheelers. Individuals members (either through email list or as social media followers) who were aware of their actions, took direct action in opposition to the Liveable Streets being 'watered down'.

“We are arranging a pop-up park tomorrow afternoon at 2pm on the corner of Canrobert Street by Middleton Green [...] to highlight community support for preserving pocket parks which the council is considering scrapping as part of the watering down of Liveable Streets in the face of opposition by motorists. We will bring potted plants and garden furniture and cake. It will be a quick pop-up action [...]!”⁴⁶”

It generated a second action with connections to the Roman Road Trust. The trust wanted to undertake a similar place-improvement activity and engage with Better Streets. The Roman Road Festival was a key event which facilitated growing the Better Streets coalition and connecting to key businesses⁴⁷. The partnership actions for grassroots initiative achieve legitimacy beyond the initiative and assist in growing the niche towards greater acceptance.



Figure 27 Parklet action (BSTH 2019)

Campaigners park plant pots in bays in crusade to get healthier streets

A campaign group parked pot plants in a parking bay to highlight the need to reclaim the streets for people.

Activists from Better Streets for Tower Hamlets turned the spot in Bethnal Green Road into a mini-park on Sunday in a bid to draw people's attention to the need for healthier public spaces.

Terry Patterson, from Limehouse, said: "It's great to see people enjoying public space in a creative way."

"Behind this fun event is a serious message. In the face of the pollution and congestion affecting all Londoners, it's time to rethink how we use our streets."

"Let's create space for young people, the elderly, and all residents to walk, cycle, rest, play and enjoy the street."

JON KING
jonathan.king@archant.co.uk

The single space was transformed with seating, plants and parking spaces for bikes turning the bay into what the campaigners dubbed a 'parklet'.

Households in the borough without cars outnumber those which have them by two to one, according to Better Streets for Tower Hamlets. It wants to see traffic levels drop in every ward.

But in spite of people outnumbering cars, a 'huge amount' of space is devoted to vehicles, the activists say.

Madeline Pelzel, of Bethnal Green, said: "Surely we can use some of this space for different purposes?"



The group wants to see more public spaces for people.

Picture: BETTER STREETS FOR TOWER HAMLETS

"Why not allow people to use the space? Parklets can be made into lovely places to look at such as a mini-garden, and add a lot to the sense of community on a street."

"You don't have to be a customer of anywhere to sit and enjoy a space like this, and it means you are more likely to meet your neighbours."

London Living Streets, which

supports Better Streets for Tower Hamlets, wants every street in the capital to have a 'parklet' with one set up every 50 metres.

Julie Plichon from Shoreditch said: "We opened a conversation about public space and how repurposing a kerbside can benefit communities."

"We live in increasingly dense environments. Our streets need to

be healthy and inclusive spaces. Access to high quality open spaces is crucial, and today we demonstrated how small scale interventions are part of the answer."

For more about the group visit betterstreetsfortowerhamlets.wordpress.com/ or follow @BetterStreetsTH on Twitter.

Figure 28 The East Londoner news article

Social media is, and continues to be, an easy way for grassroots groups to engage with an external audience. It amplifies the message throughout networks (Cortell 2015). The groups started twitter, facebook, and Instagram Better Streets accounts with two of the three initiatives focusing more on the Better Streets accounts and having their original cycling accounts as inactive. The social media accounts communicated a wide-range of information, from trying to get individuals active in consultations (see figure 29), promoting coalition partners, or highlighting the positive data impacts of emerging infrastructure interventions⁴⁸. The media engagement sought to counter oppositional narratives regarding walking and cycling infrastructure improvements. It responded to media articles discussing the negative impact on local businesses regarding cycleway construction and parking loss with words of their specific support in shopping at those businesses.

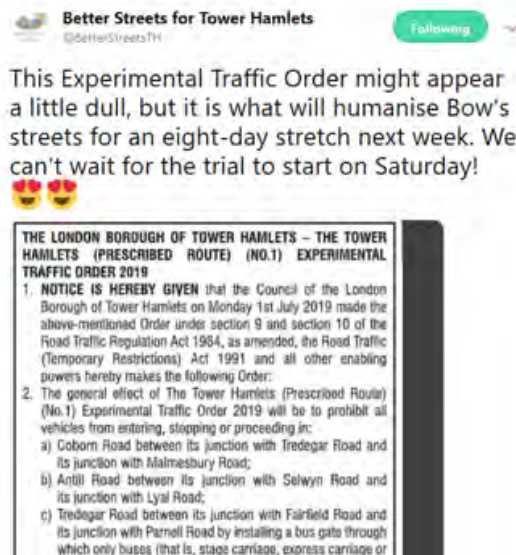


Figure 29 Social media images (Tower Hamlets Wheelers and Author 2019)

7.1.2 Innovations and citizen science the impact on narrative, initiative growth and niche development

The use of citizen science in the initiative was a researcher led activity to engage the groups in moving beyond qualitative and social into quantitative outputs of decision-making. The groups varied in how they undertook the suggestions by the researcher for potential actions. In the end, the citizen science outputs for groups included event surveying, road speed and traffic data and analysis, and mapping of current and visionary walking and cycling infrastructure. The use of citizen science motivated and enabled the volunteers to advocate for socio-political changes. In the grassroots initiatives, “citizens contribute[d] technical knowledge and solutions, as well as understanding of socio-political aspects and constraints” (Sauremann et al, 2020, 4).

“Narrow performance metrics lead scientists to ignore potential contributions that do not translate into scientific productivity” (Sauremann et al 2022, 4). The use of quantitative outputs by the grassroots initiatives did not have the performance metrics that might relate to scientific productivity, however they were relevant for resource mobilization of the grassroots initiative and movement and should not be ignored. The narrow research questions of the group and links to the goal, e.g. to take action on speeds in Fox Lane neighbourhood was able to engage with the broader community public of fox lane suburb and mobilise the resources of the local government⁴⁹.

Questions of legitimacy arise. During the Road Roads Festival Survey, the volunteers administered the survey to attendees. Whilst, the researcher provided instruction for volunteers of both the Better Streets for Tower Hamlets and Roman Roads Trust not to take the survey, at least a few of the volunteers family or friends completed the survey. Thus, the survey could have bias towards the vision and questions. In contrast to the traffic data counts of the Enfield grassroots initiative which were entirely objective. Overall, the citizen science project fostered a sense of community among participants (Shaw et al 2017). It provided evidence to articulate a response to a policy position and influence decision makers (Eitzel et al 2017).

Enfield Cyclists Campaign and Better Streets for Enfield – Citizen Science Impact

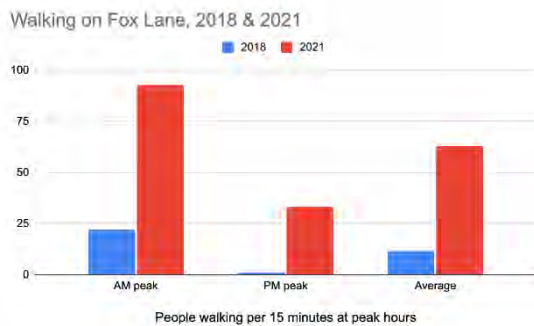
The Enfield group used citizen science to examine the speeds of their main initiative, the Fox Lane Low Traffic Neighbourhood, and the response to Better Streets and parklets. The group completed their own traffic survey and analysed council and event survey data. In October and November 2018 the group completed a traffic survey of 12 key locations in the proposed Fox Lane Low Traffic Neighbourhood including the school location. This survey was developed by the group with support from myself and the LCC infrastructure officer⁵⁰. In contrast to the council collected data, the group looked at all transport modes (pedestrian, bicycle, bus, car/van, HGV, and motorcycle). The group performed this prior to trial planters being rolled out to a few locations. The trial planters were rolled in December 2018 and continued into approximately May 2019. The Better Streets for Enfield group had requested traffic filters that would create a closure point to limit traffic from entering the street, however the council only used planters to narrow the entrance to the road and still allowed traffic to access all roads. Further only 50% of the planters were implemented.

In March 2019, the group utilised a freedom of information request to the Council to receive traffic stats for various locations in the Fox Lane Area low traffic neighbourhood (Enfield Cyclists, personal communication, 16 March 2019). The group then performed an analysis of the data evaluating the total vehicles, peak hour, vehicles in peak hour, and maximum speed mph. Figure 30 shows the output from the group. These graphics were used to engage the Fox Lane District Resident Association's (FLDRA) committee for a presentation at their 10 April meeting and other local groups, posted on social media, and in direct communication with the Council (Enfield Cyclists, personal communication, March 2019). This information was utilised to build support for the LTN and to respond to opposition to the planters. The group further used that evidence to develop their own Low Traffic Neighbourhood proposal utilising in response to the Council's planter proposal.

In May 2019, the group talked to a few council officers regarding the trial planters. They noted ‘interim monitoring showed that the planters were having no effect on traffic volume’ (Better Streets Enfield, personal communication, May 2019). The group utilised this and followed this up with a meeting with the council leader and staff in June 2019 to discuss the case for Low Traffic Neighbourhoods in Bowes, and LTNs generally (Better Streets Enfield, personal communication, May 2019.)

The group have continued utilizing citizen science to influence policy and create new conversations (Eitzel et al 2017). In May 2021, the group performed a second survey, comparing the active transport impacts of the Low Traffic Neighbourhood planters. This resulted in a [blog post](#) and social media engagement by the Better Streets for Enfield group. The group noted ‘There has been a more than fivefold increase in walking, and an even bigger increase in cycling, on Fox Lane since it became part of a low traffic neighbourhood (LTN), according to counts in 2018 and 2021’ (Better Streets for Enfield, 2018). These counts have been instrumental in combating negative opposition.

Walking on Fox Lane (Better Streets for Enfield, 2021)



Cycling on Fox Lane (Better Streets for Enfield, 2021)



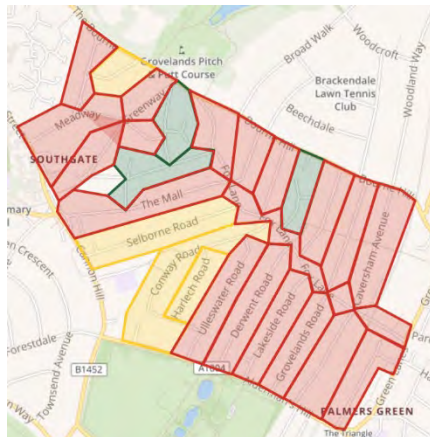
Figure 30 Walking and cycling data collection (Better Streets for Enfield, 2021).

Safety and best practice say			FOX LANE		
Traffic speed	"85 th percentile" N/E	Impact on Fox Lane area residents	Example street	"85 th percentile" N/E	"85 th percentile" S/W
Low	Up to 24mph	Kids can play, any age walk or cycle	Oakfield Road	18.8mph	17.8mph
Medium	25 to 29mph	Some are put off walking & cycling	Fox Lane	28.9mph	24.5mph
High	29mph+	Unsafe speeds for a residential area	Bourne Ave	33.7mph	32.6mph

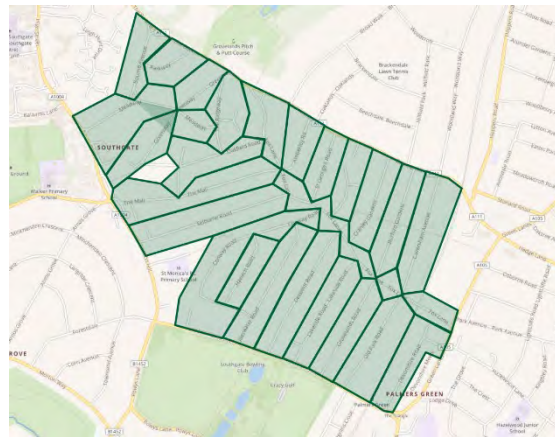
Safety and best practice say			FOX LANE		
Traffic volume	Total cars in worst hour	Impact on residents	Our roads	Total cars in worst hour	Car passing every
Low	Up to 200	Kids can play, any age walk or cycle	Conway Road	88	1.5 min
Medium	Up to 400	Some are put off walking & cycling	Bourne Avenue	272	3 secs
High	400+	Nor many people will walk or cycle	Fox Lane	548	6.5 secs

Example street	"85 th percentile" (mph)	Maximum speed recorded (mph)
Amberley Rd	26.3	60.1
Fox Lane	26.3	60.9
Bourne Ave	32.6	68.3
Grovelands Road	29.6	70.4
Harlech Road	27.7	83.3

Current State



"The Future is Green"



Worst streets combined



Figure 31 Better Streets for Enfield traffic counts analysis (BSTH and Author)

In September 2019, the group hosted a parklet demonstration event on Green Lanes and Devonshire Road. The group undertook a survey that I developed (Appendix C). The results were, again, utilised to increase participation. The survey was small with only 42 participating – volunteers were not asked to complete the survey, however a few councillors did. The majority of the respondents were passers-by of the event with 23 out of the 42 arriving by walking. The top three things selected for making streets better in Enfield were (1) more greenery, (2) low traffic neighbourhoods, and (3) slower traffic (say 20 mph). This survey data was not utilised as widely as the traffic analysis, however Better Streets for Enfield did receive 30 new email subscribers who completed the survey and provided their details to join the group.

Tower Hamlets Wheelers and Better Streets for Tower Hamlets – Citizen Science impact

The Tower Hamlets group engaged with a few different quantitative outputs, however the final were limited⁵¹. The initial citizen science activity involved mapping the of the local council's plan showing what the council had built versus what they had left to deliver. Whilst this did not lead to a GIS or Maphub output, it did spur the group to engage more deeply with the community consultation maps and create social media visuals of street closures or changes. It was a practice in visual narrative and capability development (Sauremann et al 2022).

The Roman Road Trust event was a citizen science activity that involved basic data collection. The event was attended by a few hundred people (attendance was depressed due to a rainy day). A key activity of the festival was the 'Have Your Say Station'. The goal of the survey was to get community feedback on the proposed Roman Road Trust' Common Vision and provide information that could be used to support further engagement with the Council. I developed the survey with input from the local group. There were a total of 78 survey respondent, 87% of which lived in Tower Hamlets⁵². Over half of the respondents (53%) indicated that they were aware of the Better Streets for Tower Hamlets campaign, but 43.5% stated they were not aware of the Better Streets for Tower Hamlets campaign⁵³. In Figure 32, they noted their top three things for Better Streets, then the respondents indicated that they would be willing to trial (61 out of 78) better streets activities in the area⁵⁴. The summary data and analysis was provided by the researcher to the groups along

with templates for future (an example of knowledge production). BSTH used the results for internal dissemination to volunteers, whilst the Roman Road Trust put the results alongside a public exhibition in their offices on Roman Road⁵⁵. The affiliation of the Roman Roads Trust as a coalition member to Better Streets for Tower Hamlets campaign provided legitimacy to the Better Streets campaign among the local businesses and the council. Further, the adoption of the Better Streets principles by the business association embedded the goals and visions into a broader audience.

Validity is a common concern in academic response to citizen science (Balazs et al 2021). Members of the group were told not to participate in the survey and according to the members who handed out forms they did not complete the survey; however, it was anonymous so I could not verify this. The role of citizen science though can be to empower the local groups to other and greater action (Shaw et al 2017 and Eitzel et al 2017) rather than verifiable outputs. Citizen science can be used for social changes driven by citizens for transformations (Trischler et al 2022).

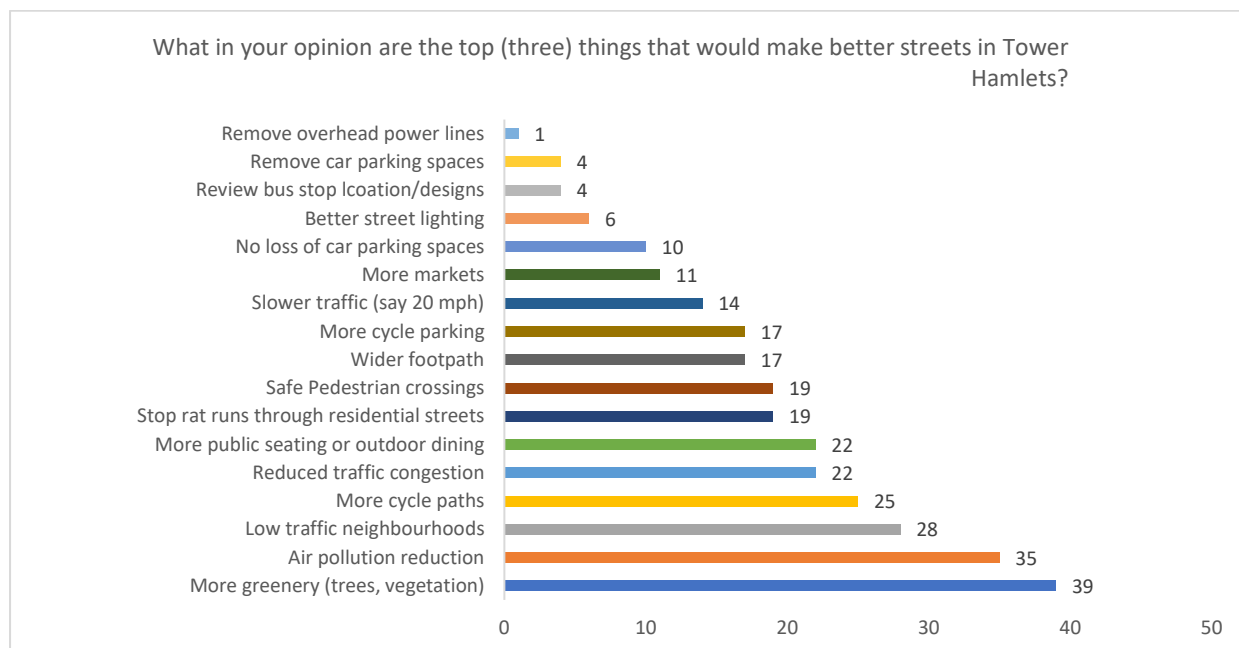


Figure 32 Roman Road Festival Survey indicating the top three choices for what would make better streets in Tower Hamlets

Southwark Cyclists and Better Streets for Southwark

Southwark Cyclists performed identified with tracking the vision of the group which sought to examine existing infrastructure changes over time, goals of the council, and goals of the group. They produced a map showing what was supposed to be built against what had been built. It was an effective tracking and visual effort that could be used in multiple ways, though it was underutilised in the engagement with the local council. The group utilised [MapHub](#) which allows the user 'to create interactive maps[... as well as] import and export data in GeoJSON, Shapefile, KML, GPX, or CSV formats.'

The use of visualization as a citizen science is underrated and has relevance for agenda setting. Sauremann et al 2022, noted that "Perceived trade-offs [of visual citizen science] may lead to the exclusion of "secondary" non-scientific project goals that are important for transitions" (Sauremann et al 2022, 4). Southwark Cyclists map illustrated an example of this (figures 33). The maps they produced had an important secondary non-scientific goal identifying the transition of the local government and tracking the transition progress. The capturing of this information presents potential pathways and time changes for Southwark. Further, it allows a visual narrative to capture the vision and goals of the regime (Southwark Council) versus that of the grassroots initiative (Southwark Cyclists). In this case, it provided an accountability tracker to Southwark Council (regime), individuals outside of the core volunteer group to visualise changes to their local area, and the opportunity to share on social media. Lastly, over time, the visualization will provide a historical view of cycleway and traffic calming measures across the Borough of Southwark and the grassroots initiatives impact.

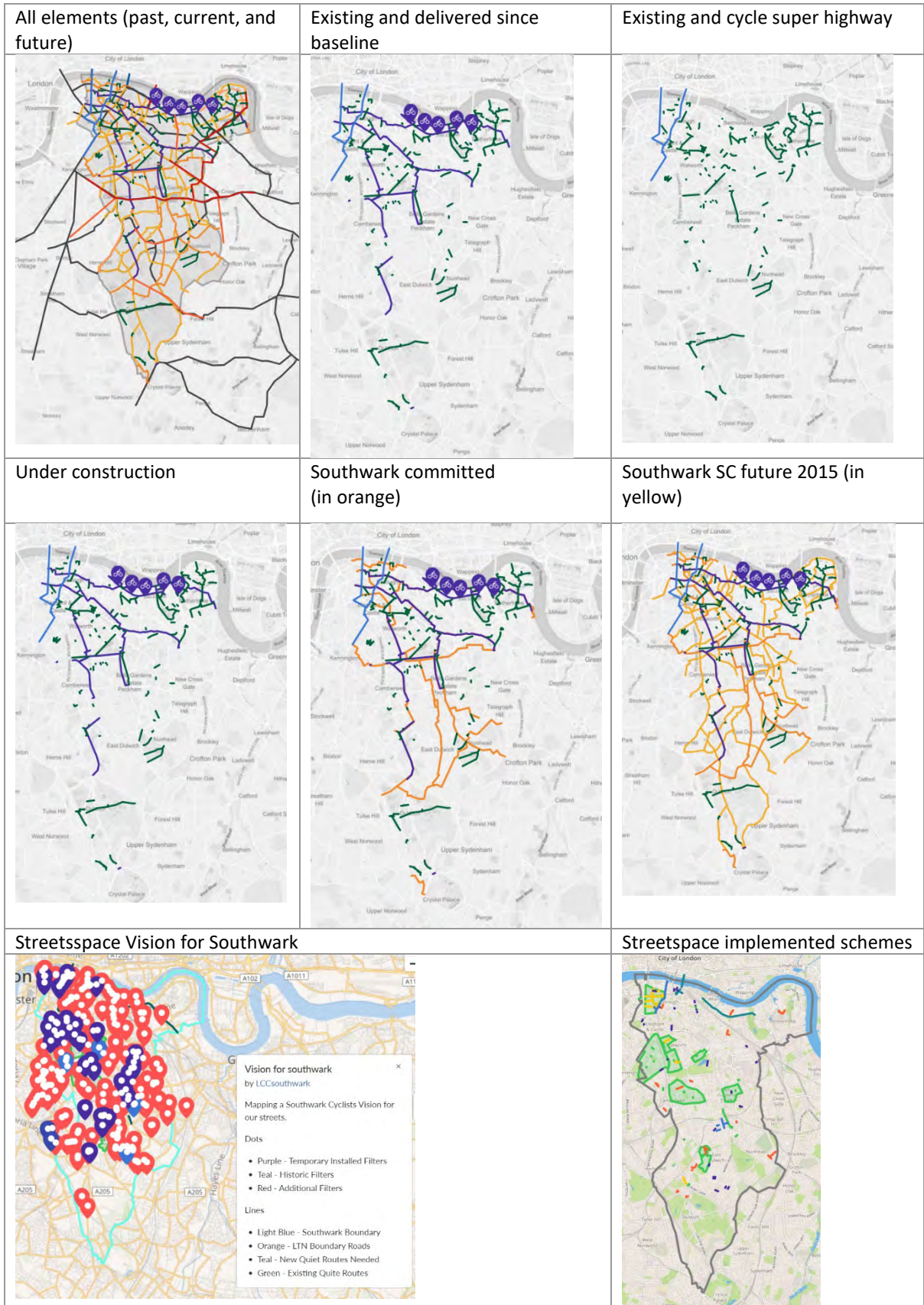


Figure 33 Southwark MapHub images⁵⁶ (Southwark Cyclists)

7.1.3 Growing individual and collective capacities in the grassroots initiatives and the grassroots movement

In the bridging methodology and engagement, the role of the activist researcher as an expert may assist the grassroots movements in creating expert-mediated resources that the local government can utilise to make decisions. There were a number of activities that illustrated this in section 7.1.2 of citizen science and the actions undertaken in 7.11. The Framework for change assist in upskilling individual participants, the grassroots initiatives as a collective, the broader LCC organisation, and changes in organizational awareness of LCC.

Horizontal and collective knowledge sharing

Better Streets for Tower Hamlets (BSTH) was formed in 2018, mirroring Better Streets for Enfield. They liked the idea of broadening the message to reduce the backlash created from cycling campaigns. Enfield had created the name and a simple message that they were a group who wanted safer healthier streets (for pedestrians, cyclists and business), but lacked an identity beyond that or a formal logo. The BSTH initiative was not formally launched until my engagement with the group and after the first workshop and the building of the strategy. During this time, BSTH updated the logo, created additional branding materials, and improved the Enfield messaging through editing and connecting to broader policies. I introduced the two groups and asked if they would share their collaborative materials. They agreed readily. Figure 34 shows a graphic and poster that become the Better Streets branding for majority of the Better Streets initiatives. This shared resources between the initiatives was the forming of an informal coalition for the Better Streets group that was the start of the growth into a movement. I coordinated the creation a shared folder where content could be utilised and amended to reflect their own borough. This folder continued to add resources as each group would make a new resource and share it with the other group. It was invaluable with one Enfield volunteer noting, “it was helpful to have some idea exchanges with the Tower Hamlets Better Streets group you were working with and to use their artwork.⁵⁷” A collective identity reinforced by the use of graphics (Cortell, 2015).

The parklet design was discussed and I suggested requesting to borrow the People's Parking Bay (led by Brenda Puech¹⁷) portable parklet. The group interacted with her on Twitter. The events manager contacted Mrs. Puech and she agreed to allow them to borrow the parklet. The People's Parking Bay provided the notice flyer that they use and the Better Streets for Tower Hamlets group updated it for their own parklet day. In addition, the group notified Greenhaus (the business located outside the parking spot that they wanted about installing the parklet). The business was supportive and provided a few plants to assist in decorating the parklet for the demonstration event (see figure 27 of the actual day). 'I enjoyed the short sharp focused activity creating a positive event – parklet – to gain publicity. It was very interesting to see how people initially thought this was unachievable but in fact with very little work created a great deal of positive outcomes for the group⁵⁸.'

Campaigners conference

The event was well attended with 27 local government groups participating out of 32 boroughs. The responses indicated that it was a very useful event that broadened their knowledge. In 2020 and 2021 this conference was run again, but online due to COVID. It was very similar to the first conference however with an increased focus on COVID, the emergency StreetSpace program, and forming Better Streets groups. The connecting of people and sharing of information highlighted a missing element the groups wanted, connection to others in LCC ecosystem.

¹⁷ Brenda Puech was known through different activists network and London Cycling Campaign. For information on her people parking bay visit <https://www.peopleparkingbay.com/>.



- Streets where we can choose to walk, bike, skip, scoot, or skate in safety and comfort.
- Streets that enable children to travel to and from school without cars.
- Streets with clean, unpolluted air and green public spaces for everyone to enjoy.
- Streets thriving with people relaxing and socialising, supporting local businesses to build our community.
- Streets that provide space for pedestrians and cyclists encouraging healthier, more active lifestyles.

OUR ASKS






 <p>"School Streets" closed to motor vehicles at pick up & drop off time</p>	 <p>Low-traffic neighbourhoods in every ward</p>	 <p>Zero days with air pollution over the legal maximum</p>	 <p>More secure residents' and visitors' cycle parking from the borough and developers</p>	 <p>More spaces without motor traffic to increase high street footfall & create spaces for people</p>
---	---	--	--	--

Figure 34 Better Streets for Tower Hamlets manifesto (Tower Hamlets Wheelers and Author 2019)

LCC organisational changes towards the grassroots initiatives.

LCC leadership recognised the conflicting demands on the leader and resourcing issues and welcomed the researcher involvement as a way to engage with conflicting leadership demands and resourcing issues. The overcame a challenge of social movement organisations as they compete for resources and engage with the grassroots initiatives who support their organisation (Chetkovich and Kinrether, 2006). The campaigners conference and handbook elevated resources that may have been trapped within an individual and shared as an open resource (Verduzco 2021). This was shared beyond just the LCC local volunteer groups to the wider friends of LCC groups.

The individuals and groups who participated in this research are still continuing their activism. Just a few days before I submitted this thesis, I received an email from CC saying, “As you may or may not know, we’ve just had local elections here in London, and one of the key planks of our local election campaign (Climate Safe Streets) was each borough coming up with a set of five asks, Better Streets style. It was a great way to focus minds in each group and there were plenty of pledges by party leaders – including I think 12 from those who were in power in their council. [...] suddenly remembered that this was your idea! And I said I would get in touch to say thank you 😊” (email May 2022). Following their transition longer could provide evidence for growth and changes in activism.

7.2 Grassroots initiatives diffusing to the grassroots movements – the growth of Better Streets and its friends

Coalitions can counteract those groups, niches, or alternative voices that oppose the transition(s) grassroots groups are driving. Better Streets and London Cycling Campaign have had a positive influence on the sustainable transport transition in London. The collaboration and coalition efforts formed a key reason for this influence (Bruno et al 2021 and Sunio et al 2021). The vision for ‘healthier, safer streets’ formed an integral part of the transition and community participation in the local government planning process (Ortegon-Sanchez and Tyler, 2016).

The cycling movement became the Better Streets grassroots initiative. Why did the grassroots initiatives resonate with Better Streets vision and concept? Better Streets

overcame a number of issues of visions, narratives of change, identify, and that provide an answer. Better Streets utilised a vision and a narrative of change that was inclusive to a wider group of individuals (Wittamyer et al 2017). The Better Streets branding enables this message to be clearer and overcome hurdles to anti-cycling rhetoric (e.g. male in lycra image). The majority of the individuals in the group are not racing cyclists (and some were not cycle riders at all), however they all saw cycling as a way to enable more liveable cities and a socially just transport mode. The broadening of the group beyond cycling was and is seen as a messaging tool to enable a greater increase in participation. It “attended to local specificities whilst [offering the potential] to wide-scale diffusion and influence” (Smith et al 2014, 119-120). Further, it was the

“construction of a common identity among varied actor groups has been key to a citizen campaign for safe cycling infrastructure. The construction of a socially inclusive identity relating to cycling has been made possible by prioritizing the development of a campaign network comprised of weak ties among stakeholders, rather than a closer-knit network based on a more exclusive group of sporty cyclists.” (Becker et al 2021, 1).

The role of individual identity played a part in Better Streets acceptance. It provided those who did not see their identity as vehicular cyclist or responded to more feminist narratives to be included equally (Leyendecker 2020). The empowering inclusion was framing to overcome challenges of grassroots innovation movements (Smith et al, 2017). The Better Streets branding has enabled a wider coalition than previously achieved under the a purely cycling goal. The messaging is clearer and the key asks representing broader active travel and placemaking aims.

Each of the research groups engaged with coalitions differently. The Tower Hamlets group put effort into the Better Streets coalition and actively getting businesses and other groups signed on to the Better Streets for Tower Hamlets campaign. The Enfield group likewise started to engage with other groups and attempted to attract non-cyclists into their group; they took the approach of direct engagement with residents and other resident groups. The Southwark group, as of late 2020 had not begun to build a coalition outside of having a

formal partnership with the Living Streets¹⁸ local chapter, but launched Better Streets for Southwark in January 2021⁵⁹. Post the LCC campaigners conference the Better Streets groups started rapidly growing and implementing the coalition approach around key asks. Initially there was conflict between the LCC head office and the group in terms of data privacy which is a risk concern of the LCC office. The fear was that the Better Street groups, by not complying with LCC affiliate rules would pose risk to data protection requirements, event insurances, or other constituted areas. Whilst, many of the members of Better Streets were LCC members, many were not LCC members and had not affiliation or even cyclists. It was a way to get new members as well. “Really enjoyed the campaigners conference you organised too! This kind of event really helps you feel part of a wider group. I wasn't a member of LCC, but after this conference I wanted to be⁶⁰.” It highlights the formalisation of an organisation is at odds with the volunteer based innovations and initiatives.

This though has changed including LCC working closely with Better Streets of Kensington and Chelsea, including supporting legal action against the local government. LCC stating:

“LCC has worked closely with Better Streets from its inception and throughout this whole saga. We’ve seen the many attempts the group has made to try and avoid reaching this point. They have expertly dismantled the arguments made by the council and built a [70+ strong coalition](#) of institutional, stakeholder and business support for cycle tracks on Kensington High Street; and both publicly and behind closed doors, they have repeatedly begged the council to come to their senses.” (LCC 2023).

Better Streets actions have grown beyond tactical demonstrations and individual engagement to formal legal actions against governments. Better Streets of Kensington and Chelsea undertook formal legal action against the removal of an installed cycleway. The Better Streets Kensington and Chelsea is a next stage development of the Better Streets.

¹⁸ Living Streets is a national charity for ‘everyday walking’ and have many local chapters across the United Kingdom. Information about Southwark group can be found here <https://www.livingstreets.org.uk/get-involved/local-groups/southwark>.

The organisation is supported by a previous member of the initial grassroots initiative who is now in a full-time paid position of LCC, and the group has utilised all the information, resources and tools of the previous groups. This has allowed the group to operate at a different baseline level and bring in new volunteers without the need to change the existing guard. The legal action is still in progress.

The Better Streets initiative through intermediary actors started institutionalising their collaborative activities. The institutionalising occurred through: LCC campaigners handbook' staff employed to support Better Streets and Healthy Streets groups in Westminster Council, Kingston and Chelsea Council area; Better Streets workshops to other groups; promotion through social; and incorporation of language into the organisation wide narrative. Further initial reservations about growth in Better Streets initiatives as an affiliated and directly aligned to LCC appears to have ceased and Better Streets fully embraced as a 'Friends of LCC' group⁶¹. It increased of LCC by accepting and sharing resources (Verduzco 2021).

The support structures provide direct measures of capacity-building assisting in embedding further Better Streets initiatives into local government areas (Warbroek, 2019). This embeddedness supported the growth of the cycling movement in London. Coalitions united against opposition to low traffic neighbourhoods. For example, in September 2020, over 130 groups signed an open letter to the UK prime minister about regarding the social and physical distancing campaign in response to COVID and support for streets closures of which the London Cycling Campaign and Better Streets groups were key leaders and drivers (Macmichael 2020). The coordinated approach of coalitions is key to creating micro-accelerations that can create policy windows in local (or national) government, drive infrastructure changes, and overcome oppositional voices.

The Better Streets movement has accelerated rapidly with many London Cycling Campaign boroughs creating groups that would cater to a larger range of people or support coalition forming. The Better Streets movement has continued to grow. Other groups have seen it as a successful tool in building coalitions, engaging with opposition to cycleways, and gaining new members who are interested in walking, placemaking, or other traffic calming measures. The London Cycling Campaign have experienced positive responses and requests for Better Street campaigns. Since COVID, the Better Streets coalition is being more strategic

about their actions and where they spend their time. They are also seeing more parents come along to meetings who want a better environment for their children. As of June 2021, there are over 11 Better Street groups, plus other groups similar to Better Streets that have emerged from the participating research groups that are connected to London Cycling Campaign or their local groups (see Table 18). Some groups are utilising the materials created from this research project (Appendix F – group resources). The Better Streets for Kensington and Chelsea has come directly from the Westminster Cyclists group and a member of the Enfield Cyclists/Better Streets of Enfield who became a paid staffer of LCC. In early 2020, I gave a workshop to the group on establishing a better streets group and creating a coalition. This was the start of coalitions 2.0 and the rapid growth of the better streets groups. During COVID, the royal borough of Kensington and Chelsea implanted a pop-up cycle lane utilising emergency funding, however only a few weeks after implementation they removed it due to opposition pressure. The cycle lane was well-used and supported through a broad coalition. In 2021, the Better Streets of Kensington group initiated a fund-raiser (and secured a pro-bono law office) to take the borough to court against the removal and decision process (Environmental Law Foundation 2021; and BSKC 2021).

In March 2020, there were five Better Streets groups or affiliate groups in London stemming from this research. Affiliate initiatives are groups that do not use the Better Streets name but use the strategy, had direct contact with Better Streets in requesting to set up a new initiative modelled on Better Streets. By May 2022, there are at least 20 initiatives or affiliated groups in London (and even New Zealand) who are utilizing the tools, graphics and language of Better Streets (Table 18).

Table 18 BetterStreets Initiatives growth since 2019

Better Streets initiatives and affiliates in London, UK and beyond ¹⁹ .	
May 2020 Better Streets Initiatives	Nov 2022 Better Streets initiatives ⁶²
1. Better Streets for Enfield	1. Better Streets for Enfield
2. Better Streets for Tower Hamlets	2. Better Streets for Tower Hamlets
3. Healthy Streets for Harrow	3. Healthy Streets for Harrow
4. Kensington and Chelsea Borough Healthy Streets	4. Kensington and Chelsea Borough Healthy Streets
5. Westminster – Healthy Streets	5. Westminster – Healthy Streets
	6. Better Streets for Southwark
	7. Better Streets for Moseley
	8. Better Streets4KC
	9. Better Ealing Streets
	10. Walworth Healthy Streets
	11. Better Streets Greenwich
	12. Better Streets for Havering
	13. Brockley Better Streets
	14. Better Streets for Newham
	15. Share Better Streets Croydon and Bromley
	16. Better Streets Waltham Forest
	17. Better Streets Newbridge
	18. Better Streets for Grove Park
	19. Better Streets for Barnet
	Outside of UK
	20. Better Streets NZ
	21. Better Streets AUS (started by individuals who knew of my research in London)

7.3 Exogenous factors influencing the grassroots movements acceleration: Extinction Rebellion, Mums4Lungs, and COVID

During the research project with the Better Streets grassroots initiative and the research project, a number of exogenous factors arose related to similar environmental grassroots initiatives and grassroots movements. Transitions are also a focus of other sustainability groups who impacted the landscape during this research and represented niches with similar beliefs. These initiatives and movements impacted the regime and cultural landscape that the Better Streets initiative operated in. These were external factors that assisted changes in the landscape that supported my grassroots initiatives and grassroots movements in their transition goals. Three exogenous factors were identified that influenced this: (1) Extinction Rebellion, (2) air pollution in London and (3) COVID pandemic.

¹⁹ Found during a brief google search.

These two social movements and global pandemic generated a broader conversation about active transport and changes in the transport system required.

7.3.1 Extinction Rebellion and London protests

In May 2018, UK academics signed an open letter requesting a call to action in the autumn of 2018. Extinction Rebellion was started shortly thereafter. Extinction Rebellion was founded by the disillusionment on the progress of other climate and social movements as being too little and too slow. They have three main demands:

- (1) “tell the truth, governments must tell the truth by declaring climate and ecological emergency, working with the other institutions to communicate the urgency for change”;
- (2) “ Act now, Governments must act now to halt biodiversity loss and reduce greenhouse gas emissions to net zero by 2025”;
- (3) “ Go beyond politics, governments must create and be led by the decisions of a citizens’ assembly on climate and ecological justice” (XR, 2019).

In November 2018, five bridges in London, UK were blockaded in protest. This sparked a movement across the city, nation, and internationally. Many of London Cycling Campaigns local groups participated. The groups engaged differently with this movement. Tower Hamlets Wheelers began to build relationships with them and invited Extinction Rebellion to their Better Streets coalition. Southwark Cyclists did not engage collectively with the Extinction Rebellion movement, however individual members attended some of their protests and Southwark Cyclists supported the climate emergency motions that were tabled at the local government boroughs as a result. No known engagement from the Enfield groups occurred. In March 2019, Tower Hamlets Council passed a climate emergency motion. In March 2019, Southwark Council passed a climate emergency motion. In July 2019, Enfield Council tabled and passed the climate emergency motion. As of December 2020, 28 boroughs and the mayor of London passed climate emergency declarations. The actions and tactics of the Framework for Change contrast to Extinction Rebellion which took direct actions which were illegal versus the grassroots groups in this study who were encouraged to take actions that were legal and required acceleration, e.g. the parklets. These protests did encourage the three grassroots groups to think more actively about

direct action and where the boundaries of legal and, potentially, illegal action. Ultimately, the Better Streets and Extinction Rebellion operated much differently in scale and action outcomes, so the Better Streets and cycling groups opted for direct actions that were legal.

Extinction rebellion highlights the scale of activism and the different niches that influence the overall movement and shift on a cultural level that impacts the landscape and changes. The group however has struggled and has a few contrasting points with my grassroots organisations. The grassroots groups have clear measurable goals that are not open to interpretation. For example, the climate emergency motions were the local governments action to “tell the truth” and “act now”, but they did not have infrastructure or policy changes associated with them, nor did they communicate effectively the harm their residents may face as a result of climate change. Extinction Rebellion did not rely heavily on coalitions of influence, e.g. extending beyond the rebellion itself and its local initiative chapters (Gunningham 2019). Instead they aimed to bring individuals into local Extinction Rebellion initiative chapters. In contrast to the other groups they did not have a formal leader and struggled to create intermediary relationships with local government and state government agencies.

The method of engagement with the regime and landscape were different. Extinction Rebellion became known for trying to get arrested in protests, in contrast to the members of this group which did not want to be involved. Extinction Rebellion use direct action methods that are often illegal forms of protest, in contrast to the Better Streets, LCC, and Mums4Lung whose protests are less confrontational and, generally, not illegal. The hierarchy structure of Extinction Rebellion and LCC and Better Streets are different. LCC provided a clear hierarchy for the local grassroots groups to feed in to. Fotakie and Foroughi argue “that the power relations present in any form of organized endeavour must be recognized in order to develop effective and democratic activism.” (Fotaki and Foroughi 2022, 224). In other words, leadership and hierarchy matter in the growth and diffusion of the grassroots movement.

During COVID an in-depth *Guardian* piece on Extinction Rebellion’s evolution showed a few key points: (1) support was there, (2) things that individuals thought weren’t possible before COVID were now possible during COVID (like a Global Shutdown), (3) at some point

grassroots movements become too large and organisations and hierarchies need to be formed (Taylor, 2020).

7.3.2 Air pollution in London and the Mums3Lungs movement

Over the last few years in London air pollution has been a strong focus across many different groups. London does not currently meet EU limits and is unlikely to do so until well after 2030 (BBC News 2018). In 2015, a study identified that Tower Hamlets children have a 10% reduced lung capacity due to air pollution (Wood et al, 2015). This news and the position of newly elected Councillor Rachel Blake as the Cabinet Member for Regeneration and Air Quality most likely encouraged Councillor Blake (and others) to start actively calling for action in Tower Hamlets on the air pollution problem. A second study in 2018 noted an average of 5% reduced lung capacity for multiple boroughs including Tower Hamlets (Mudway et al, 2019). Further the Council was growing more aware of this issue, noting 'Air pollution levels in Tower Hamlets are the fifth worst of any London borough, the council claims, and exceed EU air quality limits for nitrogen dioxide pollution' (Date, 2018). Councillor Blake started the Breath Clean Challenge to raise awareness of this (Tower Hamlets Council, 2019b).

At the same time, another group developed which further highlighted the issue of children and air pollution. Started in 2017, Mums for Lungs developed as a grassroots initiative and into a London-wide group calling for action on air pollution (Mums for Lungs). It started to gain significant attention in 2019, when the group contacted 297 schools regarding the levels of illegal air pollution which achieved widespread media attention and broadened their coalition. According to the Mums for Lungs group, over 800 schools across London are in illegally polluted areas (Mums for Lungs 2023). The group did not actively campaign with Extinction Rebellion but did leverage the Extinction Rebellion media to promote school streets. The LCC groups and local groups also began to engage with Mums for Lungs on school streets.

In October 2019, the Mums for Lungs co-founder attended the LCC AGM. Afterwards, the co-founder requested my advice on advancing the cause of the organisation. In January 2020, Mums for Lungs founder and I had a conversation regarding my Framework for

Change and volunteer engagement. This and sharing of the LCC Campaigners' Handbook resulted in the group changing their website, volunteer engagement and tactics for campaigning⁶³. This prompted a rise in air pollution reduction schemes and school streets, particularly in Tower Hamlets. According to Mums for Lungs data collection, Tower Hamlets have committed to the most number of schemes, 50 by 2022, while Southwark has committed to 14 by 2022 (Mums for Lungs, no date).

In their Tower Hamlets Strategy 2020, Tower Hamlets Council noted that '77% of the population and 80% of schools are based in areas that exceed recommended limits for air pollution' (Tower Hamlets, 2019a, 4). Councillor Blake stated, 'It is unacceptable that children in Tower Hamlets have smaller lungs because of air pollution and school streets should help us to get air quality within legal limits. We want to do what we can to tackle air pollution in Tower Hamlets'. The Transport Strategy does not identify if those schools will be prioritised. At the Tower Hamlets Wheelers month meeting in June 2020, I asked the attending Councillor and the schools engagement officer if they would be prioritised and neither offered a confirmation on the locations. Further, I noted the length of time to finish all schools in the borough (approximately 124) to which there was no reply.

7.3.3 COVID pandemic and the rise of social and physical distancing movements

In December 2019, the initial outbreak of a novel coronavirus otherwise known as COVID became known and began its spread and acceleration across the world. By February 2020 it had taken foothold across many parts of the world including the United Kingdom. The requirement for physical distancing of individual in order to reduce the spread of COVID, as well as, stay at home orders (e.g. lockdowns) that limited the distance you could travel from your home. This meant a dramatic reduction in public transport and motorised transport. A large national push for reclaiming road space to increase infrastructure for pedestrians and cyclists to be able to exercise and move whilst meeting physical distance. This created a policy window and acceleration point for the Better Street groups and London Cycling Campaign goals.

As a whole, the niche development of active travel, in particular cycling, has undergone massive changes in a short period of time due to COVID. In February 2020 the groups were

preparing for a mayoral campaign and additional actions, however by March COVID dramatically and fundamentally changed cities and the structure of change. This impact event represented a significant acceleration for the grassroots movement.

Transport for London and Department for Transport

Transport for London (TfL) stated that as of March 2021 it 'has delivered 260km of high-quality, safer cycle routes in his first term – including more than 5 times the protected routes that [Mayor Sadiq Khan] inherited' (Mayor of London, 2021). COVID resulted in a significant amount of change with TfL providing 'more than 100km of new or upgraded cycle routes have been delivered or are under construction since the start of the pandemic, as well as hundreds of kilometres of quieter streets, extended pavements, new School Streets and many more junctions made safer' (Mayor of London, 2021).

Over the course of the last few years, LCC, the local groups, and local activists have discussed and encouraged the national government and TfL to withhold funding from local government for failing to delivering active travel funding schemes that are noted in strategic plans. They typically wield more soft power, though the pandemic saw harder lines with the Commissioner telling Kensington Council who removed a cycleway, 'he would look to recover the Government money so it could be spent on other areas in the capital' (Patel, 2020). Likewise, during the COVID pandemic, the DfT provided grant funding for all local government areas (including London) in an effort to enact street space changes in support of social distancing. The impacts of COVID significantly reduced TfL's funding, and they became reliant on central government funding (LCC 2021b). The Transport Minister stated, in a July 2021 letter sent to all councils in England, that councils with removed or weak schemes would not be funded or looked at favourably, and DfT would want data results on the schemes and consultations (Heaton-Harris, 2021).

In July 2021, the Minister of the State for the Department for Transport, Chris Heaton-Harris MP, released a letter to the 'Leaders of all combined, transport and highway authorities in England' (Heaton-Harris, 2021). The letter noted a few themes: the increase in cycling, the desire to cycle, the government's Emergency Active Travel Fund (EATF), and controversies around the emergency roll-out. The letter noted that in 2020, the UK saw 'the

highest level of cycling on the public highway since the 1960s, and the greatest year-on-year increase in post-war history' and 'even after these remarkable rises, according to one leading retailer, a further 37 per cent of the population now wants to buy a bike' (Heaton-Harris, 2021, 1). During COVID, the government initiated the Emergency Active Travel Fund (EATF) to enable physical distancing and counteract dramatically reduced public transport and a potential increase in congestion. This resulted in the delivery of hundreds of school streets, pop-up cycle lanes, and low traffic neighbourhoods across London and the UK. Opposition to the schemes was not widespread but was vocal. The letter alluded to this opposition in a few comments stating very clearly that councils must (1) schemes must not be removed without proper evidence about their effects and (2) consultation must be objective (Heaton-Harris, 2021, 1-2). It further noted that these removals had implications for 'management of [...] public money' and that 'those which have prematurely removed or weakened such schemes should expect to receive a reduced level of funding' (Heaton-Harris, 2021, 1). As noted by an LCC media release, 'This is a long overdue action from TfL and government – that puts real teeth to the calls for councils to do more and better on walking and cycling in response to the climate crisis and to avoid a "car-led recovery" from the pandemic. It shows that there are consequences to those councils who fail their residents on delivering schemes – whether through poor consultation, weak leadership, bad design etcetera (LCC, 2021a). This has meant that three councils outside of London and seven inside face an immediate funding freeze. 'In London, Ealing, Harrow, Hillingdon, K&C, Redbridge, Sutton, and Wandsworth, it was announced they would not be able to bid for the next round of active travel funding schemes from TfL "pending further discussion", but also might lose out on other transport funding in general for a period (joined by Brighton, Liverpool and West Sussex outside London)' (LCC, 2021a). This represents a significant political shift at the regional level (TfL) and national level (DfT), and ramifications for funding organisations that will not or do not fund active transport and healthy streets infrastructure. LCC have utilised this to strategically support local groups in those areas and encourage them engage councils more deeply.

7.4 Accessing the regime: the windows and doors to overcoming challenges to regime acceptance

The regime, i.e. the local government actors and regional based government actors, play a significant part in the decision making and delivery of the grassroots initiatives goals. They accept or deny the niche growth to dominance becoming key allies or opponents to its diffusion. In this section, I am to summarise how the grassroots initiatives (niche) interacted with the regime both directly and indirectly. How the regime dynamics for existing policies, infrastructure developments, and power dynamics affected the groups. The grassroots initiatives, the researcher and the grassroots movement became intermediaries with the regime negotiating and navigating the regime and path dependencies that needed to be overcome.

7.4.1 Regime communication practices and engagement with the grassroots initiative and grassroots movement

The groups' engagement with their Councils was not regular and did not always enable groups to be aware of 'plans/schemes that council are planning and don't always have opportunity to feedback on plans in the important early stages⁶⁴.' For two of the three groups this was a regular problem. Tower Hamlets, however, did receive early-stage plans to provide comments on. Local councils are at the centre of the grassroots initiative (niche) transition goals. Local councils are a regime actor in the socio-technical system. Improving relationships, increasing local group engagement, and acceptance of the grassroots initiative by the Council is key to gaining influence and power within the regime. Engagement from the regime with the niche enables it to engage with policy entrepreneurs or intermediaries, other niches, or gain acceptance in the social and cultural change of the landscape. Further acceptance by the regime enables the niche to move along a pathway and potentially towards a dominant form of the regime. This section describes some of the specific interactions with each group and their respective council. It notes where applicable London Cycling Campaign's interaction with councils during this engagement.

In Socio-technical transitions how do grassroots movements engage with local institutions' social and environmental infrastructure changes? Councillors are a significant influence area

of decision-making. The groups that I worked with engaged with individual councillors, but not all of them. The grassroots initiatives engaged with the mayor, cycling councillor, air pollution officer, while a few individuals reached out to their individual councillors. The local groups identified councillors as the biggest barriers to changes within the council⁶⁵. The political position of those councillors were not well defined by two of the three grassroots initiatives. Two of the grassroots initiatives (Southwark and Tower Hamlets) did not create a power map of the councillors to identify alignment with Better Streets and other goals. The Enfield grassroots initiative did keep a stakeholder list of all councillors and their support for Better Streets, focusing in on the ones that had direct influence on the Fox Lane low-traffic neighbourhood. They worked with the Cycling Stakeholder Group which was a local government run group that met monthly or quarterly. The groups were not in a position of power with the Council. They could request updates or changes to infrastructure but the Council are under no obligations to fulfill those requests. The only power that they had was to minute items and disagreements, so that it became public record. The groups did this in various capacities.

Over the course of our participatory action research, this was discussed in relation to the power structures of councils and how engaging with others outside of the transport department to build allies and a coalition would create a broader movement inside the Council. Engaging outside the transport department who they had engaged with over a long period, they could find those whose goals aligned with theirs in other ways. For example, social housing and the issues around no secure parking for cycling and limited flat space to park cycles, as well as, low-income residents who would benefit from cheaper and reliable transport. Identifying potential policy entrepreneurs (Weber 2017) or individuals aligned with a cycling identity or vision within council was not accomplished.

Regime path dependencies were evident during the niches engagement. Each grassroots initiative experienced this in different ways. In the Tower Hamlets grassroots initiative (BSfE), Tower Hamlets, Liveable Streets Program was a two-year consulted programme, in addition to its development as part of the Transport Strategy (Tower Hamlets, 2019a). The liveable streets program aimed to improve walking, cycling, greenery, safer, and other placemaking benefits. The consultation showed strong support for the program including

utilizing traffic filters, speed reductions and other innovative infrastructure developments. The program though struggled with council engineers and the perception from the groups was that they 'don't know the mechanics', e.g. that the engineers developing schemes do not understand quality design, how active transport is being used, and who is using it⁶⁶.

In Enfield grassroots initiative, they sought to engage councillors but not all the councillors⁶⁷. The Enfield group hosted four ward councillors in July 2019 for a guided tour of Waltham Forest and their low traffic neighbourhoods. "Communications with officials can be frustratingly intermittent. Not always aware of plans/schemes that council are planning and don't always have opportunity to feedback on plans in the important early stages⁶⁸."

Subtle shifts occurred in the groups and individual relationships with Councillors and council staff. In Tower Hamlets, the council increased the number of policies and support for Low-Traffic Neighbourhoods, but often reversed course when opposition was perceived even when their own evidence showed broad support. Enfield's Fox Lane trial was highly successful, and the council began planning them in many other areas, whilst opposition there is very vocal and has been subject to protest marches against the Low-Traffic Neighbourhoods.

Tower Hamlets example of political changes

The Tower Hamlets group met with a few councillors including the mayor many times during the 24 months of engagement. The group's meeting with the mayor highlighted an area where the Council and council staff's response failed to 'match the ambition which you and your Labour colleagues have set for cycling in the borough' (19 Dec 2018, email, Tower Hamlets Wheelers). Engagement with councillors against opposition, for example Councillor Krysten Perry (the cycling champion officer and attendee of the Cycling Stakeholder Group meeting) requested responses to the opposition group (the Conservative party) regarding a 'pro-car motion for debate [at] the full council meeting' (email, Tower Hamlets Wheelers). The group provided responses and text to support Councillor Perry and the Labour party with their council meeting arguments. No member of the local group attended the council meeting, yet opposition movements (see bus gate, taxis, and others) did attend meetings including that one. A take-away is that physical presence is key to showing support or

opposition. A few people at a council meeting in front of councillors has an effect on their decision making regardless of support not at the meeting.

The Tower Hamlets grassroots group had multiple individual interactions with councillors as aiming to create an ally for their movement. In 2018 and 2019, the group hosted a tour of the mini-holland area in Waltham Forest which multiple councillors attended. Further, the group secured an one-to-one meeting with Mayor John Biggs on 5 December 2018 which helped facilitate a closer relationship and provided the group an opportunity to discuss opportunities in the area. Following the strategy session in January, additional members were encouraged to reach out to their ward councillors. This resulted in one member meeting Councillor Dan Tomlinson and TfL regarding the Bromley North ward (on the same evening, 3 April, as the Council's Transport Strategy stakeholder meeting) and requested what others would like mentioned, in addition to their particular infrastructure concern for a "right turn for cyclists from Bow Road into Bromley High Street⁶⁹." Initially there was substantial difference between the Council and the group's goals, however these have narrowed substantially. The Council through Mayor John Biggs have adopted many of the goals directly into their documents and policies. The Tower Hamlets transport strategy and engagement through the coalition effort that the group undertook significantly spread the goals into the council documents. Previous council policies though have not provided the significant infrastructure changes. The exogenous COVID factor accelerated the rollout of traffic-calming measures, however the May 2022 election saw a change in leadership. The political leadership fueled by opposition to traffic-calming measures has seen the current Mayor remove popular traffic-calming measures though it received only a six complaints (Lydall 2022). The fact that councillors reject long-term developed plans with community backing is concerning. The Grassroots initiative of BetterStreets has grown beyond its volunteers with schools, children, and residents across Tower Hamlets protesting the removal of the traffic calming features across the borough. The protestors have received an increasing amount of press⁷⁰ and utilize "safer streets" language in protest of the street changes, mimicking the protests of the 1970s Netherlands. Further, they are using innovative "kidical mass" rides, e.g. mass bicycle rides with children. A clear shift of the

language into the cultural landscape beyond the cyclist identity, and incorporating social cycling narratives (Spinney 2021).

7.4.2 Shifting accountability - power dynamics changes between the niche and regime

Acceptance and legitimacy indicates a power relationship between the grassroots initiatives and the regime. These power imbalances arose when niche groups were perceived as not having support that they were a fringe element. This deterred the council from progressing with their own policies. In Tower Hamlets groups, religious groups and others showed diverse support across a range of actors⁷¹. In Tower Hamlets Borough, for example, chapter five provided evidence that the local government policy and strategies could have accelerated the delivery of cycleways if they had been enacted, however the slightest opposition against (the trial closure example) saw the council abandoned plans. The forming of the Better Street coalition with business groups, environmental travel coalitions broaden support to a wider group versus just cycle groups. They allow the council to see the wider benefits. Further the coalitions goals were measurable, e.g. we want low traffic neighbourhoods in every ward. The number of infrastructure improvements could be measured and were largely not open to interpretation. The quality of delivery may be open to interpretation or delivery, but not how many and at what speed.

7.4.3 Niche and regime intermediaries in London

Intermediaries are actors that are involved in the innovation process between two or more parties (Mingon and Kanda 2018). There are different types of intermediaries as they each play different roles in the transition (see section 2.2.1, table 1). Intermediaries could be on different sides of the innovation, leaders, or key organisations (Mignon and Kanda 2018). They provide legitimacy to negotiating and navigating different actor relationships, and are important in the accelerations of transitions (Kivimaa et al, 2019, 1072). In table 19, I summarised the different type of actors and their position in the research and socio-technical transitions. Through this and the research, I identified three key intermediaries, and the development of the grassroots initiatives to becoming potential intermediaries.

Table 19 Positionality of different actors (Author)

Category	Research position	Position in socio-technical research
Doctoral researcher	Action research insider	Niche actor, intermediary
London Cycling Campaign (LCC)	Research participant. Part of the research participation agreement.	Niche actor
LCC – Board of Trustees	Board did not participate and trustee meetings were not researched. Some trustees did participate in research. Sub-committees were involved in research and learnings.	Niche actor, intermediary
LCC – Staff	Research participant. Part of the research participation agreement.	Niche actor, intermediary
LCC Local Groups: Committee members volunteers	Research participant. Part of the research participation agreement.	Niche actor
Local government Staff and councillors: Southwark Council Tower Hamlets Council Enfield Council	Research engagement through the local groups	Regime
Regional government (TfL)	Research analysis and local group engagement	Regime
Opposition groups	Research analysis and local group engagement through media	Niche or landscape
Others	Research analysis	Landscape (cultural and political learnings)

The three key identified intermediaries that impacted this research are London Cycling Campaign, the researcher, and the Walking and Cycling Commission for Transport for London. In figure 35, the position of these intermediaries is presented in relation to the transition pathways.

In literature, LCC could be considered an intermediary. They operate between the niche and regime, they connect and link actors and activities, and are a membership organisation (Kivimaa et al 2019). London Cycling Campaign is both a user intermediary and/or niche intermediary depending on the position they are taking and what actor they are engaging in. As an user intermediary, LCC works to translate the cycling technology to a wide range of transport users and qualifying that cycling preference to regime actors. As a niche intermediary, they are trying to influence the automobility socio-technical system for the active transports benefit. As a niche regime, LCC moved between opposition to Transport

for London and local governments to activity engaging behind close doors (Batterbury 2003). The work with London Cycling Campaign as the Chair of the Campaign and Active Membership and Chair of Policy Forum produced three reports, integrated through intermediaries with the regime (Transport for London) and one referenced by the regimes (Climate Safe Streets). The first was the Micromobility and Active Travel in the UK a research paper by the Policy Forum of LCC (LCC 2020). This report was utilized by LCC and the researcher, both as niche intermediaries, to engage with the regime. It research report was discussed with a TfL Senior Policy Manager, e-scooter workshop, and shared widely in media⁷².

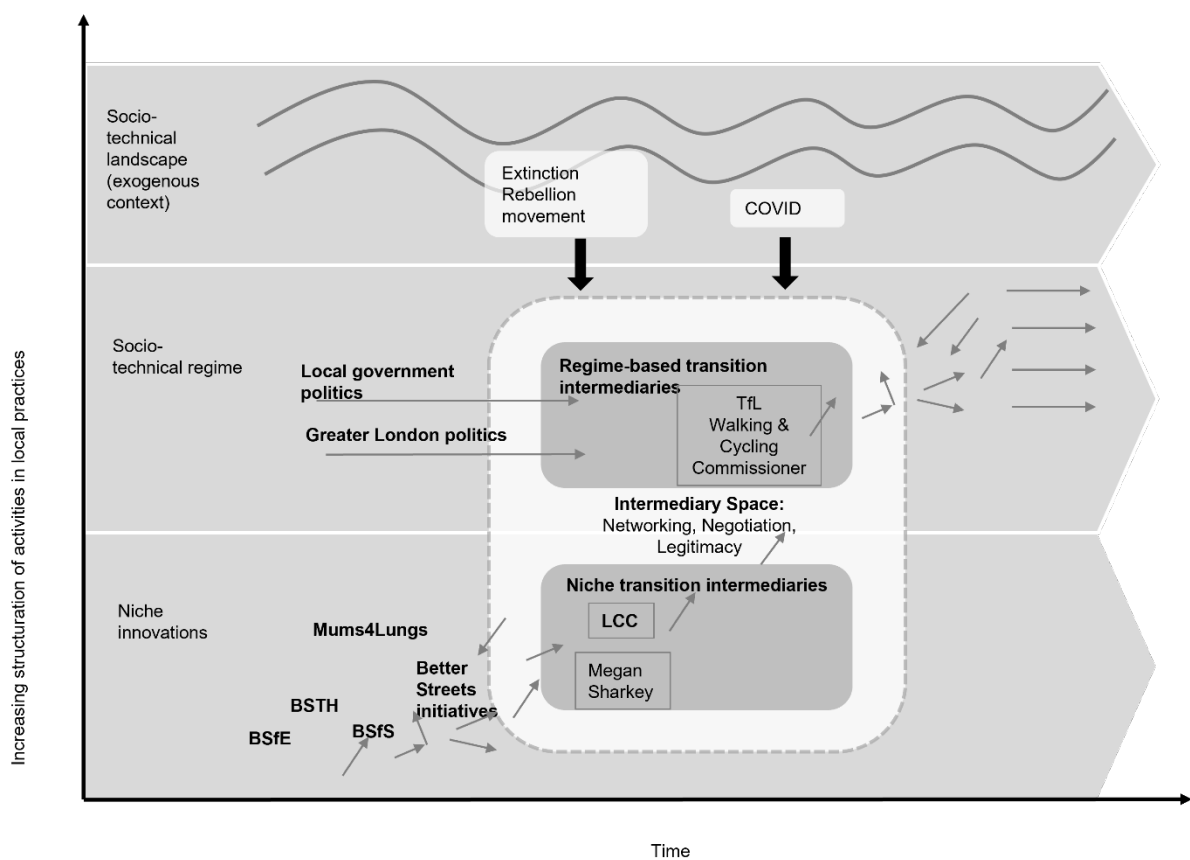


Figure 35 Niche and Regime Intermediaries and the saturation of activities in local practices (adapted from Ehnert)

Megan Sharkey, the researcher, is a niche intermediary. As an insider to the active transport niche working to experiment (e.g. the framework for change with local grassroots initiatives) to advance the walking and cycling niche activities and influence the system. In this role, I worked across different actors and across different levels (the niche, the regime, and across the landscape). In the role of the activist researcher I worked with the grassroots initiative

(niche) working to provide the experiment (the framework for change) to accelerate the niche (walking and cycling). The local government counter-parts saw my participation as that of an expert academic with objectivity around technical and qualitative data. This acted as an influencer in the decision-making process when I was present in meetings between the niche and the regime. Further regime interactions included interactions with and advisory services for multi-national micromobility firms providing research, guidance on how to advance their activities related to niche. At the landscape level, the cultural impact of media, coalitions, and other influencing activities attempting to shift and influence the broader system.

The Walking and Cycling Commissioner for Transport for London, Will Norman, is a regime-based transition intermediary. The position is an institutional arrangement with the specific mandate to promote the walking and cycling transition (Kivimaa et al 2019). Mr. Norman engaged with London Cycling Campaign, the individual grassroots initiatives⁷³, local governments across London, and key businesses and other niches (for example micromobility providers)

Tower Hamlets Wheelers and Better Streets for Tower Hamlets engaged with councillors and built steady relationships with local government officers and key councillors. They were beginning to emerge as a niche intermediary. For example, they engaged with councillors against opposition, for example Councillor Krysten Perry (the cycling champion officer and attendee of the Cycling Stakeholder Group meeting) requested responses to the opposition group (the Conservative party) regarding a 'pro-car motion for debate [at] the full council meeting' (email, Tower Hamlets Wheelers). The group provided responses and text to support Councillor Perry and the Labour party with their council meeting arguments.

Southwark Cyclists conducted quarterly council meetings which included a wider membership group of actors that had an interest or role in active travel (road safety, police, living streets, and general community). The initiatives for most of the research did not operate as an intermediary. During COVID however this began to shift. On July 2020, Southwark Council deputised the Southwark Cyclists to present a report to the Council. The Southwark Cyclists presented in relation to 'Item 14: Southwark's Streetspace Plan in response to Transport for London's (TfL's) London Streetspace Plan' (Southwark Council,

2020b). The group highlighted the importance of the proposals and schemes identified for healthy streets and the benefits of the children and community. The request provided an improved legitimacy to the group. It was a formal request from the regime and is an example of a niche intermediary interaction. The Southwark Cyclists were representing a larger coalition around liveable streets that was forming.

The Enfield grassroots initiative had a highly active volunteer and leadership base, however they were not acting as a niche intermediary. Their influence was growing, but primarily they worked on one on one engagement rather than multiple actors of conflicting interests.

7.5 Defining acceleration opportunities and decelerations for grassroots initiative and movement

Transitions can be long in duration, covering decades. The multi-level perspective and general literatures both note that niches rising to a dominant form are not the result of a smooth transition. Rather, they are a series of accelerations and decelerations on the way to a tipping point. Much of the transitions research looks at the overall transition from a retrospective view, focusing on the macro level (Murto et al., 2020), the type of pathway, or when the tipping point occurred. This tipping point, i.e. at which point there is no return, can be difficult to identify clearly. Usually it can only be observed through a historical lens. It identifies the confluence of niche, regime, and landscape changes that secured the path dependency of that technology or movement. In large-scale transitions, it is much easier to see the broader shift of the transition with large movements that occur over time.

If the transition as a whole is to succeed, then what particular moments help the transition accelerate? In the multi-level graphic (Figure 2), the small individual arrows that indicate how the individual and linked actions, policy, and actors work together to affect the trajectory of the transition (Geels and Schot, 2007). Initially, when studying the multi-level perspective, I thought of those small individual arrows in multiple directions as the micro-tipping points, however this is inaccurate. A tipping point is an absolute and has many definitions, thus micro-tipping points would incorrectly name these micro-level changes. These micro-level changes may or may not be a tipping point at which the transition pathway is determined and becomes a dominant part of the regime and landscape.

It is much more difficult to identify in real time what are these micro-level changes that help accelerate the transition. Do they become a micro-tipping point that will ensure the transition becomes path dependent? Or is it just a continued conflict or strife between opposing niches? These micro-level changes represent something else entirely. During the development of the Framework for Change, working with the local groups and their goals of accelerating the transition, I wondered if we could look at this trajectory slightly differently and identify smaller micro-level changes happening in real time that accelerate or decelerate the transition. Can we evaluate which had more impact over others, so that the required social, local transition can occur?

The micro-level changes can be classified as an acceleration, deceleration, or influence on the landscape, regime, or niche itself. This research identifies the micro-level changes that accelerate or decelerate the transition at hand, i.e. a micro-acceleration or micro-deceleration. Defining these are more difficult. For example, what constitutes a change? Are these seen by policy entrepreneurs, during power changes, demonstrations affecting cultural shift, and other moments that assist in accelerating the transition at hand? As noted, part of the participation agreement goal in this project was to facilitate the transition. In order to do so and have it be replicated, there must be a way to frame those moments and assess their overall effect on the transition at hand.

Without a current way to frame this in existing research, I viewed those points as micro-points that affect the transition in motion, either bringing it to a tipping point for a transition pathway or securing its dominance. The previous paragraphs highlighted these small arrows of the multi-level perspective (MLP) as “push and pull” forces, and the transition as the collective force of the upward arrows creating a shift and momentum. If micro-accelerations exist and we are to believe the arrows, micro-decelerations exist as well. Figure 36 provides an example of how to view this. The red arrows represent the micro-decelerations that are pushing the niche away from its goal of achieving dominance, whereas the green arrows are pulling the niche towards dominance. Landscape factors can influence these changes and act as accelerators or decelerators as well.

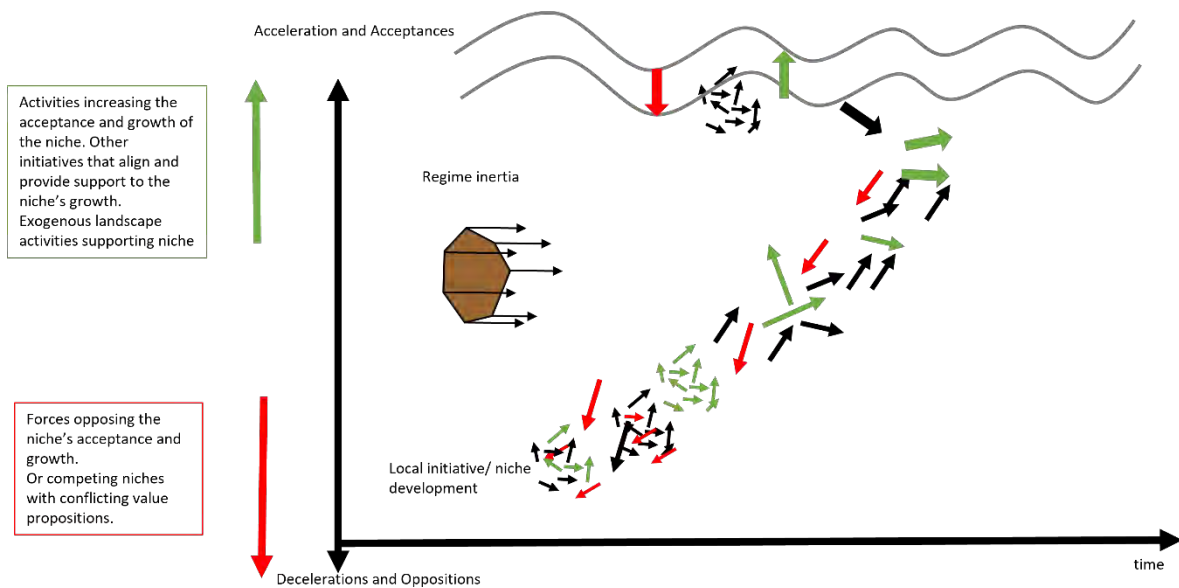


Figure 36 Acceleration and Decelerations as part of the niche pathway to dominance (Author)

Micro-accelerations and micro-decelerations provide a context for viewing and addressing transitions in motion. In the MLP, this would look at the multiple arrows in different directions that represent movement and tugging of forces. The landscape development is an enabling factor for niche increases and pressure developments (+)/(-). The totality of these accelerations and decelerations lead to the speed and pathway that a particular transition takes.

Micro-accelerations are small movements that progress a niche into the regime, or alterations in the cultural landscape that apply pressure to the regime to adopt the niche. The identification of small actions, decisions, and language that facilitate the overall transition movement.

Micro-decelerations are small movements that digress a niche away from acceptance by the regime, or alterations in the cultural landscape that apply pressure to the regime to reject the niche. The identification of small actions, decisions, and language that reduce the impact of the overall transition movement. **Micro-impacts** are small actions that create an impact point for the grassroots movement to engage with the other niches, the regime, or elements of the landscape. These micro-impacts may influence a particular aspect of the landscape, for example a coalition which assists in changing social or cultural perspectives of a small group of people. This is particularly impactful on a local scale.

Challenges, opposition and decelerations

Backlash to low traffic neighbourhoods and active travel infrastructure in London has begun to grow over the last two years, particularly in response to the accelerated COVID streetspace program. Bonno Pel (2021) noted the lack of transitions research focused on the backlash and the need to understand “How can backlash be anticipated, avoided, dampened or coped with?” (Bonno Pel 2021). This relates to what role does the backlash play in slowing down (micro-decelerations) to the transition goal? How does this impact the overall transition towards a more sustainable and just transport transition? When groups asked how to handle the research response, I would answer that ‘opposition always exists, but coalitions can overcome the opposition.’ A specific example occurred during COVID, in the borough of Ealing, a local government area that was not my group.. In Ealing, the opposition group ‘One Ealing’ claimed to undertake surveys of LTN support (as did the One Tower Hamlets and many other groups). The group claimed that they were not a vocal minority and that Ealing council found that in some LTN areas approximately 60-70% opposed, but in two of them nearly 80-90% supported. The councils 12-month trial noted that “Although five of the LTNs did result in a reduction in traffic, the council noted that they also increased congestion on surrounding streets” (LBC, 2021). Two of the three grassroots initiatives responded by being positive and focusing on the message of healthier streets and all the other benefits that would be received. Southwark initially struggled with the messaging, but then the launch of Better Streets for Southwark assisted their visual media. Southwark did however become more combative with the local government⁷⁴.

Micro-accelerations to tipping points – identifying keep points of opportunistic acceleration of the niche to a more dominant niche

The framework for change created opportunities for the grassroots initiative increase its acceptance as a niche and grow stronger. Identifying these in the moment are difficult, but they relate to the changes of social movements. This could be growing the coalition, building capacity, becoming an intermediary. Finding out which were most effective and why is important especially for grassroots groups whose goal is the explicit acceleration of these transitions. These micro-impact points may be a particular person in a power position (a policy entrepreneur), an event that (1) builds the coalition, (2) builds support culturally

(landscape), (3) builds volunteer base for additional activities, or external landscape opportunity exploited at a local level.

Table 20 presents a summary⁷⁵. Each of these, as discussed throughout the document, represent a piece of the shift. The difficult bit is how to allocate how much of this represents a change? There is no research on how these micro tipping points help the acceleration.

Table 20 Micro-accelerations summary (Author)

Micro-accelerations	Influence on or relationship too Niche	Regime	Landscape
Better Streets	Clearer branding and goals. Shared Graphics.		Increased visibility of healthy streets, living streets and associated initiatives.
Parklet general	Motivated group	Enfield - At least 10 councillors attended the demonstration day parklet and were supportive of rolling out trials across the borough. Councillors from both parties and different wards were present.	News article
Extinction Rebellion	Motivated group to engage with them		
Mums for Lungs		Pressure on regime regarding air pollution	Raises awareness of children's lung reduction
Demonstration rides	Relationship building with councillors.	Infrastructure awareness of what "good" feels like.	
Better Streets Coalition	More groups are using the Better Streets branding and framework for change.		Media impact and positive impact of changes. Providing narratives to combat the anti-cycling sentiment in London.
Researcher			
COVID			Increased acceptance of pedestrian and cycling infrastructure
Low-traffic neighbourhood trials	Enfield - A full low traffic neighbourhood is to be trailed for six months with the view to rolling out across the borough. Motivation for wins.	The Council committed to rolling out low traffic neighbourhoods in every ward (one of Enfield's key asks)	
Tower Hamlets		Local cycling group is involved in developing or commenting on the pre-design of infrastructure and infrastructure funding asks. They now receive commercial in confidence information	
Southwark	Created a visual and open-source council policy and infrastructure delivery tracking on MapHub	Council engagement and the Cycling Joint Steering Group (CJSG), cycling infrastructure implementation, and improving volunteer and engagement with the cycling group.	

7.6 Conclusions

The analysis in this section focuses on the impacts the integration of the three approaches of the bridging methodology. It aimed to develop a way to value the micro-accelerations and their impacts on the niche, regime, and landscape of socio-technical analysis, as well as their effect on the other two layers of the bridging methodology. In contrast to the socio-technical transitions pathway types, which require a longer historical view of a transition that has already happened, the research findings highlight that in order to understand transitions and niches at a micro level, we need to understand micro-accelerations and micro-decelerations that impact on the transitions pathway. This chapter provided examples of what these micro-impacts look like.

By focusing in on active transport, specifically cycling, and to a lesser extent walking, my research examined how sustainable transport transitions may be accelerated. The way environmental, economic, and social benefits are viewed therefore become an influence on how cycling may be viewed (positively or negatively) by the different actors in the city. In London, cycling's role in creating sustainable cities and combatting negative trends in cities is being led by activists, academics, policy entrepreneurs, businesses, and key policy intermediaries.

The Multi-level perspective describe forces that push and pull the niche as it aims to become the dominant form. In order to understand transitions in motion, recognition of potential accelerations and deceleration or oppositional forces. The activities that increase acceptance and growth of the niche, other initiatives that align and provide support the niche's growth, and exogenous landscape activities aligned with the niche's goal are recognized here as accelerators. There are two types of accelerators, micro-accelerators and accelerants that are or become tipping points. Micro-accelerators work to build greater influence, capacity building, and growth among the niche. They contribute to the diffusion of the grassroots initiative to be a grassroots movement and beyond. The accelerants that are or become tipping points are larger seismic shifts. that are likely to be outside forces. For example, COVID was an exogenous factor which became a tipping point for greater interest in walking and cycling infrastructure, as well as, involvement with Better Streets initiatives and Healthy Streets initiatives.

Chapter 8 Conclusion

This thesis provides a unique example of how applying an integrated framework can assist the legitimacy challenge of transitions management by recognising the importance of capacity-building and grassroots empowerment, potential for new governance forms, and intermediation problems of transitions management (Wolfram & Frantzeskaki, 2016). Socio-technical transitions analysis provided a theory to understand the system, assisting in providing quantifiable data, other data for the grassroots groups to view the barriers, and challenging power relations. In contrast to many socio-technical transition studies, this research focuses on (1) the social changes rather than just the technical changes, (2) grassroots volunteers rather than businesses with financial backing, and (3) individual moments that facilitate the transition as a whole rather than a historical or longer view of transitions. The grounding of this research started from the activist researcher perspective. As an activist researcher, I provided a framework for change to these groups to (1) understand changes in socio-technical transitions (2) assist in faster transitions for their goals. It was a dual-track journey – one of action and one of research – combined with a reliance on volunteers, who donated their time, space and openness to engagement. The process itself highlighted the difficulty in understanding transitions in progress, particularly for grassroots movements. Exploring these ideas did not provide a great unifying theory, but it did develop aspects of each transitions theory broadly within urban studies and system change. The research showed participatory action research could be used to understand the barriers grassroots movements face as a niche and provide opportunities to challenge those barriers more effectively.

To understand barriers to communities and infrastructure, my research drew on socio-technical transitions and system changes to build the activist research framework. There were two ultimate goals as they relate to the practice and theory of the participatory action research. In practice, my goal as an activist researcher was to assist the transformation of practice towards a sustainable and resilient infrastructure. The Framework for Change was used as a tool to translate socio-technical transition theory elements, up-skill participants, and create broader coalitions. In theory, this links my learnings by utilising socio-technical analysis to the use of micro-accelerations and micro-decelerations as the push and pull of a

transition. Additionally, it provides alternatives for working with grassroots groups in initiative-based learning for socio-technical transitions. My research will lead to greater acceptance of other participatory action research and form an epistemological basis for using participatory action research (or action research generally) to study infrastructure, transitions, and grassroots movements.

COVID made it difficult to objectively and clearly see how the early impact of my research influenced infrastructure that was later formed for physical distancing. National and local support for physical distancing increased potential windows for accelerations points, such as coalition and physical pop-up infrastructure. Further, it changed measurement aspects of this research. COVID made my work more difficult to quantify and qualify, but it did not make my work meaningless. Instead, it reinforced some of the original micro-acceleration and micro-deceleration thoughts at an increase in scale.

Multiple factors exist in accelerating transitions. Grassroots groups with limited money, time, and power must focus on those things that they can control. The continuation and growth of initiative-based learning within sustainability transitions will require an increase in the number of publications that highlight the difficulties, ethics, and researcher constraints of action research and activist research. Peer-reviewed journal articles, guides, and tools for engaging in the ethics process, and transparent feedback from the engagement with industry and grassroots groups will need to occur if it is to be further developed and valued.

8.1 Originality and Contribution

The originality and contribution of this research focused on several areas. The theoretical contribution highlighted how grassroots initiatives can use inclusive messaging and Framework for Change to build the grassroots initiative into a stronger niche. It identified potential accelerations that are part of the present transition in motion and how these can be manufactured by the niches, these were labelled micro-accelerations and micro-decelerations might be included into socio-technical transition research analysis. It presented an understanding how niches could be accelerated and the oppositional forces that must be overcome can create a pathway to a tipping point for dominance. The methodological originality and contribution are how participatory action research with

grassroots groups and the bridging methodology could be integrated. Further, it identified how the social organisation movement, e.g. London Cycling Campaign, can build capacity through knowledge sharing and as a regime intermediary to support the growth of the grassroots movement. The practical contributions were open sourcing the Framework for Change, upskilling activists at a local level, working with an activist charity, and growing to groups outside of the original groups.

Research objective 1: Identify new acceleration points for grassroots movements within socio-technical transitions

The grassroots were given a template, i.e. the Framework for Change, to speed up the infrastructure transition. This provided a system's thinking approach that linked elements of the socio-technical transition. The Framework for Change was understood by all participants in the groups and could be utilised regardless of background or technical skills. I developed the framework for change to provide grassroots movements with the tools to create micro-accelerations in the sustainable socio-technical transitions. Creating micro-accelerations to enable a large socio-technical transitions using the Framework for Change requires building coalitions, measurable outcomes, and government policymakers.

Building coalitions to work together builds a stronger grassroots initiative to overcome issues that challenge initiatives (time, capacity, legitimacy, etc.). It enables a common vision to bring a diverse collective together. Coalitions are a key element in driving micro-accelerations that enable a transition trajectory in this participatory action research project. Vision and key asks must be measurable. If they are not measurable it is difficult to track progress and communicate accountability to the government the grassroots actors or intermediaries are trying to influence. During this measurement the grassroots actors will notice key acceptances, changes in the way their goals and key asks are talked about, actual policy changes, others adopting the grassroots movement vision, and allies who become coalition partners. Celebrating these key wins maintains momentum and builds confidence in the grassroots group, the individual, and the Framework for Change process.

Understanding who changes policy and infrastructure in government, mechanisms for delivering budgets, mechanisms for quick wins, and longer-term planning can help focus the group. Groups who work with those who can implement policy change are most effective.

The question of could the Framework for Change be incorporated into the bridging methodology was proven to be true. It could utilise information from the socio-technical analysis layer and the quantitative modelling layer. I could have been more successful had there only been one initiative used rather than four groups.

Research objective 2: Does the framework for change assist grassroots initiatives in overcoming regime challenges and resistance to transitions?

The framework for changes does assist the grassroots initiatives in framing a regime challenges, the stakeholders and power relationships in transitions. Further, the steps work to create a series of smaller steps to build a stronger group to face resistance to the niche. Goals must be achieved in order to accelerate sustainable transport infrastructure transitions' identification of barriers that grassroots movements experience during their activism. A key barrier was the councillor's willingness to continue the changes the groups secured in the face of opposition. In some instances local media also favoured opposition stories and amplified them, and was a direct result of a stakeholder connection within the oppositions circle of influence, i.e. a power relationship. Citizen science was able to utilise quantitative and qualitative data to overcome narratives, build the coalition, and provide a balanced view in media articles or social media. The continued and more direct use of citizen science could strengthen the groups. Further, both the pro-groups (mine) and the oppositional groups initially lacked local data to back up their respective claims.

Research objective 3: Initiative based learning through participatory action research and activist research

Through recent climate change issues, academia has started to discuss how and when they should engage and what affect being activists might have on accelerating climate change adaptation. This research provides a case study and reflection on how an activist researcher engages with change, ethics arising in participatory action research, and our role in initiative-based learning. The participatory action research was largely a success due to the group's willingness to deeply engage the Framework for Change and embrace the process. The knowledge exchange within the groups was necessary for them to continue to work independently after I left. This included providing them with feedback, initial ideas

development and sharing all resources made (either by myself or them) with the London Cycling Campaign head office and others, but not completing the task for them. Sharing resources between each other and trust between groups further enabled independence after I left the research project. As a result from learning from my research, at least six participants went on to have full-time paid work in this field, grew to leadership positions, or started teaching and sharing with other groups to spread the learnings. I used to say “sharing is caring,” but in reality, sharing is growing. Sharing with others who want to achieve your vision is how you can increase the coalition and bring individuals of all backgrounds, skills, or ideals together.

Research objective 4: Identify how citizen science can be utilised in the grassroots initiative and bridging methodology to support transition narratives of the niche.

Citizen science was utilised by the grassroots initiatives to build legitimacy with local government, new coalition members such as businesses, and encourage the volunteers themselves into greater action. The groups used both quantitative measurement and visual narratives to produce data that could influence policy. Better Streets for Enfield were particularly successful as their measurements were replicated by the local government and directly impacted policy. Better Streets for Tower Hamlets forays into citizen science and learnings shifted their focus to more in depth engagement with council planning and communicating example maps to grow their coalition. Southwark Cyclists utilized visual planning to track the councils goals against the infrastructure development and produce their own vision. Utilising citizen science allowed the conversation to shift and engaged councillors, council staff, and media using evidence-based research. The quality of that evidence could be obscured. Using open-source data with large volumes of data, information on the methods of collection, and transparent demographics helps to target disinformation more effectively.

8.2 Research Limitations

This research attempts to integrate different theoretical areas and practical participatory research. Chapter eight focused on participatory action research and several limitations that arose during the process.

The goals of the grassroots movements brought an initial focal point, fluctuating data points frequently modified by new information, dissemination of information, and final use of analytic outcomes. During this process, several barriers arose to integrating these goals. Linking quantitative analysis to the volunteer non-state actors proved difficult due to skill shortage and time and data availability. Complex models had to be pared back from initial goals due to these shortages, although group interest only changed moderately. Groups were able to grasp how to undertake socio-technical analysis (i.e. the simplified network analysis); however, there was limited engagement beyond the initial network mapping workshops. As a solo researcher conflicting meeting dates led to a trade-off between engagement and analysis, a time conflict that may have been alleviated by having a team of researchers.

Research showed that initiative-based learning in socio-technical transition literature primarily engages with groups that are performing these roles full-time (see for example (Geels, Berkhout, & van Vuuren, 2017; Köhler, Turnheim, & Hodson, 2018). The industry or government groups are paying their workers to participate, as it is their employment. These researchers also form agreements with these groups to access data they are modelling, primarily regime actors or strong and technological intermediaries. In contrast, the work with my groups represents volunteer-led (with the exception of LCC), limited funding, no formal agreements with government groups, and difficulty accessing the data points required. The volunteers are performing extra work hours in addition to their full-time jobs and family commitments. Their engagement time may be limited and response times slower. Another limitation of using volunteers is the lack of accountability mechanisms.

This thesis does not adequately capture the differences on how they evolved and enacted with the Framework for Change. It did not look at power and changes within grassroots groups themselves and could have examined how this influences borough engagement and councils.

The issues of initiative-based learning in respect to power, embeddedness of research, work with bottom-up groups, social side of socio-technical transitions, and work capacity of individual researchers versus a team of researchers provided a significant limitation to achieving the goals set out in chapter four methodology.

8.3 Further and Future Research

Investigating a transition in motion creates many forks and opportunities for continued investigation. The totality of what was accomplished is difficult to measure in this thesis, as thousands of emails and contact points have been omitted. This would enable additional research questions and answers or continued data collection (all groups have retained me on their contact and meeting lists). The impact of COVID (and climate change) have become major transitions accelerants for change. As noted in section 7.5.1, in London it caused cycling infrastructure, albeit pop-up and claimed as temporary, with many of the changes becoming permanent. How can socio-technical transitions and analysis investigate and analyse these transformative events? The following questions and investigative areas are proposed to continue the research presented in this thesis, or other areas of research, and questions that emerged during this thesis.

London Activism and StreetSpace Changes

COVID provided an opportunity to accelerate active transport infrastructure. The scale of this infrastructure varied in different local government areas. Further, some areas have removed the infrastructure due to opposition. Overlaying the delivery, removal or acceleration of this infrastructure through the activism lens of the Better Streets campaign, London Cycling Campaign, healthy street campaign groups, and other related active transport groups versus councils without active groups could show their influence in delivering, keeping, and accelerating the active transport transition. This includes how COVID has impacted the grassroots movements, the impact of COVID on the temporary emergency measures, and the opposition to those emergency measures. How micro-accelerations and micro-decelerations interact?

In a socio-technical transition, forces push and pull towards the desired transition end state by the accelerating niches. This research only began to explore how micro-accelerations and micro-decelerations interact, the total number of these actions, their potential weighting, associated regime, and landscape influence. The next stage of this research would aim to provide a detailed web analysis connected to specific regime and landscape changes

(through media analysis, power shifts, etcetera). For example, it could include the impact of the London Cycling Campaign on cycling transition in London and cultural change.

Government view on the Better Streets and cycling grassroots groups

In this research I did not interview the local government due to conflicts in position. Future research, not that I am not in multiple positions, could interview and evaluate the Government's perception of the Better Streets and cycling grassroots groups in London and the UK. By Government, I refer to Senior Members of local, regional and national transport government bodies, local Councillors, Mayors and Ministers. The investigation could evaluate social-media accounts and other media responses to those groups (and opposition groups), in-depth interviews on their response or lack thereof to the campaign, surveys regarding their support for the key asks, and other initiatives that are being delivered.

References

- Adelman, C. (1993). Kurt Lewin and the Origins of Action Research. *Educational Action Research*, 1 (1), 7–24. Available from <https://doi.org/10.1080/0965079930010102> [Accessed 16 April 2022].
- Aldred, R. (2010). ‘On the outside’: constructing cycling citizenship. *Social & Cultural Geography*, 11 (1), 35–52. Available from <https://doi.org/10.1080/14649360903414593> [Accessed 15 April 2022].
- Aldred, R. (2013). Who are Londoners on Bikes and what do they want? Negotiating identity and issue definition in a ‘pop-up’ cycle campaign. *Journal of Transport Geography*, 30, 194–201. Available from <https://doi.org/10.1016/j.jtrangeo.2013.01.005> [Accessed 8 May 2022].
- Aldred, R. and Jungnickel, K. (2014). Why culture matters for transport policy: the case of cycling in the UK. *Journal of Transport Geography*, 34, 78–87. Available from <https://doi.org/10.1016/j.jtrangeo.2013.11.004> [Accessed 15 April 2022].
- Aldred, R. and Sharkey, M. (2018). Healthy Streets: a Business View Results from a survey of London’s Business Improvement Districts. Report prepared by the University of Westminster as a commission from Transport for London. Available from <https://content.tfl.gov.uk/healthy-streets-a-business-view.pdf>
- Aldred, R. et al. (2019). Barriers to investing in cycling: Stakeholder views from England. *Transportation Research Part A: Policy and Practice*, 128, 149–159. Available from <https://doi.org/10.1016/j.tra.2017.11.003> [Accessed 7 May 2022].
- Aldred, R., and Anna G. 2021. “The Impact of Low Traffic Neighbourhoods on Active Travel, Car Use, and Perceptions of Local Environment during the COVID-19 Pandemic.” Findings, March. <https://doi.org/10.32866/001c.21390>.
- Aldred, et. Al (2021). Major investment in active travel in Outer London: Impacts on travel behaviour, physical activity, and health. *Journal of Transport & Health*. 20 (2021). 100958

- Alisdairi, L.K. (2014). *A Cry and a Demand: Tactical Urbanism and the Right to the City*. University of Washington. Available from https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/26826/Alisdairi_washington_02500_13289.pdf?sequence=1 [Accessed 16 April 2022].
- Andersen, L.B. et al. (2000). All-Cause Mortality Associated With Physical Activity During Leisure Time, Work, Sports, and Cycling to Work. *Archives of Internal Medicine*, 160 (11), 1621–1628. Available from <https://doi.org/10.1001/archinte.160.11.1621> [Accessed 16 April 2022].
- Argyris, C. and Donald Schön. (1991). Participatory Action Research and Action Science Compared: A Commentary. In: Whyte, W. (ed.). *Participatory Action Research*. Sage Publications, 85–96. Available from <http://www.upv.es/i.grup/repositorio/White%201991%20participatory%20action%20research.pdf> [Accessed 16 April 2022].
- Arranz, A.M. (2017). Lessons from the past for sustainability transitions? A meta-analysis of socio-technical studies. *Global Environmental Change*, 44, 125–143. Available from <https://doi.org/10.1016/j.gloenvcha.2017.03.007> [Accessed 16 April 2022].
- Atkins, G., Davies, N. and Kidney Bishop, T. (2017). *How to value infrastructure*. Institute for Government. Available from <https://www.instituteforgovernment.org.uk/sites/default/files/publications/IfG%20Report%20CBA%20infrastructure%20web%20final1.pdf> [Accessed 16 April 2022].
- Atkinson, G. and Oleson, T. (1996). Urban Sprawl as a Path Dependent Process. *Journal of Economic Issues*, 30 (2), 609–615. Available from <https://doi.org/10.1080/00213624.1996.11505825> [Accessed 16 April 2022].
- Avelino, F. et al. (2019). Transformative social innovation and (dis)empowerment. *Technological Forecasting and Social Change*, 145, 195–206. Available from <https://doi.org/10.1016/j.techfore.2017.05.002> [Accessed 17 April 2022].
- Banister, D. (2005). *Unsustainable transport: City Transport in the New Century*. London: Routledge.

- Banister, D. and Thurstain-Goodwin, M. (2011). Quantification of the non-transport benefits resulting from rail investment. *Journal of Transport Geography*, 19 (2), 212–223. Available from <https://doi.org/10.1016/j.jtrangeo.2010.05.001> [Accessed 3 November 2020].
- Banks, S., Herrington, T. and Carter, K. (2017). Pathways to co-impact: action research and community organising. *Educational Action Research*, 25 (4), 541–559. Available from <https://doi.org/10.1080/09650792.2017.1331859> [Accessed 16 April 2022].
- Barber, B. (2013). *If mayors ruled the world. Dysfunctional nations, rising cities*. New Haven: Yale University Press.
- Batterbury, Simon (2003). *Environmental Activism and Social Networks: Campaigning for Bicycles and Alternative Transport in West London*. ANNALS, AAPSS, 590, November 2003.
- Bauwens, T. (2016). Explaining the diversity of motivations behind community renewable energy. *Energy Policy*, 93, 278–290. Available from <https://doi.org/10.1016/j.enpol.2016.03.017> [Accessed 17 April 2022].
- BBC News. (2018). London hits annual air quality limit in one month. *BBC*. Available from <https://www.bbc.com/news/uk-england-london-42877789> [Accessed 7 May 2022].
- Beatley, T. and Newman, P. (2013). Biophilic Cities Are Sustainable, Resilient Cities. *Sustainability*, 5 (8), 3328–3345. Available from <https://doi.org/10.3390/su5083328> [Accessed 17 April 2022].
- Becker, S. et al (2021). The role of social identity in institutional work for sociotechnical transitions: the case of transport infrastructure in Berlin. *Technological Forecasting & Social Change* 162 (2021) 120385
- Benner, S.M. (2013). *Tactical Urbanism: From Civil Disobedience to Civic Improvement*. Available from <http://repositories.lib.utexas.edu/handle/2152/23995> [Accessed 17 April 2022].
- Berke, P. and Lyles, W. (2013). Public Risks and the Challenges to Climate-Change

- Adaptation: A Proposed Framework for Planning in the Age of Uncertainty. *Cityscape*, 15 (1), 181–208. Available from <https://www.jstor.org/stable/41958963> [Accessed 17 April 2022].
- Berkes, F. and Ross, H. (2016). Panarchy and community resilience: Sustainability science and policy implications. *Environmental Science & Policy*, 61, 185–193. Available from <https://doi.org/10.1016/j.envsci.2016.04.004> [Accessed 17 April 2022].
- Better Streets for Enfield. (2021). Counts reveal big increases in walking & cycling on Fox Lane. *betterstreets.co.uk*. Available from <http://betterstreets.co.uk/counts-reveal-big-increases-in-walking-cycling-on-fox-lane/> [Accessed 16 April 2022].
- Bibri, S.E. and Krogstie, J. (2017). On the social shaping dimensions of smart sustainable cities: A study in science, technology, and society. *Sustainable Cities and Society*, 29, 219–246. Available from <https://doi.org/10.1016/j.scs.2016.11.004> [Accessed 17 April 2022].
- Bird, S. (2021). Low traffic neighbourhoods ‘are delaying ambulances’. *www.pressreader.com*. Available from <https://www.pressreader.com/uk/the-sunday-telegraph/20210207/281878711061463> [Accessed 16 April 2022].
- Blackshaw, T. (2010). *Key Concepts in Community Studies*. London: Sage Publications Ltd.
- Blanco-M, A. (2020). Co-creation , co-design and co-production, similarities in their definition. *CO3*. Available from <https://www.projectco3.eu/2020/10/26/co-creation-co-design-and-co-production-similarities-in-their-definition/> [Accessed 15 April 2022].
- Blondel, B., Mispelon, C. and Ferguson, J. (2011). *Cycle More Often 2 Cool Down the Planet!* Available from https://ecf.com/files/wp-content/uploads/ECF_BROCHURE_EN_planche.pdf [Accessed 16 April 2022].
- Bloyce, D. and White, C. (2018). When transport policy becomes health policy: A documentary analysis of active travel policy in England. *Transport Policy*, 72, 13–23. Available from <https://doi.org/10.1016/j.tranpol.2018.09.012> [Accessed 16 April 2022].

- Bocquier, P. (2005). World Urbanization Prospects: an alternative to the UN model of projection compatible with the mobility transition theory. *Demographic Research*, 12, 197–236. Available from <https://doi.org/10.4054/demres.2005.12.9> [Accessed 17 April 2022].
- Bopp, M., Behrens, T., and Velecina, R. (2014). Associations of Weight Status, Social Factors, and Active Travel Among College Students. *American Journal of Healthy Education*, 358-367, 45(6)
- Boykoff, M. and Oonk, D. (2018). Evaluating the perils and promises of academic climate advocacy. *Climatic Change*, 163, 27–41. Available from <https://doi.org/10.1007/s10584-018-2339-3> [Accessed 7 May 2022].
- Bradbury, H. and Reason, P. (2003). Action Research. *Qualitative Social Work: Research and Practice*, 2 (2), 155–175. Available from <https://doi.org/10.1177/1473325003002002003> [Accessed 16 April 2022].
- Brand, C. et al. (2020). Road to zero or road to nowhere? Disrupting transport and energy in a zero carbon world. *Energy Policy*, 139, 111334. Available from <https://doi.org/10.1016/j.enpol.2020.111334> [Accessed 15 April 2022].
- Britain, G. (2013). *Global food : waste not, want not*. London: Institution Of Mechanical Engineers.
- Brömmelstroet, M. et al (2020). Researching cycling innovations: The contested nature of understanding and shaping smart cycling futures. *Transportation Research Interdisciplinary Perspectives*. Volume 8, November 2020, 100247
- Brovarone, E. et al (2023). Whose is this street? Actos and conflicts in the governance of pedestrianization processes. *Journal of Transport Geography*. 107 (2023) 103528.
- Bruno,
- BSKC. Better Streets for Kensington and Chelsea. (2021). Judicial Review: Kensington High Street cycle lane removal by RBKC. *CrowdJustice*. Available from

<https://www.crowdjustice.com/case/betterstreets-v-rbkc-kensington-high-street/>
[Accessed 7 May 2022].

Buchanan, R. (1992). Wicked Problems in Design Thinking. *Design Issues*, 8 (2), 5–21.

Available from Wicked Problems in Design Thinking. [Accessed 16 April 2022].

Busetti, S. (2015). The New Governance of Transport in London. In: *Governing Metropolitan Transport*. SpringerBriefs in Applied Sciences and Technology(). Springer, Cham.

https://doi.org/10.1007/978-3-319-10659-5_3

Burawoy, M. (2013). Ethnographic Fallacies: Reflections on Labour Studies in the Era of Market Fundamentalism. *Work, Employment and Society*, 27 (3), 526–536. Available from <https://doi.org/10.1177/0950017012460316> [Accessed 16 April 2022].

Buzogány, A. and Scherhauser, P. (2022). Framing Different Energy Futures? Comparing Fridays For Future and Extinction Rebellion in Germany. *Futures*, 137. Available from <https://doi.org/10.1016/j.futures.2022.102904> [Accessed 16 April 2022].

Campbell, H., Tait, M. and Watkins, C. (2013). Is There Space for Better Planning in a Neoliberal World? Implications for Planning Practice and Theory. *Journal of Planning Education and Research*, 34 (1), 45–59. Available from <https://doi.org/10.1177/0739456x13514614> [Accessed 16 April 2022].

Cappa, F. et al (2022). Citizens and cities: Leveraging citizen science and big data for sustainable urban development. *Bus Strat Env*. 31:648-667

Castells, M. (1983). *The city and the grassroots : a cross-cultural theory of urban social movements*. Berkeley: University Of California Press.

Castells, M. (2009). *The Rise of the Network Society*, 2nd ed. West Sussex: Wiley-Blackwell.

Chang, H.-J. (2013). *23 Things They Don't Tell You About Capitalism*. Doha: Bloomsbury Qatar Foundation; London.

Chelleri, L. (2012). From the 'Resilient City' to Urban Resilience. A review essay on understanding and integrating the resilience perspective for urban systems.

Documents d'Anàlisi Geogràfica, 58 (2), 287. Available from

<https://doi.org/10.5565/rev/dag.175> [Accessed 16 April 2022].

Chetkovich and Kunreuther. (2006). *From the ground up Grassroots Organizations Making Social Change*. Cornell University. Ithaca, New York.

Choudry, A., & Kuyek, D. (2012). Activist Research: Mapping Power Relations, Informing Struggles. In A. Choudry, J. Hanley, & E. Shragge (Eds.), *In Organize! Building the Local for Global Justice* (pp. 23–35). Oakland, CA: PM Press.

City of Westminster. (2014). *Cycling Strategy*. Available from <https://www.westminster.gov.uk/media/document/cycling-strategy.pdf>

Cohen, B. (2006). Urbanization in developing countries: Current trends, future projections, and key challenges for sustainability. *Technology in Society*, 28 (1-2), 63–80. Available from <https://doi.org/10.1016/j.techsoc.2005.10.005> [Accessed 7 May 2022].

Cole, R. et al. (2010). Perceptions of representatives of public, private, and community sector institutions of the barriers and enablers for physically active transport. *Transport Policy*, 17 (6), 496–504. Available from <https://doi.org/10.1016/j.tranpol.2010.05.003> [Accessed 16 April 2022].

Cook, S. et al (2022). More than walking and cycling: What is ‘active travel’? *Transport Policy* 126 September 2022, 151-161.

Collier, M.J. et al. (2013). Transitioning to resilience and sustainability in urban communities. *Cities*, 32, S21–S28. Available from <https://doi.org/10.1016/j.cities.2013.03.010> [Accessed 16 April 2022].

Corbetta, P. (2003). *Social research: theory, methods and techniques*. London: Sage.

Curtis, C. and Law, N. (2012). *Institutional Barriers to Sustainable Transport*. Routledge.

Cycle Enfield. (no date). Cycle Enfield. *Cycle Enfield*. Available from <https://www.cycleenfield.co.uk/> [Accessed 15 April 2022].

Cycle Enfield. (2019). Fox Lane Quieter Neighbourhood Update. *Cycle Enfield*. Available from <https://www.cycleenfield.co.uk/news/fox-lane-quieter-neighbourhood->

update/?fbclid=IwAR2h8J9-5jpYZCaQ41e-jDQ6sUGDPpQJTyBoLE-WmEnNoDSPdQ-s0KB9spw [Accessed 16 April 2022].

Dacin, M.T., Goodstein, J. and Scott, W.R. (2002). Institutional Theory and Institutional Change: Introduction to the Special Research Forum. *Academy of Management Journal*, 45 (1), 45–56. Available from <https://doi.org/10.5465/amj.2002.6283388> [Accessed 16 April 2022].

Dale, A., Ling, C. and Newman, L. (2010). Community Vitality: The Role of Community-Level Resilience Adaptation and Innovation in Sustainable Development. *Sustainability*, 2 (1), 215–231. Available from <https://doi.org/10.3390/su2010215> [Accessed 16 April 2022].

Daley, D.M., Sharp, E.B. and Bae, J. (2013). Understanding City Engagement in Community-Focused Sustainability Initiatives. *Cityscape*, 15 (1), 143–161. Available from <https://www.jstor.org/stable/41958961> [Accessed 7 May 2022].

Date, W. (2018). a ‘Breathe Clean’ campaign to highlight Tower Hamlets air quality. *AirQualityNews*. Available from <https://airqualitynews.com/2018/03/12/breathe-clean-campaign-highlight-tower-hamlets-air-quality/> [Accessed 16 April 2022].

Day, St.J. (2016). *Managing Water Locally: An Inquiry Into Community-based Water Resources Management in Fragile States*. Cranfield University.

DBEIS (Department for Business, Energy & Industrial Strategy). (2021). *2020 UK greenhouse gas emissions, provisional figures*. Department for Business, Energy, & Industrial Strategy. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972583/2020_Provisional_emissions_statistics_report.pdf [Accessed 15 April 2022].

de Boer, M. and Cprotti, F. (2017) Getting Londoners on two wheels: A comparative approach analysing London’s potential pathways to a cycling transition. *Sustainable Cities and Society* 32 (2017) 613-626

Department for Transport (DfT). (2020). *Gear Change A bold vision for cycling and walking*.

Department for Transport. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf [Accessed 14 April 2022].

Department for Transport. (2017). *London Cycling and Walking Infrastructure Plans*.

Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908535/cycling-walking-infrastructure-technical-guidance-document.pdf [Accessed 7 May 2022].

Department for Transport (DfT). (2021a). Modal comparisons (TSGB01). *GOV.UK*. Available from <https://www.gov.uk/government/statistical-data-sets/tsgb01-modal-comparisons> [Accessed 15 April 2022].

Department for Transport (DfT). (2021b). National Travel Survey: 2020. *GOV.UK*. Available from <https://www.gov.uk/government/statistics/national-travel-survey-2020/national-travel-survey-2020> [Accessed 15 April 2022].

Department for Transport (DfT). (2021c). Transport and environment statistics: Autumn 2021. *GOV.UK*. Available from <https://www.gov.uk/government/statistics/transport-and-environment-statistics-autumn-2021/transport-and-environment-statistics-autumn-2021#:~:text=Transport%20produced%2027%25%20of%20the> [Accessed 15 April 2022].

Department for Transport. (2022a). Cycling and walking. *GOV.UK*. Available from <https://www.gov.uk/government/collections/cycling-and-walking> [Accessed 7 May 2022].

Department for Transport (DfT). (2022b). *Vehicle Licensing Statistics: 2021 Quarter 3 (Jul to Sep)*. Department for Transport. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1045962/vehicle-licensing-statistics-july-to-september-2021.pdf [Accessed 15 April 2022].

- Dick, B. (2015). Reflections on the SAGE Encyclopedia of Action Research and what it says about action research and its methodologies. *Action Research*, 13 (4), 431–444. Available from <https://doi.org/10.1177/1476750315573593> [Accessed 16 April 2022].
- Dons, E. et al. (2019). Transport most likely to cause air pollution peak exposures in everyday life: Evidence from over 2000 days of personal monitoring. *Atmospheric Environment*, 213, 424–432. Available from <https://doi.org/10.1016/j.atmosenv.2019.06.035> [Accessed 15 April 2022].
- Dudau, A., Glennon, R. and Verschuere, B. (2019). Following the yellow brick road? (Dis)enchantment with co-design, co-production and value co-creation in public services. *Public Management Review*, 21 (11), 1577–1594. Available from <https://doi.org/10.1080/14719037.2019.1653604> [Accessed 15 April 2022].
- Dudley, G. and Richardson, J. (2000). *Why Does Policy Change? Lessons from British Transport Policy 1945-99*. London: Routledge.
- Earth Overshoot Day. (no date). Earth Overshoot Day 2019. *Earth Overshoot Day*. Available from <https://www.overshootday.org/> [Accessed 16 April 2022].
- Ehnert, et al. (2022) The role of niche and regime intermediaries in building partnerships for urban transitions towards sustainability, *Journal of Environmental Policy & Planning*, 24:2, 137-159, DOI: 10.1080/1523908X.2021.1981266
- Eitzel, M. et al. (2017) Citizen Science Terminology Matters: Exploring Key Terms. *Citizen Science: Theory and Practice*. pp. 1-20. ISSN 2057-4991
- Elmer, V. and Leigland, A. (2013). *Infrastructure Planning and Finance*. London: Routledge. Available from <https://doi.org/10.4324/9780203552391> [Accessed 17 April 2022].
- Enfield, L.B. of. (no date). *Enfield Borough Profile*. Available from <https://new.enfield.gov.uk/services/your-council/about-enfield/borough-and-wards-profiles/borough-profile-2018-your-council.pdf> [Accessed 8 May 2022].
- Enfield Council. (2021). Cycle Enfield. *Enfield Council*. Available from <https://new.enfield.gov.uk/services/roads-and-transport/cycle-enfield> [Accessed 16

April 2022].

Environmental Law Foundation. (2021). Better Streets for Kensington and Chelsea by Justin Habbott. *Environmental Law Foundation*. Available from <https://elflaw.org/past-cases/better-streets-for-kensington-and-chelsea-by-justin-habbott/> [Accessed 7 May 2022].

Enjoy Waltham Forest. (no date). About Enjoy Waltham Forest | Enjoy Waltham Forest. *enjoywalthamforest.co.uk*. Available from <https://enjoywalthamforest.co.uk/about-mini-holland/> [Accessed 15 April 2022].

Environment Team, Greater London Authority. (2021). London Energy and Greenhouse Gas Inventory (LEGGI). *London Datastore*. Available from <https://data.london.gov.uk/dataset/leggi> [Accessed 15 April 2022].

Ernstson, H. et al. (2010). Urban Transitions: On Urban Resilience and Human-Dominated Ecosystems. *AMBIO*, 39 (8), 531–545. Available from <https://doi.org/10.1007/s13280-010-0081-9> [Accessed 16 April 2022].

Eitzel, Melissa, Cappadonna, Jessica, Santos-Lang, Chris et al. (20 more authors) (2017) Citizen Science Terminology Matters: Exploring Key Terms. *Citizen Science: Theory and Practice*. pp. 1-20. ISSN 2057-4991

Fagan-Watson, B. and Burchell, K. (2015). What does community resilience look like in practice? How institutions see the role of communities in responding to heatwaves in the UK. *westminsterresearch.westminster.ac.uk*. Available from <https://westminsterresearch.westminster.ac.uk/item/q4766/what-does-community-resilience-look-like-in-practice-how-institutions-see-the-role-of-communities-in-responding-to-heatwaves-in-the-uk> [Accessed 7 May 2022].

Farooq, M.A. et al. (2017). Timing of the decline in physical activity in childhood and adolescence: Gateshead Millennium Cohort Study. *British Journal of Sports Medicine*, 52 (15), 1002–1006. Available from <https://doi.org/10.1136/bjsports-2016-096933> [Accessed 16 April 2022].

Fazey, I. et al. (2018). Ten essentials for action-oriented and second order energy

- transitions, transformations and climate change research. *Energy Research & Social Science*, 40, 54–70. Available from <https://doi.org/10.1016/j.erss.2017.11.026> [Accessed 16 April 2022].
- Fenton, P. (2016). National infrastructure, small towns and sustainable mobility – experiences from policy and strategy in two Swedish municipalities. *Journal of Environmental Planning and Management*, 60 (9), 1660–1682. Available from <https://doi.org/10.1080/09640568.2016.1246998> [Accessed 16 April 2022].
- Fernandez-Heredia, A. and Fernandez-Sanchez, G. (2020). Process of civic participation in the implementation of sustainable urban mobility systems. *Case Studies on Transport Policy* 8. 471-483
- Ferreira, A., Bertolini, L. and Næss, P. (2017). Immutability as resilience? A key consideration for transport policy and research. *Applied Mobilities*, 2 (1), 16–31. Available from <https://doi.org/10.1080/23800127.2017.1283121> [Accessed 16 April 2022].
- Ferster et al (2017). Promoting Crowdsourcing for Urban Research: CYclign Safety Citizen Science in Fourt Cities. *Urban Science* 1(21)
- Flegal, K.M. et al. (2012). Prevalence of Obesity and Trends in the Distribution of Body Mass Index Among US Adults, 1999-2010. *JAMA*, 307 (5), 491–497. Available from <https://doi.org/10.1001/jama.2012.39> [Accessed 16 April 2022].
- Flood, R.L. (2006). The Relationship of Systems Thinking to Action Research. *Handbook of Action Research: Concise Student Edition*. London: Sage Publications, 117–128.
- Flynn, Simone I. (2011). Types of Social Movements in Sociology Reference Guide Theories of Social Movements. Editors Salem Press. In Salem Press. Pasadena, California
- Fotaki, M. (2022). Extinction Rebellion: Green activism and the fantasy of leaderlessness in a decentralized movement. *Leaders* 18 (2) 224-246
- Foxon, T.J., Reed, M.S. and Stringer, L.C. (2009). Governing long-term social-ecological change: what can the adaptive management and transition management approaches learn from each other? *Environmental Policy and Governance*, 19 (1), 3–20. Available

from <https://doi.org/10.1002/eet.496> [Accessed 16 April 2022].

Frantzeskaki, N. et al. (2019). Transition pathways to sustainability in greater than 2 °C climate futures of Europe. *Regional Environmental Change*, 19 (3), 777–789.

Available from <https://doi.org/10.1007/s10113-019-01475-x> [Accessed 14 April 2022].

Fuenfschilling, L. and Binz, C. (2018). Global socio-technical regimes. *Research Policy*, 47 (4), 735–749. Available from <https://doi.org/10.1016/j.respol.2018.02.003> [Accessed 16 April 2022].

Fuenfschilling, L. and Truffer, B. (2016). The interplay of institutions, actors and technologies in socio-technical systems — An analysis of transformations in the Australian urban water sector. *Technological Forecasting and Social Change*, 103, 298–312. Available from <https://doi.org/10.1016/j.techfore.2015.11.023> [Accessed 16 April 2022].

Gallez, C. et al. (2013). Coordinating Transport and Urban Planning: From Ideologies to Local Realities. *European Planning Studies*, 21 (8), 1235–1255. Available from <https://doi.org/10.1080/09654313.2012.722945> [Accessed 16 April 2022].

Garrad, J., Rissel, C. and Bauman, A. (2012). Health Benefits of Cycling. In: Pucher, J. and Buehler, R. (eds.). *City Cycling*. Cambridge: MIT Press.

Geels, F.W. (2002). Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy*, 31 (8-9), 1257–1274. Available from [https://doi.org/10.1016/s0048-7333\(02\)00062-8](https://doi.org/10.1016/s0048-7333(02)00062-8) [Accessed 16 April 2022].

Geels, F.W. (2004). From sectoral systems of innovation to socio-technical systems. *Research Policy*, 33 (6-7), 897–920. Available from <https://doi.org/10.1016/j.respol.2004.01.015> [Accessed 16 April 2022].

Geels, F.W. (2010). Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research Policy*, 39 (4), 495–510. Available from <https://doi.org/10.1016/j.respol.2010.01.022> [Accessed 16 April 2022].

- Geels, F.W. (2012). A socio-technical analysis of low-carbon transitions: introducing the multi-level perspective into transport studies. *Journal of Transport Geography*, 24, 471–482. Available from <https://doi.org/10.1016/j.jtrangeo.2012.01.021> [Accessed 16 April 2022].
- Geels, F.W. (2013). The impact of the financial–economic crisis on sustainability transitions: Financial investment, governance and public discourse. *Environmental Innovation and Societal Transitions*, 6, 67–95. Available from <https://doi.org/10.1016/j.eist.2012.11.004> [Accessed 16 April 2022].
- Geels, F.W. (2018a). Disruption and low-carbon system transformation: Progress and new challenges in socio-technical transitions research and the Multi-Level Perspective. *Energy Research & Social Science*, 37, 224–231. Available from <https://doi.org/10.1016/j.erss.2017.10.010> [Accessed 16 April 2022].
- Geels, F.W. (2018b). Socio-Technical Transitions to Sustainability. *Oxford Research Encyclopedia of Environmental Science*, 39, 187–201. Available from <https://doi.org/10.1093/acrefore/9780199389414.013.587> [Accessed 16 April 2022].
- Geels, F.W. (2020). Micro-foundations of the multi-level perspective on socio-technical transitions: Developing a multi-dimensional model of agency through crossovers between social constructivism, evolutionary economics and neo-institutional theory. *Technological Forecasting and Social Change*, 152, 119894. Available from <https://doi.org/10.1016/j.techfore.2019.119894> [Accessed 7 May 2022].
- Geels, F.W. and Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*, 36 (3), 399–417. Available from <https://doi.org/10.1016/j.respol.2007.01.003> [Accessed 16 April 2022].
- Geels, F.W. et al. (2016). The enactment of socio-technical transition pathways: A reformulated typology and a comparative multi-level analysis of the German and UK low-carbon electricity transitions (1990–2014). *Research Policy*, 45 (4), 896–913. Available from <https://doi.org/10.1016/j.respol.2016.01.015> [Accessed 16 April 2022].

- Geels, F.W. et al. (2018). Reducing energy demand through low carbon innovation: A sociotechnical transitions perspective and thirteen research debates. *Energy Research & Social Science*, 40, 23–35. Available from <https://doi.org/10.1016/j.erss.2017.11.003> [Accessed 16 April 2022].
- Gifford, R. (2011). The dragons of inaction: Psychological barriers that limit climate change mitigation and adaptation. *American Psychologist*, 66 (4), 290-302. Available from <https://doi.org/10.1037/a0023566>
- Gilligan, A. (2018). Who's behind the bid to get London's flagship bike lane ripped up? *the Guardian*. Available from <https://www.theguardian.com/environment/bike-blog/2018/nov/30/whos-behind-the-bid-to-get-londons-flagship-bike-lane-ripped-up> [Accessed 8 May 2022].
- Gilovich, T. and Ross, L. (2015). *The wisest one in the room : how you can benefit from social psychology's most powerful insights*. New York: Free Press.
- Global Footprint Network. (2022). Earth Overshoot Day. *Footprintnetwork.org*. Available from <https://www.footprintnetwork.org/our-work/earth-overshoot-day/> [Accessed 7 May 2022].
- Godschalk, D.R. (2003). Urban Hazard Mitigation: Creating Resilient Cities. *Natural Hazards Review*, 4 (3), 136–143. Available from [https://doi.org/10.1061/\(asce\)1527-6988\(2003\)4:3\(136\)](https://doi.org/10.1061/(asce)1527-6988(2003)4:3(136)) [Accessed 16 April 2022].
- Goel, R. et al. (2021). Cycling behaviour in 17 countries across 6 continents: levels of cycling, who cycles, for what purpose, and how far? *Transport Reviews*, 42 (1), 58–81. Available from <https://doi.org/10.1080/01441647.2021.1915898> [Accessed 7 May 2022].
- Golbuff, L. and Aldred, R. (2011). *Cycling Policy in the UK*. Available from https://www.ciltuk.org.uk/Portals/0/Documents/The_Hub/policy/Cycling_policy_in_the_UK_a_historical_and_thematic_overvie.pdf [Accessed 16 April 2022].
- Golbuff, L. and Aldred, R. (2021). *Cycling policy in the UK: a historical and thematic overview*.

- University of East London Sustainable Mobilities Research Group. Available from <http://rachelaldred.org/wp-content/uploads/2012/10/cycling-review1.pdf> [Accessed 15 April 2022].
- Gössling, S. (2016). Urban transport justice. *Journal of Transport Geography*, 54, 1–9. Available from <https://doi.org/10.1016/j.jtrangeo.2016.05.002> [Accessed 16 April 2022].
- GOV.UK. (no date). All schools and colleges in Tower Hamlets - GOV.UK. *Find and compare schools in England*. Available from <https://www.compare-school-performance.service.gov.uk/schools-by-type?step=default&table=schools&ion=211&la-name=tower-hamlets&geographic=la&for=primary> [Accessed 16 April 2022].
- Gray, D. (2009). Empathy Map. *Gamestorming*. Available from <https://gamestorming.com/empathy-map/> [Accessed 16 April 2022].
- Greater London Authority. (2021). London Energy and Greenhouse Gas Inventory (LEGGI) – London Datastore. *London.gov.uk*. Available from <https://data.london.gov.uk/dataset/leggi> [Accessed 7 May 2022].
- Greenwood, D.J. and Levin, M. (1998). *Introduction to Action Research*. Thousand Oaks: Sage Publications.
- Grönroos, C. and Ravald, A. (2011). Service as business logic: implications for value creation and marketing. *Journal of Service Management*, 22 (1), 5–22. Available from <https://doi.org/10.1108/09564231111106893> [Accessed 15 April 2022].
- Grosse, E. and Femenias, P. (2020). Action Research for sustainability: co-creation overcoming fragmentation in multidisciplinary design teams. *IOP Conference Series: Earth and Environmental Science*, 588 (5), 052060. Available from <https://doi.org/10.1088/1755-1315/588/5/052060> [Accessed 16 April 2022].
- Gunningham, N. (2019). Averting Climate Catastrophe: Environmental Activism, Extinction Rebellion and coalitions of Influence. *King's Law Journal*. Vol. 20, No 2, 194-202, Available from <https://doi.org/10.1080/09615768.2019.1645424>

- Gudmundsson, H. et al. (2012). The Role of Decision Support in the Implementation of 'Sustainable Transport' Plans. *European Planning Studies*, 20 (2), 171–191. Available from <https://doi.org/10.1080/09654313.2012.650903> [Accessed 16 April 2022].
- Gustavsen, B. (2003). New Forms of Knowledge Production and the Role of Action Research. *Action Research*, 1 (2), 153–164. Available from <https://doi.org/10.1177/14767503030012003> [Accessed 16 April 2022].
- Haberl, H. et al. (2011). A socio-metabolic transition towards sustainability? Challenges for another Great Transformation. *Sustainable Development*, 19 (1), 1–14. Available from <https://doi.org/10.1002/sd.410> [Accessed 15 April 2022].
- Hall, P.A. and Taylor, R.C.R. (1996). Political Science and the Three New Institutionalisms. *Political Studies*, 44 (5), 936–957. Available from <https://doi.org/10.1111/j.1467-9248.1996.tb00343.x> [Accessed 16 April 2022].
- Halupka, Paul, Lippens, Paul, Persky, Dan, & Woodall, Amanda. "Complete Streets Complete Networks: A Manual for the Design of Active Transportation." Active Transportation Alliance, Chicago, IL: 2012.
- Hamann, R. and April, K. (2013). On the role and capabilities of collaborative intermediary organisations in urban sustainability transitions. *Journal of Cleaner Production*, 50, 12–21. Available from <https://doi.org/10.1016/j.jclepro.2012.11.017> [Accessed 16 April 2022].
- Harari, Y.N. (2014). *Sapiens : a brief history of humankind*. London: Harvill Secker.
- Hargreaves, T. et al. (2011). *Sustainability transitions from the bottom-up: Civil society, the multi-level perspective and practice theory*. Available from <https://www.econstor.eu/obitstream/10419/48796/1/662352246.pdf> [Accessed 16 April 2022].
- Harvey, D. (2012). *Rebel Cities : from the right to the city to the urban revolution*. London: Verso.
- Head, B.W. (2007). Community Engagement: Participation on Whose Terms? *Australian*

- Journal of Political Science*, 42 (3), 441–454. Available from <https://doi.org/10.1080/10361140701513570> [Accessed 16 April 2022].
- Healey, P. (1992). Planning through debate: the communicative turn in planning theory. *Town Planning Review*, 63 (2), 143. Available from <https://doi.org/10.3828/tpr.63.2.422x602303814821>.
- Healey, P. (1996). The communicative turn in planning theory and its implications for spatial strategy formations. *Environment and Planning B: Planning and Design*, 23 (2), 217–234. Available from <https://doi.org/10.1068/b230217> [Accessed 16 April 2022].
- Heaton-Harris, C. (2021). *Active travel schemes supported by Government funding*. Department for Transport. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007807/active-travel-schemes-supported-by-government-funding.pdf [Accessed 16 April 2022].
- Hebbert, M. (2009). The three Ps of place making for climate change. *Town Planning Review*, 80 (4-5), 359–370. Available from <https://doi.org/10.3828/tpr.2009.2> [Accessed 16 April 2022].
- Heidrich, O. et al. (2016). National climate policies across Europe and their impacts on cities strategies. *Journal of Environmental Management*, 168, 36–45. Available from <https://doi.org/10.1016/j.jenvman.2015.11.043> [Accessed 16 April 2022].
- Hendriks, C.M. (2009). Policy design without democracy? Making democratic sense of transition management. *Policy Sciences*, 42 (4), 341–368. Available from <https://doi.org/10.1007/s11077-009-9095-1> [Accessed 16 April 2022].
- Herr, K. and Anderson, G.L. (2005). *The action research dissertation : a guide for students and faculty*. Thousand Oaks: Sage Publications.
- Hickman, R., Ashiru, O. and Banister, D. (2010). Transport and climate change: Simulating the options for carbon reduction in London. *Transport Policy*, 17 (2), 110–125. Available from <https://doi.org/10.1016/j.tranpol.2009.12.002> [Accessed 16 April 2022].

- Huttunen, et al (2022). What about citizens? A literature review of citizen engagement in sustainability transitions research. *Energy Research and Social Science* 91 (2022) 102714
- Innes, J.E. and Booher, D.E. (2010). How can theory improve practice? *Planning with Complexity*. London: Routledge.
- Institute of Mechanical Engineers. (2013). Global Food: Waste Not, Want Not. *unccd.int*. Available from https://catalogue.unccd.int/1482_IME-Global-Food-Report.pdf [Accessed 7 May 2022].
- International Panel on Climate Change. (2022). *Climate Change 2022 Impacts, Adaption and Vulnerability Summary for Policymakers*. Available from https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf [Accessed 16 April 2022].
- Jeppesen, L. (2021). Social movements and free innovation. *Research Policy* 50.
- Johnston, Hank. (2011). *States and Social Movements*. Polity Press. Cambridge, UK.
- Jordan, S. and Kapoor, D. (2016). Re-politicizing participatory action research: unmasking neoliberalism and the illusions of participation. *Educational Action Research*, 24 (1), 134–149. Available from <https://doi.org/10.1080/09650792.2015.1105145> [Accessed 16 April 2022].
- Jørgensen, M.S., Jørgensen, U. and Jensen, J.S. (2017). Navigations and governance in the Danish energy transition reflecting changing Arenas of Development, controversies and policy mixes. *Energy Research & Social Science*, 33, 173–185. Available from <https://doi.org/10.1016/j.erss.2017.09.034> [Accessed 16 April 2022].
- Jørgensen, U. (2012). Mapping and navigating transitions—The multi-level perspective compared with arenas of development. *Research Policy*, 41 (6), 996–1010. Available from <https://doi.org/10.1016/j.respol.2012.03.001> [Accessed 16 April 2022].
- Kay, A. (2005). A Critique of the Use of Path Dependency in Policy Studies. *Public Administration*, 83 (3), 553–571. Available from <https://doi.org/10.1111/j.0033->

3298.2005.00462.x [Accessed 16 April 2022].

- Kemp, R. and Loorbach, D. (2003). *Governance for Sustainability Through Transition Management*. Available from <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.10.8115&rep=rep1&type=pdf> [Accessed 16 April 2022].
- Kemp, R., Schot, J. and Hoogma, R. (1998). Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. *Technology Analysis & Strategic Management*, 10 (2), 175–198. Available from <https://doi.org/10.1080/09537329808524310> [Accessed 16 April 2022].
- Kemp, R., Loorbach, D. and Rotmans, J. (2007). Transition management as a model for managing processes of co-evolution towards sustainable development. *International Journal of Sustainable Development & World Ecology*, 14 (1), 78–91. Available from <https://doi.org/10.1080/13504500709469709> [Accessed 16 April 2022].
- Kent, J., Thompson, S. and Jalaludin, B. (2011). *Healthy built environments : a review of the literature*. Sydney: The University of New South Wales.
- Kindon, S. (2016). Empowering Approaches: Participatory Action Research. In I. Hay (Ed.), *Qualitative Methods in Human Geography* (4th ed.) (pp. 350-370). Canada: Oxford University Press.
- King, J. (2020). Tower Hamlets campaigners call for urgent action to allow social distancing on school run. *East London Advertiser*. Available from <https://www.eastlondonadvertiser.co.uk/news/tower-hamlets-school-streets-campaign-3661420> [Accessed 7 May 2022].
- Kingdon, J.W. (2011). *Agendas, Alternatives and Public Policies*. London: Pearson Higher Education.
- Kingston Council. (2021). Kingston Cycling Annual Report 2021. *KINGSTON.GOV.UK*. Available from <https://www.kingston.gov.uk/downloads/file/903/kingston-council-annual-cycling-report-2021> [Accessed 15 April 2022].

- Kivimaa, P. et al. (2018). Towards a typology of intermediaries in sustainability transitions: A systematic review and a research agenda. *Research Policy* (2018)
- Kivimaa, P., et al. (2019). Passing the baton: How intermediaries advance sustainability transitions in different phases. *Environmental Innovation and Societal Transitions*, 31, 110-125. Available from <https://doi.org/10.1016/j.eist.2019.01.001>
- Köhler, J. et al. (2018). Modelling Sustainability Transitions: An Assessment of Approaches and Challenges. *Journal of Artificial Societies and Social Simulation*, 21 (1), 8. Available from <https://www.jasss.org/21/1/8.html> [Accessed 7 May 2022].
- Köhler, J., Turnheim, B. and Hodson, M. (2018). Low carbon transitions pathways in mobility: Applying the MLP in a combined case study and simulation bridging analysis of passenger transport in the Netherlands. *Technological Forecasting and Social Change*, 151, 119314. Available from <https://doi.org/10.1016/j.techfore.2018.06.003> [Accessed 7 May 2022].
- Kooij, H.-J. et al. (2018). Between grassroots and treetops: Community power and institutional dependence in the renewable energy sector in Denmark, Sweden and the Netherlands. *Energy Research & Social Science*, 37, 52–64. Available from <https://doi.org/10.1016/j.erss.2017.09.019> [Accessed 8 May 2022].
- Korhonen, J. (2001). Four ecosystem principles for an industrial ecosystem. *Journal of Cleaner Production*, 9 (3), 253–259. Available from [https://doi.org/10.1016/s0959-6526\(00\)00058-5](https://doi.org/10.1016/s0959-6526(00)00058-5) [Accessed 16 April 2022].
- Kornas, K., Bornbaum, C., Bushey, C. & Rosella, L. (2017) Exploring active transportation investments and associated benefits for municipal budgets: a scoping review, *Transport Reviews*, 37:4, 465-487, DOI: 10.1080/01441647.2016.1252446
- Kuhl, L. (2021). Engaging with climate adaptation in transition studies. *Environmental Innovation and Societal Transitions*, 41, 60–63. Available from <https://doi.org/10.1016/j.eist.2021.10.024> [Accessed 14 April 2022].
- Labour. (2022). *Building a Better Birmingham*. Available from <https://d3n8a8pro7vhmx.cloudfront.net/labourclp96/pages/2873/attachments/original/>

[1522078836/ELECTRONIC_10723_18_Birmingham_Manifesto.pdf?1522078836](https://www.thlabour.org/wp-content/uploads/sites/316/2019/02/thlpmanifesto2018w.pdf)

[Accessed 8 May 2022].

Labour. (2018). Tower Hamlets Manifesto 2018. *thlabour.org*. Available from <https://www.thlabour.org/wp-content/uploads/sites/316/2019/02/thlpmanifesto2018w.pdf> [Accessed 8 May 2022].

Laird, Y. et al. (2018). *Cycling and walking for individual and population health benefits A rapid evidence review for health and care system decision-makers*. Public Health England. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757756/Cycling_and_walking_for_individual_and_population_health_benefits.pdf [Accessed 14 April 2022].

Laker, L. (2018). Westminster council's actions show it puts cars first, not people. *The Guardian*. Friday 14 Sep 2018. Available from <https://www.theguardian.com/environment/bike-blog/2018/sep/13/westminster-councils-actions-show-it-puts-cars-first-not-people>

Lamb, W.F. et al. (2021). A review of trends and drivers of greenhouse gas emissions by sector from 1990 to 2018. *Environmental Research Letters*, 16 (7), 073005. Available from <https://doi.org/10.1088/1748-9326/abee4e> [Accessed 15 April 2022].

Lawton, A. and Macaulay, M. (2014). Localism in Practice: Investigating Citizen Participation and Good Governance in Local Government Standards of Conduct. *Public Administration Review*, 74(1). Available from <https://doi.org/10.1111/puar.12161>

LCCsouthwark. (no date). Southwark Streetspace. *MapHub*. Available from <https://maphub.net/LCCsouthwark/southwark-streetspace> [Accessed 16 April 2022].

LCCsouthwark. (no date). Southwark Streetspace Tracking. *Google Docs*. Available from <https://docs.google.com/spreadsheets/d/1eBxvYUYgFti9qYPZtl8FX0jTs74CnFHqaOKLk4UAwgw/edit#gid=1368201417> [Accessed 16 April 2022].

LCCsouthwark. (no date). Tracking delivery of Southwarks Permanent Cycling Network.

- MapHub*. Available from <https://maphub.net/LCCsouthwark/southwark-2015-sc-map> [Accessed 16 April 2022].
- LCCsouthwark. (no date). Vision for southwark. *MapHub*. Available from <https://maphub.net/LCCsouthwark/vision-for-southwark> [Accessed 16 April 2022].
- Leading Britain's Conversation. (2021). London council scraps seven low traffic neighbourhoods after public backlash. *LBC*. Available from <https://www.lbc.co.uk/news/london-council-scraps-seven-low-traffic-neighbourhoods-after-public-backlash/> [Accessed 16 April 2022].
- Leeser, R. (2019). Indices of Deprivation 2019 Initial Analysis – London Datastore. *London Datastore*. Available from <https://data.london.gov.uk/blog/indices-of-deprivation-2019-initial-analysis> [Accessed 16 April 2022].
- Legacy, C., Curtis, C. and Scheurer, J. (2017). Planning transport infrastructure: examining the politics of transport planning in Melbourne, Sydney and Perth. *Urban Policy and Research*, 35 (1), 44–60. Available from <https://doi.org/10.1080/08111146.2016.1272448> [Accessed 16 April 2022].
- Leiserowitz, A., Maibach, E. and Roser-Renouf, C. (2009). Global Warming's Six Americas 2009. *Yale Program on Climate Change Communication*. Available from https://climatecommunication.yale.edu/wp-content/uploads/2016/02/2009_05_Global-Warmings-Six-Americas.pdf [Accessed 17 April 2022].
- Lewin, K. (1948). Action research and minority problems. *Resolving Social Conflicts*. New York: Harper & Row.
- Leyendecker, K. (2019). Women activists' experience of local cycling politics [Doctoral Thesis]. Northumbria University. Available from <http://nrl.northumbria.ac.uk/id/eprint/42075> [Accessed 7 May 2022].
- Leyendecker, K. and Cox, P. (2022). Cycle campaigning for a just city. *Transportation Research Interdisciplinary Perspectives* 15. 100678

Lindberg, M.B. and Kammermann, L. (2021). Advocacy coalitions in the acceleration phase of the European energy transition. *Environmental Innovation and Societal Transitions*, 40, 262–282. Available from <https://doi.org/10.1016/j.eist.2021.07.006> [Accessed 7 May 2022].

Local Government Association. (no date). Combined authorities. *www.local.gov.uk*. Available from <https://www.local.gov.uk/topics/devolution/devolution-online-hub/devolution-explained/combined-authorities> [Accessed 16 April 2022].

London Assembly. (2018). *London's cycling infrastructure*. Available from https://www.london.gov.uk/sites/default/files/londons_cycling_infrastructure.pdf [Accessed 8 May 2022].

London Borough of Tower Hamlets. (2020). *Motion for debate submitted by an Opposition Group*. Available from <https://democracy.towerhamlets.gov.uk/documents/s164871/Report%20Opposition%20Motion%20Debate%20Council%20110320.pdf> [Accessed 16 April 2022].

London Cycling Campaign (LCC). (no date a). Climate Safe Streets One year on. *London Cycling Campaign*. Available from <https://www.lcc.org.uk/wp-content/uploads/2021/03/LCC-Climate-Safe-Streets-one-year-on-2.pdf> [Accessed 16 April 2022].

London Cycling Campaign (LCC). (no date b). *Creating Space for Cycling A guide for councillors*. London Cycling Campaign. Available from http://s3.amazonaws.com/lcc_production_bucket/files/9134/original.pdf?1434446759 [Accessed 15 April 2022].

London Cycling Campaign (LCC). (no date c). Local Campaigning Resources. *London Cycling Campaign*. Available from <https://www.lcc.org.uk/groups/local-group-resources/> [Accessed 16 April 2022].

London Cycling Campaign (LCC). (no date d). Space for Cycling. *London Cycling Campaign*. Available from <https://lcc.org.uk/campaigns/space-for-cycling/> [Accessed 16 April 2022].

- London Cycling Campaign. (no date). Local group resources. *London Cycling Campaign*. Available from <https://lcc.org.uk/groups/local-group-resources/> [Accessed 8 May 2022].
- London Cycling Campaign (LCC). (2020). *Climate Safe Streets Report Launch*. London Cycling Campaign. Available from https://s3.amazonaws.com/lcc_production_bucket/files/13596/original.pdf?1584617987 [Accessed 16 April 2022].
- London Cycling Campaign (LCC). (2021a). No cycling, no cash, councils told. *London Cycling Campaign*. Available from <https://www.lcc.org.uk/news/no-cycling-no-cash-london-boroughs-told/> [Accessed 16 April 2022].
- London Cycling Campaign (LCC). (2021b). Where are all the Cycleways? *London Cycling Campaign*. Available from <https://www.lcc.org.uk/news/where-are-all-the-cycleways/> [Accessed 16 April 2022].
- London First. (2017). *London 2036: An Agenda for Jobs and Growth*. Available from <https://www.londonfirst.co.uk/sites/default/files/documents/2018-04/London-2036-web.pdf> [Accessed 16 April 2022].
- Loorbach, D. (2010). Transition Management for Sustainable Development: A Prescriptive, Complexity-Based Governance Framework. *Governance*, 23 (1), 161–183. Available from <https://doi.org/10.1111/j.1468-0491.2009.01471.x> [Accessed 16 April 2022].
- Luttrell, Wendy (2019). Reflexive Qualitative Research. In Oxford Research Encyclopedias. Available from <https://doi.org/10.1093/acrefore/9780190264093.013.553>
- Lydon, M., Garcia, A. and Duany, A. (2015). *Tactical urbanism : short-term action for long-term change*. Washington, DC: Island Press.
- Maani, K. (2013). *Decision-making for climate change adaptation: A systems thinking approach Synthesis and Integrative Research Final report*. Available from https://nccarf.edu.au/wp-content/uploads/2019/03/Maani_2013_Decision-making_for_climate_change_adaptation.pdf [Accessed 17 April 2022].

- Macedo, et al (2020). Learnings from Local Collaborative Transformations: Setting a Basis for a Sustainability Framework. *Sustainability* 2020, 12, 795. Available from <https://doi.org/10.3390/su12030795>
- Macmichael, S. (2020). 130 groups unite in open letter supporting Low Traffic Neighbourhoods. *road.cc*. Available from <https://road.cc/content/news/130-groups-unite-support-low-traffic-neighbourhoods-276999> [Accessed 16 April 2022].
- Macmicheal, S. (2014). LCC's Space for Cycling campaign to go national with CTC and cycle industry backing. *road.cc*. Available from <https://road.cc/content/news/111154-lccs-space-cycling-campaign-go-national-cycle-industry-backing> [Accessed 16 April 2022].
- Markard, J. and Truffer, B. (2008). Technological innovation systems and the multi-level perspective: Towards an integrated framework. *Research Policy*, 37 (4), 596–615. Available from <https://doi.org/10.1016/j.respol.2008.01.004> [Accessed 17 April 2022].
- Markard, J., Raven, R. and Truffer, B. (2012). Sustainability transitions: An emerging field of research and its prospects. *Research Policy*, 41 (6), 955–967. Available from <https://doi.org/10.1016/j.respol.2012.02.013> [Accessed 17 April 2022].
- Markard, J., Suter, M., Ingold, K. (2016). Socio-technical transitions and policy change - Advocacy coalitions in Swiss energy policy. *Environmental Innovation and Societal Transitions*, 18, 215-237. <https://doi.org/10.1016/j.eist.2015.05.003>
- Marletto, G. (2014). Car and the city: Socio-technical transition pathways to 2030. *Technological Forecasting and Social Change*, 87, 164–178. Available from <https://doi.org/10.1016/j.techfore.2013.12.013> [Accessed 17 April 2022].
- Marsden, G. and Groer, S. (2016). Do institutional structures matter? A comparative analysis of urban carbon management policies in the UK and Germany. *Journal of Transport Geography*, 51, 170–179. Available from <https://doi.org/10.1016/j.jtrangeo.2016.01.002> [Accessed 17 April 2022].
- Marstrand, L. (2017). Transport Culture and Curriculum: What's stopping walking and cycling from being mainstream? *Book of abstracts*. 2017. 14–15. Available from

http://www.cyclingandsociety.org/wp-content/uploads/2017/06/C8S2017_book-of-abstracts.pdf [Accessed 17 April 2022].

Martiskainen, M. et al. (2021). A spatial whole systems justice approach to sustainability transitions. *Environmental Innovation and Societal Transitions*, 41. Available from <https://doi.org/10.1016/j.eist.2021.10.030> [Accessed 14 April 2022].

Matthews, S. and Pratt, J. (2012). *Community-Led Responses to Climate Change: A Scoping Study*. Emergent Research & Consulting. Available from https://www.tnlcommunityfund.org.uk/media/insights/documents/er_climate_change.pdf?mtime=20190906155100 [Accessed 17 April 2022].

Matthews, T., Lo, A.Y. and Byrne, J.A. (2015). Reconceptualizing green infrastructure for climate change adaptation: Barriers to adoption and drivers for uptake by spatial planners. *Landscape and Urban Planning*, 138, 155–163. Available from <https://doi.org/10.1016/j.landurbplan.2015.02.010> [Accessed 17 April 2022].

Mayor of London. (2021). Record-breaking growth in London's cycle network continues. *London City Hall*. Available from <https://www.london.gov.uk/press-releases/mayoral/mayor-and-tfl-announce-work-on-four-new-routes> [Accessed 15 April 2022].

Mayor of London and London Assembly. (no date). Transforming cycling in outer boroughs: Mini-Hollands programme. *london.gov.uk*. Available from <https://www.london.gov.uk/what-we-do/transport/cycling-and-walking/transforming-cycling-outer-boroughs-mini-hollands-programme> [Accessed 17 April 2022].

McAndrews, C. and Marcus, J. (2015). The politics of collective public participation in transportation decision-making. *Transportation Research Part A: Policy and Practice*, 78, 537–550. Available from <https://doi.org/10.1016/j.tra.2015.06.014> [Accessed 17 April 2022].

McNiff, J. and Whitehead, J. (2009). *Doing and writing action research*. Sage Publications.

McNiff, J. (2013). *Action research : principles and practice*, 3rd ed. Oxon: Routledge.

- Mcniff, J. and Whitehead, J. (2011). *All You Need to Know About Action Research*, 2nd ed. London: Sage Publications.
- McTigue, C., Rye, T. and Monios, J. (2020). Identifying barriers to implementation of local transport policy – Lessons learned from case studies on bus policy implementation in Great Britain. *Transport Policy*, 91. Available from <https://doi.org/10.1016/j.tranpol.2020.03.002> [Accessed 8 May 2022].
- Mehrpouya, H., Maxwell, D. and Zamora, D. (2013). Reflections on co-creation: An open source approach to co-creation. *Participation: Journal of Audience & Reception Studies*, 10 (2), 172–182. Available from <https://www.participations.org/Volume%2010/Issue%202/10.pdf> [Accessed 16 April 2022].
- Michael John Law. (2014). *The experience of suburban modernity : how private transport changed interwar London*. Manchester, Uk: Manchester University Press.
- Middlemiss, L. and Parrish, B.D. (2010). Building capacity for low-carbon communities: The role of grassroots initiatives. *Energy Policy*, 38 (12), 7559–7566. Available from <https://doi.org/10.1016/j.enpol.2009.07.003> [Accessed 17 April 2022].
- Milkoreit, M. et al. (2018). Defining tipping points for social-ecological systems scholarship—an interdisciplinary literature review. *Environmental Research Letters*, 13 (3). Available from <https://doi.org/10.1088/1748-9326/aaaa75> [Accessed 15 April 2022].
- Miller, R.L. and Brewer, J.D. (2003). *The A-Z of Social Research*, 1st ed. Sage Publications.
- Minchin, J. (2021). New £1 billion TfL bailout agreed by UK Government. *Intelligent Transport*. Available from <https://www.intelligenttransport.com/transport-news/125310/new-tfl-bailout/> [Accessed 16 April 2022].
- Mignon, I. and Kanda, W. (2018). A typology of intermediary organizations and their impact on sustainability transition policies. *Environmental Innovation and Societal Transitions* 29 (2018) 100-112.
- Moradi, A and Vagoni, E. A multi-level perspective analysis of urban mobility system

dynamics: What are the future transition pathways? *Technological Forecasting and Social Change*. (126) 231-243

Mudway, I.S. et al. (2019). Impact of London's low emission zone on air quality and children's respiratory health: a sequential annual cross-sectional study. *The Lancet Public Health*, 4 (1), e28–e40. Available from [https://doi.org/10.1016/s2468-2667\(18\)30202-0](https://doi.org/10.1016/s2468-2667(18)30202-0) [Accessed 16 April 2022].

Mums for Lungs. (no date). Who are Mums for Lungs? *Mums for Lungs*. Available from <https://www.mumsforlungs.org/who-are-we> [Accessed 16 April 2022].

Murphy, J.T. (2015). Human geography and socio-technical transition studies: Promising intersections. *Environmental Innovation and Societal Transitions*, 17, 73–91. Available from <https://doi.org/10.1016/j.eist.2015.03.002> [Accessed 17 April 2022].

Murto, P. et al. (2020). Capturing the micro-level of intermediation in transitions: Comparing ethnographic and interview methods. *Environmental Innovation and Societal Transitions*, 36, 406–417. Available from <https://doi.org/10.1016/j.eist.2020.01.004> [Accessed 16 April 2022].

Neuman, M. (2000). Communicate This! Does Consensus Lead to Advocacy and Pluralism? *Journal of Planning Education and Research*, 19 (4), 343–350. Available from <https://doi.org/10.1177/0739456x0001900403> [Accessed 15 April 2022].

Neuman, M. (2005). The Compact City Fallacy. *Journal of Planning Education and Research*, 25 (1), 11–26. Available from <https://doi.org/10.1177/0739456x04270466> [Accessed 17 April 2022].

Neuman, M. (2011). Infrastructure planning for sustainable cities. *Geographica Helvetica Jg*, 66, 100–107. Available from <https://gh.copernicus.org/articles/66/100/2011/gh-66-100-2011.pdf> [Accessed 17 April 2022].

Neuman, M. (2022). *Sustainable Infrastructure for Cities and Societies*. 1st edition. Routledge.

Neuman, M., Chelleri, L. and Schuetze, T. "Post-Pandemic Urbanism: Criteria for a New

- Normal" *Sustainability* 13(19):10600, 2021. <https://doi.org/10.3390/su131910600>
- Newson, C. and Sloman, L. (2018). *The Value of the Cycling Sector to the British Economy: A Scoping Study Paper 1 in a series to develop the evidence base on the contribution of the bicycle industry to Britain's industrial strategy*. Transport for Quality of Life Ltd. Available from <http://s27245.pcdn.co/wp-content/uploads/2018/06/The-Value-of-the-Cycling-Sector-to-the-British-Economy-FINAL2.pdf> [Accessed 14 April 2022].
- Nilsson, M. et al. (2020). A bridging framework for studying transition pathways – From systems models to local action in the Swedish heating domain. *Technological Forecasting and Social Change*, 151, 119260. Available from <https://doi.org/10.1016/j.techfore.2018.04.003> [Accessed 7 May 2022].
- North, P., Nurse, A. and Barker, T. (2017). The neoliberalisation of climate? Progressing climate policy under austerity urbanism. *Environment and Planning A: Economy and Space*, 49 (8), 1797–1815. Available from <https://doi.org/10.1177/0308518x16686353> [Accessed 17 April 2022].
- Norton, P., Hughes, M. and Brooke-Smith, L. (2017). *Public Consultation and Community Involvement in Planning*. Routledge. Available from <https://doi.org/10.4324/9781315563664> [Accessed 15 April 2022].
- Oosterhuis, H. (2016). Cycling, modernity and national culture. *Social History*, 41 (3), 233–248. Available from <https://doi.org/10.1080/03071022.2016.1180897> [Accessed 17 April 2022].
- Ortegon-Sanchez, A. and Tyler, N. (2016). Constructing a Vision for an 'Ideal' Future City: A Conceptual Model for Transformative Urban Planning. *Transportation Research Procedia*, 13, 6–17. Available from <https://doi.org/10.1016/j.trpro.2016.05.002> [Accessed 17 April 2022].
- Ostrom, E. (1990). *Governing the Commons : the Evolutions of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- Pagel, M. (2013). *Wired for culture : the Natural History of Human Cooperation*. London: Penguin Books.

- Pagano, C. (2013). DIY Urbanism: Property and Process in Grassroots City Building, 97 Marq. L. Rev. *Marquette Law Review* 335 (2013). Available at:
<http://scholarship.law.marquette.edu/mulr/vol97/iss2/5>
- Pajaritio, et al. (2018). Mapping cyclists routes: involving citizens in collecting open cycling data. *Agile* 2018 – Lund, Jubne 12-15, 2018.
- Palmer's Green Community. (2019). Residents come together to support the Fox Lane low-traffic neighbourhood concept. *pgweb.uk*. Available from
<https://www.pgweb.uk/planning-all-subjects/quieter-neighbourhoods/2383-residents-come-together-to-support-the-fox-lane-low-traffic-neighbourhood-concept> [Accessed 16 April 2022].
- Palmer's Green Community. (2021). 'We really do have a neighbourhood' – the effect of the Fox Lane LTN. *pgweb.uk*. Available from <https://www.pgweb.uk/planning-all-subjects/quieter-neighbourhoods/3045-we-really-do-have-a-neighbourhood-the-effect-of-the-fox-lane-ltn> [Accessed 16 April 2022].
- Patel, B. (2020). 'Disastrous' Covid cycle lanes in Kensington High Street will be torn up after just seven weeks. *dailymail.com*. Available from
<https://www.dailymail.co.uk/news/article-9001811/Tory-council-facing-demands-refund-300-000-decided-tear-cycle-lanes.html> [Accessed 16 April 2022].
- Pappers, et al. (2022). Evaluating citizen science data: A citizen observatory to measure cyclists' waiting times. *Transportation Research Interdisciplinary Perspectives* 14. 100624
- Parr, A. *The Wrath of Capital: neoliberalism and Climate Change Politics*. Columbia University press. New York.
- Pasmore, W. (1991). Action Research in the Workplace: the Socio-technical Perspective. *Handbook of Action Research*. Sage Publications.
- Petersen, I., Heinrichs, H. and Peters, H.P. (2010). Mass-Mediated Expertise as Informal Policy Advice. *Science, Technology, & Human Values*, 35 (6), 865–887. Available from

<https://doi.org/10.1177/0162243909357914> [Accessed 17 April 2022].

Pinto, A., McGaw-Césaire, J. and Petrokofsky, C. (2017). *Spatial Planning for Health An evidence resource for planning and designing healthier places*. Public Health England.

Available from

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729727/spatial_planning_for_health.pdf [Accessed 14 April 2022].

Pooley, C.G. and Turnbull, J. (2000). Modal choice and modal change: the journey to work in Britain since 1890. *Journal of Transport Geography*, 8 (1), 11–24. Available from

[https://doi.org/10.1016/S0966-6923\(99\)00031-9](https://doi.org/10.1016/S0966-6923(99)00031-9) [Accessed 15 April 2022].

Proper Constitutional Officer. (2020). *Deputation requests*. Available from

<https://modern.gov.southwark.gov.uk/documents/s89865/Report%20Deputation%20requests.pdf> [Accessed 16 April 2022].

Psarikidou, K., Zuev, D. and Popan, C. (2020). Sustainable cycling futures: can cycling be the future? *Applied Mobilities*, 5 (3), 225–231. Available from

<https://doi.org/10.1080/23800127.2020.1845073> [Accessed 7 May 2022].

Pucher, J. and Buehler, R. (2017). Cycling towards a more sustainable transport future.

Transport Reviews, 31 (6), 689–694. Available from

<https://doi.org/10.1080/01441647.2017.1340234>

Raven, R., Schot, J. and Berkhout, F. (2012). Space and scale in socio-technical transitions.

Environmental Innovation and Societal Transitions, 4, 63–78. Available from

<https://doi.org/10.1016/j.eist.2012.08.001> [Accessed 17 April 2022].

Reason, P. and Bradbury, H. (2001). *Handbook of action research : participative inquiry and practice*. London: Sage Publications.

Rees, W.E. (1992). Ecological footprints and appropriated carrying capacity: what urban economics leaves out. *Environment and Urbanization*, 4 (2), 121–130. Available from

<https://doi.org/10.1177/095624789200400212> [Accessed 17 April 2022].

Reid, C. (2015). *Roads Were Not Built for Cars*. Island Press.

- Ripple, W.J. et al. (2019). World Scientists' Warning of a Climate Emergency. *BioScience*, 70 (1). Available from <https://doi.org/10.1093/biosci/biz088> [Accessed 17 April 2022].
- Ritchie, H. (2020). Cars, planes, trains: where do CO2 emissions from transport come from? *Our World in Data*. Available from <https://ourworldindata.org/co2-emissions-from-transport> [Accessed 15 April 2022].
- Rittel, H.W.J. and Webber, M.M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*, 4 (2), 155–169. Available from <https://doi.org/10.1007/bf01405730> [Accessed 17 April 2022].
- Rhodes, C., Wright, C. and Pullen, A. (2017). Changing the World? The Politics of Activism and Impact in the Neoliberal University. *Organization*, 25 (1), 139–147. Available from <https://doi.org/10.1177/1350508417726546> [Accessed 7 May 2022].
- Roberts, G. (2021). DfT asks TfL to clarify revenue-raising measures. *Fleetnews.co.uk*. Available from <https://www.fleetnews.co.uk/news/car-industry-news/2021/12/14/dft-asks-tfl-to-clarify-revenue-raising-measures> [Accessed 16 April 2022].
- Robiou du Pont, Y. and Meinshausen, M. (2018). Warming assessment of the bottom-up Paris Agreement emissions pledges. *Nature Communications*, 9 (1). Available from <https://doi.org/10.1038/s41467-018-07223-9> [Accessed 15 April 2022].
- Roman Road Trust. (2019). Roman Road Park Festival. *Roman Road Trust*. Available from <http://romanroadtrust.co.uk/roman-road-park-festival/> [Accessed 16 April 2022].
- Rosen, P., Cox, P. and Horton, D. (2007). *Cycling and Society*. Aldershot, England; Burlington, Vt: Ashgate. Available from <https://thinkingaboutcycling.files.wordpress.com/2014/01/cycling-and-society-an-introduction.pdf> [Accessed 15 April 2022].
- Ross, T., Mitchell, V.A. and May, A.J. (2012). Bottom-up grassroots innovation in transport: motivations, barriers and enablers. *Transportation Planning and Technology*, 35 (4), 469–489. Available from <https://doi.org/10.1080/03081060.2012.680820> [Accessed 17 April 2022].

- Royston, S., Selby, J. and Shove, E. (2018). Invisible energy policies: A new agenda for energy demand reduction. *Energy Policy*, 123, 127–135. Available from <https://doi.org/10.1016/j.enpol.2018.08.052> [Accessed 17 April 2022].
- Rutherford, J. and Coutard, O. (2014). Urban Energy Transitions: Places, Processes and Politics of Socio-technical Change. *Urban Studies*, 51 (7), 1353–1377. Available from <https://doi.org/10.1177/0042098013500090> [Accessed 17 April 2022].
- Sadik-Khan, J. and Solomonow, S. (2016). *Streetfight : handbook for an urban revolution*. New York: Penguin Books.
- Saelens, B.E., Sallis, J.F. and Frank, L.D. (2003). Environmental correlates of walking and cycling: Findings from the transportation, urban design, and planning literatures. *Annals of Behavioral Medicine*, 25 (2), 80–91. Available from https://doi.org/10.1207/s15324796abm2502_03 [Accessed 17 April 2022].
- Sanders, E.B.-N. and Stappers, P.J. (2008). Co-creation and the new landscapes of design. *CoDesign*, 4 (1), 5–18. Available from <https://doi.org/10.1080/15710880701875068> [Accessed 15 April 2022].
- Sarzynski, A. (2015). Public participation, civic capacity, and climate change adaptation in cities. *Urban Climate*, 14, 52–67. Available from <https://doi.org/10.1016/j.uclim.2015.08.002> [Accessed 17 April 2022].
- Sauermann, et al (2020). Citizen science and sustainability transitions. *Research Policy*. 49 (05) 103978. Available from <https://doi.org/10.1016/j.respol.2020.103978>
- Saunders, L. (2023). What is Healthy Streets. Available at <https://www.healthystreets.com/what-is-healthy-streets>
- Schot, J. and Geels, F.W. (2008). Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. *Technology Analysis & Strategic Management*, 20 (5), 537–554. Available from <https://doi.org/10.1080/09537320802292651> [Accessed 17 April 2022].
- Sciulli, N. (2013). Organizational barriers to adapting infrastructure to climate change:

- evidence from coastal councils in Australia. *Public Money & Management*, 33 (2), 153–160. Available from <https://www.tandfonline.com/doi/abs/10.1080/09540962.2013.763436?journalCode=rpmm20> [Accessed 17 April 2022].
- Scott, H. (2009). What is Grounded Theory? | Grounded Theory Online. *Grounded Theory Online*. Available from <http://www.groundedtheoryonline.com/what-is-grounded-theory/> [Accessed 17 April 2022].
- Seinfeld, J.H. and Pandis, S.N. (2016). *Atmospheric chemistry and physics : from air pollution to climate change*. Hoboken, New Jersey: Wiley.
- Seitzinger, S.P. et al. (2012). Planetary Stewardship in an Urbanizing World: Beyond City Limits. *AMBIO*, 41 (8), 787–794. Available from <https://doi.org/10.1007/s13280-012-0353-7> [Accessed 7 May 2022].
- Seyfang, G. (2010). Community action for sustainable housing: Building a low-carbon future. *Energy Policy*, 38 (12), 7624–7633. Available from <https://doi.org/10.1016/j.enpol.2009.10.027> [Accessed 17 April 2022].
- Seyfang, G. and Haxeltine, A. (2012). Growing Grassroots Innovations: Exploring the Role of Community-Based Initiatives in Governing Sustainable Energy Transitions. *Environment and Planning C: Government and Policy*, 30 (3), 381–400. Available from <https://doi.org/10.1068/c10222> [Accessed 17 April 2022].
- Seyfang, G. and Longhurst, N. (2013a). Desperately seeking niches: Grassroots innovations and niche development in the community currency field. *Global Environmental Change*, 23 (5), 881–891. Available from <https://doi.org/10.1016/j.gloenvcha.2013.02.007> [Accessed 17 April 2022].
- Seyfang, G. and Longhurst, N. (2013b). Growing green money? Mapping community currencies for sustainable development. *Ecological Economics*, 86, 65–77. Available from <https://doi.org/10.1016/j.ecolecon.2012.11.003> [Accessed 17 April 2022].
- Seyfang, G. and Smith, A. (2007). Grassroots innovations for sustainable development: Towards a new research and policy agenda. *Environmental Politics*, 16 (4), 584–603.

Available from <https://doi.org/10.1080/09644010701419121> [Accessed 17 April 2022].

Seyfang, G., Park, J.J. and Smith, A. (2013). A thousand flowers blooming? An examination of community energy in the UK. *Energy Policy*, 61, 977–989. Available from <https://doi.org/10.1016/j.enpol.2013.06.030> [Accessed 17 April 2022].

Sharkey, M. (2014). Better Block. *Inner Sydney Voice*, 121. Available from <https://innersydneyvoice.org.au/magazine/better-block/> [Accessed 17 April 2022].

Sharkey, M. et al. (2016). *CycleSafe Network Active Travel Infrastructure Project Consultative Draft*. CycleSafe Network. Available from https://www.researchgate.net/publication/322223894_CycleSafe_Network_Active_Travel_Infrastructure_Project_Consultative_Draft [Accessed 17 April 2022].

Sharkey, M., Lopez Franco, M., Mottee L.K. and Scaffidi, F. (2019). Activist Researchers: Four Cases of Affecting Change. *plaNNext – next generation planning*. 8: 10-20. DOI: 10.24306/plnxt/42.

Short, J.R. (1989). *The Humane City: Cities as if People Matter*. Oxford: Basil Blackwell Ltd.

Shove, E. (2003a). *Comfort, Cleanliness and Convenience: The Social Organization of Normality*. Oxford: Berg.

Shove, E. (2003b). Users, Technologies and Expectations of Comfort, Cleanliness and Convenience. *Innovation: The European Journal of Social Science Research*, 16 (2), 193–206. Available from <https://doi.org/10.1080/13511610304521> [Accessed 17 April 2022].

Shove, E. and Walker, G. (2007). Caution! Transitions Ahead: Politics, Practice, and Sustainable Transition Management. *Environment and Planning A: Economy and Space*, 39 (4), 763–770. Available from <https://doi.org/10.1068/a39310> [Accessed 17 April 2022].

Silk, J. (1999). The Dynamics of Community, Place, and Identity. *Environment and Planning A: Economy and Space*, 31 (1), 5–17. Available from

<https://doi.org/10.1068/a310005> [Accessed 16 April 2022].

Silverman, R.M., Taylor, H.L. and Crawford, C. (2008). The role of citizen participation and action research principles in Main Street revitalization. *Action Research*, 6 (1), 69–93. Available from <https://doi.org/10.1177/1476750307083725> [Accessed 17 April 2022].

Siemiatycki, M. (2012). The Role of the Planning Scholar. *Journal of Planning Education and Research*, 32 (2), 147–159. Available from <https://doi.org/10.1177/0739456x12440729> [Accessed 7 May 2022].

Skea, J. et al. (2021). *Mitigation of Climate Change Climate Change 2022 Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Intergovernmental Panel on Climate Change. Available from https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf [Accessed 15 April 2022].

Smith, A. and Raven, R. (2012). What is protective space? Reconsidering niches in transitions to sustainability. *Research Policy*, 41 (6), 1025–1036. Available from <https://doi.org/10.1016/j.respol.2011.12.012> [Accessed 17 April 2022].

Smith, A., Stirling, A. and Berkhout, F. (2005). The governance of sustainable socio-technical transitions. *Research Policy*, 34 (10), 1491–1510. Available from <https://doi.org/10.1016/j.respol.2005.07.005> [Accessed 17 April 2022].

Southwark Council. (2020). Agenda and minutes Cabinet - Tuesday 14 July 2020 4.00 pm. *Southwark Council*. Available from <https://moderngov.southwark.gov.uk/ieListDocuments.aspx?CId=302&MID=6654> [Accessed 16 April 2022].

Southwark Council. (2020b). Decision - Southwark's Streetspace Plan in response to TfL's London Streetspace Plan. *Southwark Council*. Available from <https://moderngov.southwark.gov.uk/ieDecisionDetails.aspx?AllId=57398> [Accessed 7 May 2022].

Southwark Cyclists. (no date). Vision. *Southwark Cyclists*. Available from

- <https://southwarkcyclists.org.uk/strategy/> [Accessed 16 April 2022].
- Space for Cycling Brisbane. (no date). Space for Cycling Brisbane. *Space for Cycling Brisbane*. Available from <https://space4cyclingbne.com/> [Accessed 8 May 2022].
- Stefani, G. et al (2022). Sustainable Transition Narratives: An Analysis of the Literature through Topic Modelling. *Sustainability* (14) 2085
- Stehlin, J. (2014). Regulating Inclusion: Spatial Form, Social Process, and the Normalization of Cycling Practice in the USA. *Mobilities*, 9 (1), 21–41. Available from <https://doi.org/10.1080/17450101.2013.784527> [Accessed 17 April 2022].
- Stehlin, J. (2015). Cycles of Investment: Bicycle Infrastructure, Gentrification, and the Restructuring of the San Francisco Bay Area. *Environment and Planning A: Economy and Space*, 47 (1), 121–137. Available from <https://doi.org/10.1068/a130098p> [Accessed 17 April 2022].
- Stiglitz, J.E. (2013). *The Price of Inequality: How Today's Divided Society Endangers our Future*. New York: W.W. Norton & Company.
- Storme, et al. (2022). Citizen science and the potential for mobility – Introduction the Bike Barometer. *Case Studies on Transport Policy* 10: 1539 - 1549
- Svirsky, M. (2010). Defining activism. *Deleuze Studies*, 4 (1), 163–182. Available from <https://ro.uow.edu.au/artspapers/1316/> [Accessed 15 April 2022].
- Talen, E. (2014). Do-it-Yourself Urbanism: A History. *Journal of Planning History*, 14 (2), 135–148. Available from <https://doi.org/10.1177/1538513214549325> [Accessed 17 April 2022].
- Taylor, M. (2020). The evolution of Extinction Rebellion. *The Guardian*, 4 August. Available from <https://www.theguardian.com/environment/2020/aug/04/evolution-of-extinction-rebellion-climate-emergency-protest-coronavirus-pandemic> [Accessed 15 April 2022].
- Temper, L. et al. (2018). A perspective on radical transformations to sustainability: resistances, movements and alternatives. *Sustainability Science*, 13 (3), 747–764.

Available from <https://doi.org/10.1007/s11625-018-0543-8> [Accessed 15 April 2022].

Terrill, M. (2016). *Road to riches: Better transport investment*. Grattan Institute. Available from <https://grattan.edu.au/wp-content/uploads/2016/04/869-Roads-to-Riches.pdf> [Accessed 17 April 2022].

The Core Writing Team, Pachauri, R.K. and Meyer, L. (eds.). (2015). *Climate change 2014 : synthesis report : contribution of working groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC.

Thomas-Slayter, B. (1995). A brief history of participatory methodologies. In R. Slocum, L. Wichart, D. Rocheleau & B. Thomas-Slayter (Eds.), *Power, Process and Participation: Tools for Change*. London: Intermediate Technology Publications.

Tilbury, D. (2013). Another World is Desirable: Transforming Higher Education for Sustainability. In, Sterling, S, Maxey, L and Luna H, (eds) *The Sustainable University: Process and Prospects*, London: Earthscan/Routledge.

Torbert, W. (1981). Why educational research has been so uneducational: The case for a new model of social science based on collaborative inquiry. *Human Inquiry*, 141–151. Available from <http://www.williamrtorbert.com/wp-content/uploads/2013/09/WhyEducResSoUneduc81.pdf> [Accessed 7 May 2022].

Tower Hamlets Council. (2019a). *Transport Strategy*. Available from <https://democracy.towerhamlets.gov.uk/documents/s160545/Appendix%20A%20To%20wer%20Hamlets%20Transport%20Strategy%202019-2041.pdf> [Accessed 6 May 2022].

Tower Hamlets Council. (2019b). Take the Breathe Clean Challenge. *Tower Hamlets*. Available from https://www.towerhamlets.gov.uk/News_events/2019/May_2019/Take-the-Breathe-Clean-Challenge.aspx [Accessed 7 May 2022].

Tower Hamlets Wheelers. (no date). About Tower Hamlets Wheelers | Tower Hamlets Wheelers. *Tower Hamlets Wheelers*. Available from

<https://www.towerhamletswheelers.org.uk/about> [Accessed 17 April 2022].

Tower Hamlets Wheelers. (no date). Borough statistics. *Tower Hamlets Wheelers*. Available from https://www.towerhamlets.gov.uk/ignl/community_and_living/borough_statistics/borough_statistics.aspx [Accessed 17 April 2022].

Townley, B. (2002). The Role of Competing Nationalities in Institutional Change. *Academy of Management Journal*, 45 (1), 163–179. Available from <https://doi.org/10.2307/3069290> [Accessed 17 April 2022].

Transport Committee. (2019). *Local roads funding and maintenance: filling the gap*. Available from <https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/1486/full-report.html> [Accessed 16 April 2022].

Transport for London (TfL). (no date). How we are funded. *Transport for London*. Available from <https://tfl.gov.uk/corporate/about-tfl/how-we-work/how-we-are-funded> [Accessed 16 April 2022].

Transport for London (TfL). (no date a). Legislative framework. *Transport for London*. Available from <https://tfl.gov.uk/corporate/about-tfl/how-we-work/corporate-governance/legislative-framework> [Accessed 16 April 2022].

Transport for London (TfL). (no date). Transport for London Organisational Chart 2018/2019. *tfl.gov.uk*. Available from <https://content.tfl.gov.uk/2019-2020-organisaton-chart.pdf> [Accessed 16 April 2022].

Transport for London (TfL). (2019). *Walking & cycling: the economic benefit*. Transport for London. Available from <https://content.tfl.gov.uk/walking-cycling-economic-benefits-summary-pack.pdf> [Accessed 14 April 2022].

Transport for London (TfL). (2020). How we are governed. *Transport for London*. Available from <https://tfl.gov.uk/corporate/about-tfl/how-we-work/how-we-are-governed> [Accessed 16 April 2022].

- Transport for London (TfL). (2022). TfL Statement - TfL Funding Update (25th February). *Transport for London*. Available from <https://tfl.gov.uk/info-for/media/press-releases/2022/february/tfl-statement---tfl-funding-update-25th-februa#:~:text=> [Accessed 7 May 2022].
- Trischler, J. et al (2022): Citizens as an innovation source in sustainability transitions – linking the directionality of innovations with the locus of the problem in transformative innovation policy, *Public Management Review*, DOI: 10.1080/14719037.2022.2062041
- Turner, T. (2018). The London Cycle Network is a fraud. *Landscape Architects LAA*. Available from <http://www.landscapearchitecture.org.uk/the-london-cycle-network-is-a-fraud/> [Accessed 15 April 2022].
- Turnheim, B. et al. (2015). Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges. *Global Environmental Change*, 35, 239–253. Available from <https://doi.org/10.1016/j.gloenvcha.2015.08.010> [Accessed 17 April 2022].
- Turnheim, B, Asquith, M, and Geels, F. (2020). Making sustainability transitions research policy-relevant: Challenges at the science-policy interface. *Environmental Innovation and Societal Transitions* 34, 116–120. Available from: <https://doi.org/10.1016/j.eist.2019.12.009>
- UNDESA. (2014). *World Urbanization Prospects. Undesa*. United Nations. <https://doi.org/10.4054/DemRes.2005.12.9>
- UNFCCC Authors. (2021). *Decision -/CMA.3 Glasgow Climate Pact*. Available from https://unfccc.int/sites/default/files/resource/cma3_auv_2_cover%20decision.pdf [Accessed 15 April 2022].
- United Nations. (2014). Water quality. *United Nations*. Available from <http://www.un.org/waterforlifedecade/quality.shtml> [Accessed 17 April 2022].
- Van Til, J. et al (2008). Grassroots Social Movements and the Shaping of History. (2008) 362-377

- Visvanathan, S. (2011). Development: Between Cliché and Creativity. *www.youtube.com*. Available from https://www.youtube.com/watch?v=p_wdd7D2iQk&t=2314s [Accessed 17 April 2022].
- Vlahov, D. et al. (2007). Urban as a Determinant of Health. *Journal of Urban Health*, 84 (S1), 16–26. Available from <https://doi.org/10.1007/s11524-007-9169-3> [Accessed 17 April 2022].
- Waitzman, E. (2021). Extraordinary funding for Transport for London. *lordslibrary.parliament.uk*. Available from <https://lordslibrary.parliament.uk/extraordinary-funding-for-transport-for-london/> [Accessed 16 April 2022].
- Wakeford, T. and Sanchez Rodriguez, J. (2018) ‘Participatory action research: towards a more fruitful knowledge’ in Facer, K. and Dunleavy, K. (eds.) *Connected Communities Foundation Series*. Bristol: University of Bristol/AHRC Connected Communities Programme.
- Walker, G. (2008). What are the barriers and incentives for community-owned means of energy production and use? *Energy Policy*, 36 (12), 4401–4405. Available from <https://doi.org/10.1016/j.enpol.2008.09.032> [Accessed 17 April 2022].
- Walker, P. (2019). Ten common myths about bike lanes – and why they’re wrong. *the Guardian*. Available from <https://www.theguardian.com/environment/bike-blog/2019/jul/03/ten-common-myths-about-bike-lanes-and-why-theyre-wrong> [Accessed 8 May 2022].
- Walker, P. (2018). Westminster council accused of playing politics over bike route. *The Guardian*. Mon 18 Jun 2018. Available from: <https://www.theguardian.com/lifeandstyle/2018/jun/18/westminster-council-accused-of-playing-politics-over-bike-route>
- Wang, S. and Ge, M. (2019). Everything You Need to Know About the Fastest-Growing Source of Global Emissions: Transport. *World Resources Institute*. Available from

<https://www.wri.org/blog/2019/10/everything-you-need-know-about-fastest-growing-source-global-emissions-transport> [Accessed 14 April 2022].

Wang, Y.C. et al. (2011). Health and economic burden of the projected obesity trends in the USA and the UK. *The Lancet*, 378 (9793), 815–825. Available from [https://doi.org/10.1016/s0140-6736\(11\)60814-3](https://doi.org/10.1016/s0140-6736(11)60814-3) [Accessed 17 April 2022].

Warbroek, W. D. B. (2019). The grassroots energy transition: the success and governance of local low-carbon energy initiatives. [PhD Thesis - Research UT, graduation UT, University of Twente]. University of Twente. <https://doi.org/10.3990/1.9789036548427>

Watson, R. et al. (2019). *The Truth Behind the Climate Pledges*. Available from <http://pure.iiasa.ac.at/id/eprint/16143/1/The%20Truth%20Behind%20the%20Climate%20Pledges.pdf> [Accessed 15 April 2022].

Webb, R. et al. (2018). Sustainable urban systems: Co-design and framing for transformation. *Ambio*, 47 (1), 57–77. Available from <https://doi.org/10.1007/s13280-017-0934-6> [Accessed 16 April 2022].

Webber, M.M. (1963). Order in Diversity: Community without Propinquity. *Cities and Space: The Future Use of Urban Land*. Baltimore: Johns Hopkins Press, 23–56.

Weber, J. (2016). Policy Entrepreneurs, Windows, and Cycles: Exploring Policy Change through Bicycle Infrastructure at the Municipal Level. Georgia Institute of Technology. Available from <https://smartech.gatech.edu/bitstream/handle/1853/54975/WEBER-DISSERTATION-2016.pdf> [Accessed 17 April 2022].

Weber, J. (2017). Policy entrepreneurs and opportunities: Establishing a model of policy change through bicycle infrastructure at the municipal level. *Transportation Research Part A: Policy and Practice*, 101, 252–263. Available from <https://doi.org/10.1016/j.tra.2017.04.038> [Accessed 17 April 2022].

Weber, M., Gerth, H. and Mills, C.W. (1946). *From Max Weber: Essays in sociology*, 1st ed. New York: Oxford University Press.

- Weedy, S. (2021). Three million children in England are at school in areas with toxic air. *Child in the City*. Available from <https://www.childinthecity.org/2021/09/14/three-million-children-in-england-are-at-school-in-areas-with-toxic-air/?gdpr=accept> [Accessed 7 May 2022].
- Westley, F. et al. (2011). Tipping Toward Sustainability: Emerging Pathways of Transformation. *AMBIO*, 40 (7), 762–780. Available from <https://doi.org/10.1007/s13280-011-0186-9> [Accessed 17 April 2022].
- White, R.K. et al. (2014). A Practical Approach to Building Resilience in America's Communities. *American Behavioral Scientist*, 59 (2), 200–219. Available from <https://doi.org/10.1177/0002764214550296> [Accessed 17 April 2022].
- Whitmarsh, L. (2012). How useful is the Multi-Level Perspective for transport and sustainability research? *Journal of Transport Geography*, 24, 483–487. Available from <https://doi.org/10.1016/j.jtrangeo.2012.01.022> [Accessed 17 April 2022].
- Whyte, W.F. (1991). Comparing PAR and Action Science. *Participatory Action Research*. London: Sage Publications, 97–98.
- Whyte, W.F., Greenwood, D.J. and Lazes, P. (1991). Participatory Action Research. *Participatory Action Research*. Los Angeles: Sage Publications, 19–55.
- Winkelmann, R. et al. (2022). Social tipping processes towards climate action: A conceptual framework. *Ecological Economics*, 192, 107242. Available from <https://doi.org/10.1016/j.ecolecon.2021.107242> [Accessed 14 April 2022].
- Wittmayer, J.M. and Schöpke, N. (2014). Action, research and participation: roles of researchers in sustainability transitions. *Sustainability Science*, 9 (4), 483–496. Available from <https://doi.org/10.1007/s11625-014-0258-4> [Accessed 15 April 2022].
- Wittmayer, J.M. et al. (2017). Actor roles in transition: Insights from sociological perspectives. *Environmental Innovation and Societal Transitions*, 24, 45–56. Available from <https://doi.org/10.1016/j.eist.2016.10.003> [Accessed 8 May 2022].

- Wittmayer, J.M. et al. (2019). Narratives of change: How social innovation initiatives construct societal transformation. *Futures*, 112, 102433. Available from <https://doi.org/10.1016/j.futures.2019.06.005> [Accessed 8 May 2022].
- Wolfram, M. (2018). Cities shaping grassroots niches for sustainability transitions: Conceptual reflections and an exploratory case study. *Journal of Cleaner Production*, 173, 11–23. Available from <https://doi.org/10.1016/j.jclepro.2016.08.044> [Accessed 17 April 2022].
- Wolfram, M. and Frantzeskaki, N. (2016). Cities and Systemic Change for Sustainability: Prevailing Epistemologies and an Emerging Research Agenda. *Sustainability*, 8 (2), 144. Available from <https://doi.org/10.3390/su8020144> [Accessed 17 April 2022].
- Wood, H.E. et al. (2015). Effects of Air Pollution and the Introduction of the London Low Emission Zone on the Prevalence of Respiratory and Allergic Symptoms in Schoolchildren in East London: A Sequential Cross-Sectional Study. *PLoS ONE*, 10 (8). Available from <https://doi.org/10.1371/journal.pone.0109121> [Accessed 16 April 2022].
- Wood, L. (2019a). PALAR: Participatory Action Learning and Action Research for Community Engagement. *Action Learning and Action Research: Genres and Approaches*. Emerald Publishing Limited, 193–206.
- Wood, L. (2019b). *Participatory action learning and action research : theory, practice and process*. Routledge.
- Woodcock, J. et al. (2020). *National Propensity to Cycle Tool Project: Summary Report Executive Summary*. Available from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510264/national-propensity-to-cycle-executive-summary.pdf [Accessed 7 May 2022].
- World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our Common Future Towards Sustainable Development 2. Part II. Common Challenges Population and Human*

- Resources 4*. Available from <http://www.un-documents.net/our-common-future.pdf> [Accessed 17 April 2022].
- World Health Organization. (2001). The World Health Report 2001: Mental disorders affect one in four people. *World Health Organization*. Available from http://www.who.int/whr/2001/media_centre/press_release/en/ [Accessed 17 April 2022].
- Worldometers. (2019). World Population Clock: 7.7 Billion People (2019) - Worldometers. *Worldometers.info*. Available from <http://www.worldometers.info/world-population> [Accessed 17 April 2022].
- WWF. (World Wildlife Fund) (2016). *Living Planet Report 2016 Summary*. WWF. Available from http://awsassets.panda.org/downloads/lpr_living_planet_report_2016_summary.pdf [Accessed 18 April 2022].
- XR. (Extinction Rebellion). (2019). Our Demands. Available from <https://rebellion.global/>
- Zaman, A.U. and Lehmann, S. (2013). The zero waste index: a performance measurement tool for waste management systems in a 'zero waste city'. *Journal of Cleaner Production*, 50, 123–132. Available from <https://doi.org/10.1016/j.jclepro.2012.11.041> [Accessed 17 April 2022].
- Zeppini, P., Frenken, K. and Kupers, R. (2014). Thresholds models of technological transitions. *Environmental Innovation and Societal Transitions*, 11, 54–70. Available from <https://doi.org/10.1016/j.eist.2013.10.002> [Accessed 17 April 2022].
- Zuber-Skerritt, O., Wood, L. and Kearney, J. (2020). The transformative potential of action learning in community-based research for social action. *Action Learning: Research and Practice*, 17 (1), 34–47. Available from <https://doi.org/10.1080/14767333.2020.1712840> [Accessed 15 April 2022].

Research notes and data indicators

- ¹ Journal note 8th March 2018.
- ² Emails between LCC campaign coordinator and researcher on 4 June 2018, 20 June 2018, 22 June 2018, 24 June 2018.
- ³ Journal note Southwark meeting 12th September 2018; Journal note Enfield 17th September 2018; no journal note Tower Hamlets.
- ⁴ Email with Newham Cyclists on 11th October 2018
- ⁵ LCC Board Code of Conduct (Amended 2May 2017).
- ⁶ Emails about my participation with local groups and councils
- ⁷ Email to Megan Sharkey from Committee member Southwark Cyclist
- ⁸ Illustrative articles: [Kingston's Mini-Holland/Go Cycle programme: What's happened in 2021 so far – Kingston Cycling Campaign](#)
[All 'Go' in Kingston as Mini-Holland takes shape \(transportxtra.com\)](#)
[Suburbs transformed for cyclists in £100m 'mini-Holland' revolution | London City Hall](#)
- ⁹ Journal observation meeting 17th September 2018. Initial discussion of participatory action research discussion.
- ¹⁰ Research observations from the first few months.
- ¹¹ Initial observations from first few months and emails from the local group.
- ¹² Event ID May 2020
- ¹³ Event ID various and google docs and google groups.
- ¹⁴ Event ID 57, 60, 68, 70, 84, 87, 91, 92, 96, 108, 110. Emails and shared google drive.
- ¹⁵ Event ID 57, 60, 68, 70, 84, 87, 91, 92, 96, 108, 110. Emails and shared google drive.
- ¹⁶ Event ID 57, 60, 68, 70, 84, 87, 91, 92, 96, 108, 110. Emails and shared google drive.
- ¹⁷ PAR Reflection Survey ID 11 question 5
- ¹⁸ Event ID 110. Southwark Cycling, Worksop for strategy development
- ¹⁹ PAR Reflection Survey ID 3 question 5
- ²⁰ Email as PDF to group with example and printed A3 format at workshop
- ²¹ PAR Reflection Survey ID 4 question 5.
- ²² Email, Tower Hamlets Wheelers, 3rd June 2019
- ²³ Email, Tower Hamlets Wheelers, 7th June 2019
- ²⁴ Roman Road Trust Common Vision document
- ²⁵ PAR Reflection Survey ID 4 to 10.
- ²⁶ PAR Reflection Survey ID 8 question 5.
- ²⁷ PAR Reflection Survey ID 10 question 5.
- ²⁸ Journal and emails
- ²⁹ PAR Reflection Survey ID 10 question 5.
- ³⁰ PAR Reflection Survey question 3
- ³¹ PAR Reflection Survey ID 4 question 5.
- ³² Workshop and journals
- ³³ Journal.
- ³⁴ PAR Reflection survey ID 7 question 7.
- ³⁵ PAR Reflection Survey ID 7 question 7.
- ³⁶ PAR Reflection Survey ID 7 question 5
- ³⁷ PAR Reflection Survey ID 1 question 5.
- ³⁸ PAR Reflection Survey ID 9 question 25.
- ³⁹ PAR Reflection Survey ID 2 question 25.
- ⁴⁰ PAR Reflection Survey ID 13 question 25.
- ⁴¹ PAR Reflection Survey ID 9 question 25.
- ⁴² PAR Reflection Survey ID 10 question 25
- ⁴³ PAR Reflection Survey ID 6 question 5.
- ⁴⁴ Various emails.

-
- 45 Various emails
- 46 Email, Tower Hamlets Wheeler, 23 February 2020
- 47 Roman Road Trust were interested in holding a two-day event corresponding to the National Park City Festival (26–27 July 2019) with the goal of engaging ‘the public on the Green Common Vision [and] do a tour play’ of community orchards, and a street.
- 48 Social media posts examples.
- 49 Emails. Palmers Green Community action - <https://www.pgweb.uk/planning-all-subjects/quieter-neighbourhoods/2163-fox-lane-area-traffic-counts-and-speed-data>
- 50 Various emails
- 51 Meeting about the GIS mapping tower hamlets
- 52 Roman Roads Festival Survey
- 53 Roman Roads Festival Survey
- 54 Roman Roads Festival Survey
- 55 Journal and various email Roman Roads Trust and Tower Hamlets
- 56 All maphub images can be found at:
- [Tracking delivery of Southwarks Permanent Cycling Network by LCCsouthwark · MapHub](#)
 - [Southwark Streetspace by LCCsouthwark · MapHub](#)
 - [Vision for southwark by LCCsouthwark · MapHub](#)
- 57 PAR Reflection Survey ID 2 question 7.
- 58 PAR Reflection Survey ID 13 question 5
- 59 Email launching Better Streets of Southwark
- 60 PAR Reflection Survey ID 7 question 20.
- 61 Facebook example of Better Streets support. [London Cycling Campaign | Facebook](#) .
- 62 Links to all current Better Streets and Healthy Streets affiliate groups:
- Better Streets for Enfield
- Better Streets for Tower Hamlets
- Healthy Streets for Harrow
- Kensington and Chelsea Borough Healthy Streets
- Westminster Healthy Streets
- Better Streets for Southwark
- Better Streets NZ
- Better Streets for Moseley
- Better Streets4KC
- Better Ealing Streets
- Walworth Healthy Streets
- Better Streets Greenwich
- Share Better Streets Croydon and Bromley
- Better Streets Waltham Forest
- Better Streets for Birmingham
- Better Streets Newbridge
- Better Streets for Grove Park
- Better Streets for Barnet - [BetterStreetsforBarnet \(@BetterSt4Barnet\) / Twitter](#)
- [Better Streets for Havering](#)
- [Better Streets for Barnet](#)
- [Walworth Healthy Streets](#)
- [Better Streets for Newham](#)
- Better [Streets for Kensington and Chelsea](#)
- [Brockley Better Streets](#)
- [Better Streets for Southwark](#)
- [Better Streets for Grove Park](#)
- 63 Journal and email with Mums4Lungs various.
- 64 PAR Reflection Survey ID 3 question 6
- 65 PAR Reflection Survey question 16
- 66 PAR Reflection Survey ID 4 question 16.
- 67 Event ID – Enfield Reflection Workshop
- 68 PAR Reflection Survey ID 3 question 6.
- 69 Tower Hamlets Wheelers email communication with Council April 2019.

⁷⁰ [Tower Hamlets: Children stop play space from being dismantled - BBC News](#); [Pro-motorist mayor 'ripped out LTN enforcement camera after six people complained' | Evening Standard](#); [London 'school street' at centre of dispute dismantled by council | London | The Guardian](#) available at: https://www.theguardian.com/uk-news/2022/dec/01/london-school-street-tower-hamlets-dismantled-council-parents-traffic-primary?utm_term=Autofeed&CMP=tw_t_gu&utm_medium&utm_source=Twitter#Echobox=1669906343

⁷¹ PAR Reflection Survey and various emails

Invite from Tower Hamlets Council on workshop

⁷² Meeting on 13th November 2019; Emails Nov 2019; and others.

⁷³ Attendance at Southwark Cyclists meeting. Journal observation.

⁷⁴ PAR Reflection Survey

⁷⁵ This table requires substantial edit or changes. Not sure how to visualise these just yet.

Appendix A Research participation agreements

London Cycling Campaign & Megan Sharkey Research Participation Agreement

Title of Study: Grassroots movements overcoming institutional barriers to create sustainable urban infrastructure.

Researcher: Megan Sharkey

Research Supervisor: Dr. Michael Neuman

Research period: March 2018 to March 2020

Participants: London Cycling Campaign (LCC) and its associated local cycling groups.

Areas of research:

- Working with LCC to identify barriers to the creating infrastructure changes in London
- Working with LCC local groups to identify barriers to creating infrastructure changes; identifying (or creating) tipping points for quicker transition; and role of life cycle analysis (or other modelling) is used by local government to make decisions.
- Identifying capacities and skills of the community movements in relation to barriers.

General agreement:

- No financial contributions to either party are to be made as part of this research agreement.
- Information and researcher provided by local cycling groups will only be provided to LCC with the consent of the local group.
- The CEO and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, staff, and other material relevant to research with activists, government and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
 - Liaise with associated local groups on the research project as required.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not assess the performance of staff, or make assessments of any other HR-related matters; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory or reputational risk, then these shall be reported to the Chair and CEO

Deliverables:

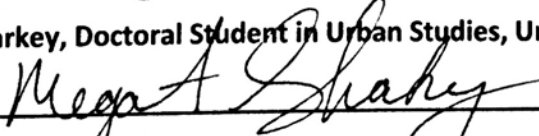
- LCC will receive a consultancy report at the end of the research detailing findings, recommendations and conclusions. LCC will have full publication rights of the report provided.
- Any templates, workshops, modelling, or engagement material developed by the researcher will be providing to the participants during and after study.
- All or part of the content discovered during this project may be used by the researcher in:
 - In the doctoral thesis, in academic papers, policy papers or news articles, on our/my website and in other media that we may produce such as spoken presentations, on other feedback events, and in ethos.

Dr Ashok Sinha, Chief Executive, London Cycling Campaign

Signature: 

Date: 28/3/18

Megan Sharkey, Doctoral Student in Urban Studies, University of Westminster

Signature: 

Date: 28/3/18

Megan Sharkey (BSc, MSusD, MPlan) | m.sharkey@my.westminster.ac.uk | 07585868253 | Room M614, 35 Marylebone Road, London NW1 5LS

London Cycling Campaign | info@lcc.org.uk | 020 7234 9310 | Unit 201, Metropolitan Wharf, 70 Wapping Wall, London, E1W 3SS

Title of Study: Grassroots movements overcoming institutional barriers to create sustainable urban infrastructure.

Researcher: Megan Sharkey

Research Supervisor: Dr. Michael Neuman

Research period: October 2018 to March 2020

Participants: Enfield Cycling Campaign (ECC - the Enfield branch of London Cycling Campaign)

Areas of research:

- Working with Enfield Cycling Campaign to identify barriers to creating infrastructure changes
- Identifying (or creating) tipping points for quicker transition; role of life cycle analysis (or other budget modelling) is used by local government to make decisions; and identifying capacities and skills of the community movements in relation to barriers.
- The goal of Enfield Cycling Campaign includes: delivering a low-traffic neighbourhood in the Fox Lane N13 area, as a possible test case for LTNs in other areas

General agreement:

- No financial contributions to either party are to be made as part of this research agreement.
- Information and research provided to/by ECC will only be provided to London Cycling Campaign (LCC) with the consent of the ECC committee.
- The committee and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, volunteers, and other material relevant to research with activists, government and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
 - The level of confidentiality or anonymisation (if any) which needs to be applied to any material gained by Megan through accesses provided by ECC.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not have any form of involvement in the arbitration of any kind of disciplinary matter or dispute which may arise relating to LCC members and supporters who are active in ECC; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory or reputational risk, then these shall be reported to the Chair and CEO of LCC.

Deliverables:

- ECC will receive a variety of informational support during their various campaigns, may include but not limited to: local government policy, budget or infrastructure analysis, social media analysis, workshop development, or other analysis and material support.

- Any analysis documents, templates, workshops, modelling, or engagement material developed by the researcher will be provided to the participants during and after study.
- All or part of the content discovered during this project may be used by the researcher:
 - In the doctoral thesis, in academic papers, policy papers or news articles, on our/my website and in other media that we may produce such as spoken presentations, on other feedback events, and in ethos.

Hal Haines, Joint coordinator, Enfield Cycling Campaign

Signature: _____

Date: _____

11/12/18

Clare Rogers, Joint coordinator, Enfield Cycling Campaign

Signature: _____

Date: _____

1/12/18

Megan Sharkey, Doctoral Student in Urban Studies, University of Westminster

Signature: _____

Date: _____

4/12/18

Title of Study: Grassroots movements overcoming institutional barriers to create sustainable urban infrastructure.

Researcher: Megan Sharkey

Research Supervisor: Dr. Michael Neuman

Research period: August 2018 to March 2020

Participants: TOWER HAMLETS WHEELERS

Areas of research:

- Working with Tower Hamlets Wheelers to identify barriers to the creating infrastructure changes
- Identifying (or creating) tipping points for quicker transition; role of life cycle analysis (or other budget modelling) is used by local government to make decisions; and identifying capacities and skills of the community movements in relation to barriers.
- The manifesto goals of Tower Hamlets Cyclists including (1) significant new cycle routes, (2) low traffic neighbourhoods, (3) increase in bicycle parking. For more information see appendix A.

General agreement:

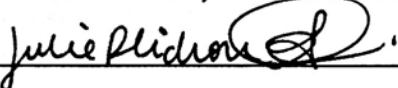
- No financial contributions to either party are to be made as part of this research agreement.
- Information and research provided to/by Tower Hamlets Wheelers will only be provided to London Cycling Campaign (LCC) with the consent of the Tower Hamlets Wheelers committee.
- The committee and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, volunteers, and other material relevant to research with activists, government and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
 - The level of confidentiality or anonymisation (if any) which needs to be applied to any material gained by Megan through accesses provided by Tower Hamlets Wheelers.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not assess the performance of LCC staff, nor make assessments of any other HR-related matters, nor have any form of involvement in the arbitration of any kind of disciplinary matter or dispute which may arise relating to LCC members and supporters who are active in Tower Hamlets Wheelers; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory or reputational risk, then these shall be reported to the Chair and CEO of LCC.

Deliverables:

- Tower Hamlets Wheelers will receive a variety of informational support during their various campaigns, may include but not limited to: local government policy, budget or infrastructure analysis, social media analysis, workshop development, or other analysis and material support.
- Any analysis documents, templates, workshops, modelling, or engagement material developed by the researcher will be provided to the participants during and after study.
- All or part of the content discovered during this project may be used by the researcher:
 - In the doctoral thesis, in academic papers, policy papers or news articles, on our/my website and in other media that we may produce such as spoken presentations, on other feedback events, and in ethos.

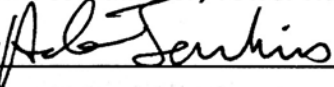
Appendix A – Tower Hamlets Cycling Manifesto 2018 to 2022

Julie Plichon, Joint coordinator, Tower Hamlets Wheelers

Signature: 

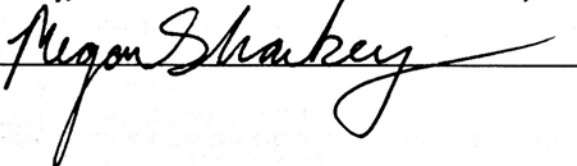
Date: 31/08/18

Alex Jenkins, Joint coordinator, Tower Hamlets Wheelers

Signature: 

Date: 31 August 2018

Megan Sharkey, Doctoral Student in Urban Studies, University of Westminster

Signature: 

Date: 31/08/18

Title of Study: Grassroots movements overcoming institutional barriers to create sustainable urban infrastructure.

Researcher: Megan Sharkey

Research Supervisor: Dr. Michael Neuman

Research period: September 2018 to March 2020

Participants: SOUTHWARK CYCLISTS

Areas of research:

- Working with Southwark Cyclists to identify barriers to the creating infrastructure changes
- Identifying (or creating) tipping points for quicker transition; role of life cycle analysis (or other budget modelling) is used by local government to make decisions; and identifying capacities and skills of the community movements in relation to barriers.
- Council engagement and the Cycling Joint Steering Group (CJSG), cycling infrastructure implementation, and improving volunteer and engagement with the cycling group.

General agreement:

- No financial contributions to either party are to be made as part of this research agreement.
- Information and research provided to/by Southwark Cyclists will only be provided to London Cycling Campaign(LCC) with the consent of the Southwark Cyclists committee.
- The committee and Megan will discuss on an individual basis and agree the following:
 - Provision and access to documents, volunteers, and other material relevant to research with activists, government and infrastructure.
 - Participate in interviews, workshops, questionnaires, workshops, focus groups or other validation groups, email correspondence, or observations of engagement with other campaign members, local groups, or government.
- Recognising that Megan is currently a trustee of LCC, and irrespective of whether she leaves the Board during this research, Megan will not assess the performance of staff, or make assessments of any other HR-related matters; nor have any form of involvement in the arbitration of any kind of disciplinary matter or dispute which may arise relating to LCC members and supporters who are active in Southwark Cyclists; notwithstanding that if Megan identifies matters that put the charity at serious legal, regulatory or reputational risk, then these shall be reported to the Chair and CEO of LCC.

Deliverables:

- Southwark cyclists will receive a variety of informational support during their various campaigns, may include but not limited to: local government policy, budget or infrastructure analysis, social media analysis, workshop development, or other analysis and material support.
- Any analysis documents, templates, workshops, modelling, or engagement material developed by the researcher will be provided to the participants during and after study.

- All or part of the content discovered during this project may be used by the researcher:
 - In the doctoral thesis, in academic papers, policy papers or news articles, on our/my website and in other media that we may produce such as spoken presentations, on other feedback events, and in ethos.

Andy Cawdell, Coordinator, Southwark Cyclists

Signature: _____

Date: _____

Sally Eva, Secretary, Southwark Cyclists

Signature: _____

Date: _____

Megan Sharkey, Doctoral Student in Urban Studies, University of Westminster

Signature: _____

Date: _____

Original signed version lost in move. Email confirmation.

Appendix B Example workshop

B.1 Workshop 1 example

B.2 Stakeholder engagement how to guide

Appendix B.1 Workshop 1 example

Strategy workshop template

Goals of this template:

1. Build a coalition and navigating stakeholders
2. Turning Manifesto into a Strategy/vision/principles
3. Action Plan & call to actions/new volunteers

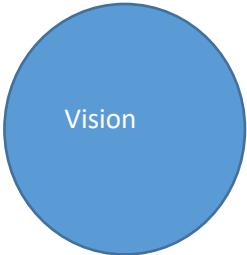
Time: 2 hours. To reduce the length, remove one of the goals and its corresponding activity.

Notes:

This template includes homework that allows the workshop to materialise faster. T

Time	Activity	Handouts/Materials
15 minutes	Chair – pre-workshop discussion or set up	
15 minutes	Welcome & Any ground rules Introduction Ice breaker	
30 minutes	Visioning and Principles	
10 minutes	Mapping Stakeholders - <i>HOMEWORK</i>	
	Empathy Mapping/Circle of Influence - <i>HOMEWORK</i>	
30 minutes	Actions, Tools & Pool your Ideas	
05 minutes	Timeline & Action Plan	
5 minutes	Closing	
2 hr 20 minutes		

Online Facilitation of Workshops

Plan your Actions – Phase 1	13:15 – 13:45
<p>Describe activity</p> <ul style="list-style-type: none"> ▪ Create the Context: Commit to making a concrete Action Plan for your project. Discuss what has already been decided about the project <ul style="list-style-type: none"> ○ (who, what, why, when, how etc). ▪ Decide the Victory: Visualise the future and the ideal completion of the project. What would be wonderful if it could happen as part of it? What do you see, hear, feel? Write responses onto a flipchart inside a big circle. ▪ Reality Check and Commitment: List the current strengths and weaknesses, and future benefits and dangers of the Victory. Make notes on the flip chart in four quadrants. At the end, read the quadrants and the Victory aloud and ask what are we committed to bringing about? ▪ Write 3 - 5 brief statements of intent or outcome inside a circle on another flipchart. Does it need altering at all? Write a statement that summarises the group's commitment to achieve the final Victory. ▪ 	1 minute introduction
<ul style="list-style-type: none"> ▪ 1 – board with WHO, WHAT, WHY, WHEN, HOW ▪ 2 - ▪ Post it notes ▪ Poster Board 	<i>Supplies</i>
<p>Key areas: <i>different to image.</i></p> <ul style="list-style-type: none"> ▪ Where is the council on actions ▪ Stuff we already have notes for 	5 minutes <i>together</i>
<p>Things that are missing</p> <ul style="list-style-type: none"> ▪ 	5 minutes <i>together</i>
<p>Notes:</p>	3 minutes
<div style="display: flex; align-items: center; justify-content: center;"> <div style="display: flex; flex-direction: column; gap: 5px;"> <p>WHO</p> <p>WHAT</p> <p>WHEN</p> <p>WHY</p> <p>HOW</p> <p>VISION</p> </div> <div style="margin: 0 20px;">  </div> </div>	

ACTIVITY: DRAW A POWER MAP

Work in a group to identify the primary target(s) for your campaign. These should be the key decision-makers – the people or organisations with the power to make the changes you're campaigning for.

During the online meeting, you can add them to a text box or a live google form. List all of them.

Next, brainstorm all the people or organisations who might have influence over your primary target(s). Try to think not only about who could have a positive influence, but also who could have a negative influence as well. They will also be stakeholders and potential targets during the campaign. Write down the names of all these people/ organisations in the text or live google form as well.

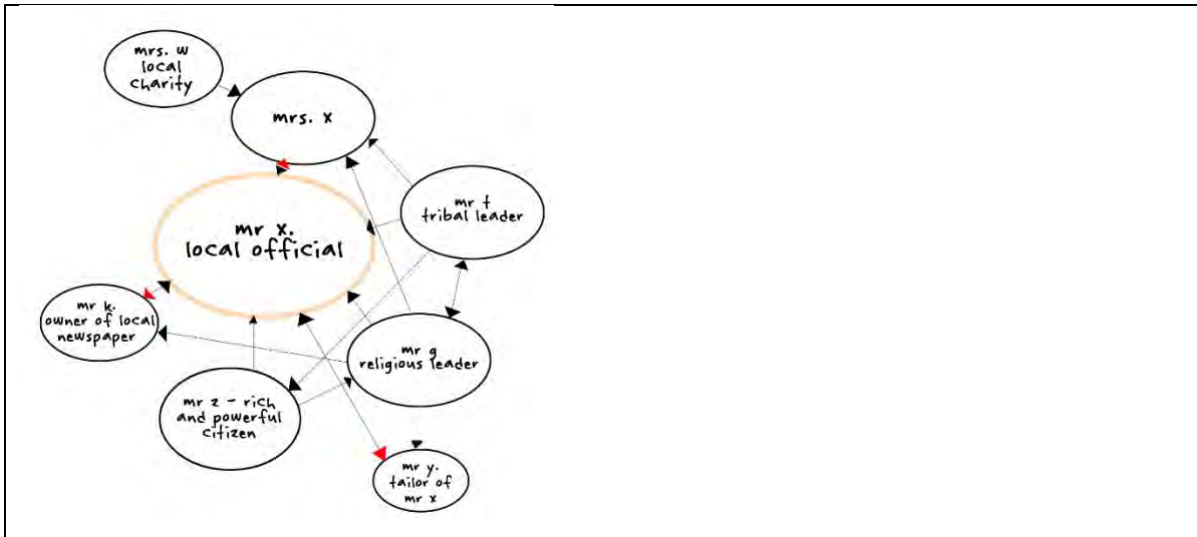
Now, start connecting these indicating who has power or influence over who. You can add an extra column in excel. Try to think about all the different relationships that exist among the stakeholders – there's no limit on the number of connections you can make. The result should be a loose web, with your primary target(s) at the centre. The more arrows a person/ group has, and the closer they are to your primary target, the more influential they're likely to be.

Campaigning handbook

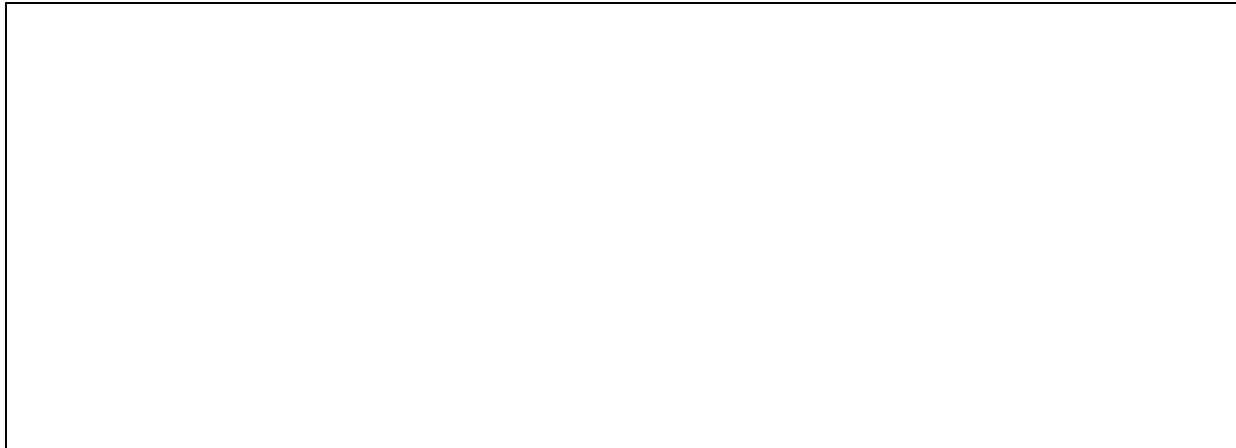
15

Online Mind Map tools include:

Mapping Stakeholders & Power Mapping	14:40 – 15:15
<p>Describe activity</p> <ul style="list-style-type: none"> ▪ we will be mapping all stakeholders who are involved in cycling and who could be an army of supporters. ▪ Thinking about strategically we are going to start with our councillors and local groups in Fox Lane area ▪ First we will list as many as we can on post-it notes. ▪ Then we will place them on ▪ Or I could have them do it on sheets of paper in the groups then put them up on the wall while we draw connections about influence. ▪ Big Marker/Circles for the main groups ▪ Smaller marker/pens/pencils for the names of the groups 	2 minute introduction
<ul style="list-style-type: none"> ▪ Post it notes for the whole group ▪ Sheets of paper and markers 	<i>Supplies</i>
<p>Assignments (can split them up)</p> <p>Group 1:</p> <ul style="list-style-type: none"> - List all businesses - Local bike shops <p>Group 2:</p> <ul style="list-style-type: none"> - List all schools, churches, parks, <p>Group 3:</p> <ul style="list-style-type: none"> - Ward councillors – faces in groups with Fox Lane being the biggest key group post - Key groups of ward councillors <p>Group 4</p> <ul style="list-style-type: none"> • Other cycling groups or clubs • Sports clubs, youth clubs, Brownies, Girl Guides, Scouts, and other similar groups • Local schools • Neighbourhood and community groups • Local businesses • Journalists and newspapers • Other activist groups – Living Streets, Friends of the Earth, etc. • Local political party groups • Faith-based groups <ul style="list-style-type: none"> ○ • Local celebrities* 	<p>15 minutes</p> <p><i>Others have post it notes in groups</i></p> <p><i>One person computer</i></p>
<p>Together:</p> <ul style="list-style-type: none"> ▪ In smaller marker - list who they are ▪ In red pen/red small marker list who influences them. ▪ Where are strongest connections. Make this a bigger marker 	15 minutes
<p>Notes:</p> <ul style="list-style-type: none"> ▪ What about celebrities? ▪ Sports people? News people? Media? 	



Empathy Map	15:15 – 15:30
<p>Describe activity</p> <ul style="list-style-type: none"> ▪ We are going to do an empathy map ▪ Here I want you step outside of your comfort zone and put yourself in other shoes ▪ This will help us think about how we win those people over 	1 minute introduction
<p>Assignments – Each pick a group to do</p> <ul style="list-style-type: none"> ▪ Group 1: <ul style="list-style-type: none"> ○ Businesses ▪ Group 2: <ul style="list-style-type: none"> ○ Residents and car drivers ▪ Group 3: <ul style="list-style-type: none"> ○ ?? – based on the borough stats ▪ Group 4: <ul style="list-style-type: none"> ○ ?? – based on the borough stats ▪ Group 5: <ul style="list-style-type: none"> ○ ?? – Suggestion 	<i>Share online after completing</i>
Discuss at next meeting	5 minutes
<p>Notes: Use the empathy map.</p>	



Circle of Influence/Who we know	14:30 - 14:40
<p>Describe activity</p> <ul style="list-style-type: none"> ▪ We will list everyone we know and areas they could support. ▪ show them on white board what they are suppose to do quickly ▪ have them start while you are talking ▪ goal is to NOT overthink. They must do this as quickly as possible and as many people as possible. <p>5 - at the end we hold them up, and will come back to them later. We will put them up somewhere for others to see</p> <ul style="list-style-type: none"> ▪ 	<p>1 minute introduction</p> <p>9 minutes to work</p>
<p>What to give them:</p> <ul style="list-style-type: none"> ▪ Sheet of paper ▪ markers 	<p><i>Supplies</i></p>
<p><i>Hold them up at the end and show how many connections and people we currently know who are potential allies.</i></p>	<p>1 minute feedback</p>
<p>Notes:</p> <p>We often worry about burdening our families and asking them to campaign. Yet liveable streets is about them. You talk about purchases shopping, even what cars to buy, home décor, but someone talking about a campaigning and politics is a no no? This is because people are afraid to lose people. Therefore, when you ask something we are asking to build a better future but at a small issue. Or asking for a connection to others that they know.</p>	

Relationship Mapping



Created by Michael Stone

March 2012

Actions & POOL YOUR IDEAS	14:20 – 15:15
Describe activity <ul style="list-style-type: none"> ▪ Trying to come up with actions ▪ Spend 5 minutes brainstorming all actions you can think of to make these connections ▪ Put sticky notes off to the side ▪ Put them all on a wall ▪ Pool your ideas – page 33 	1 minute introduction 5 minutes activity
<ul style="list-style-type: none"> ▪ Post it notes ▪ Poster Board 	<i>Supplies</i>
Discussion of ideas <ul style="list-style-type: none"> ▪ Think about in relation to stakeholders and ripples ▪ \$\$\$ and time to it ▪ Skills/resources we have 	10 minutes <i>together</i>
Voting on ideas <ul style="list-style-type: none"> ▪ Which are our favourites ▪ Use tick marks 	2 minutes

The Impact Matrix

High

↑

Impact

↓

Low

Plan	Immediate
- Need to study - Typically worth doing	- Typically the best move - Do ASAP
Drop	Consider
- Don't waste your time	- May be worth doing

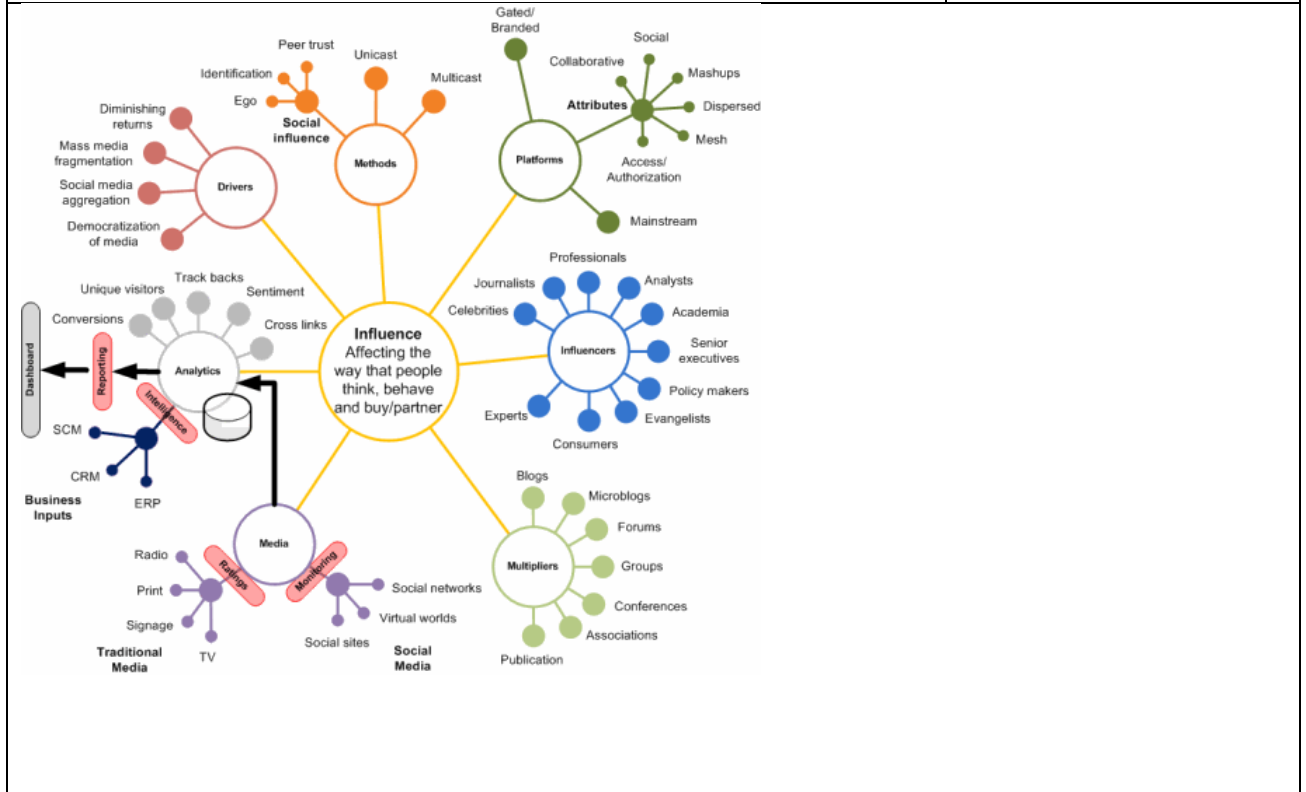
← Low

← Ease of Implementation → High

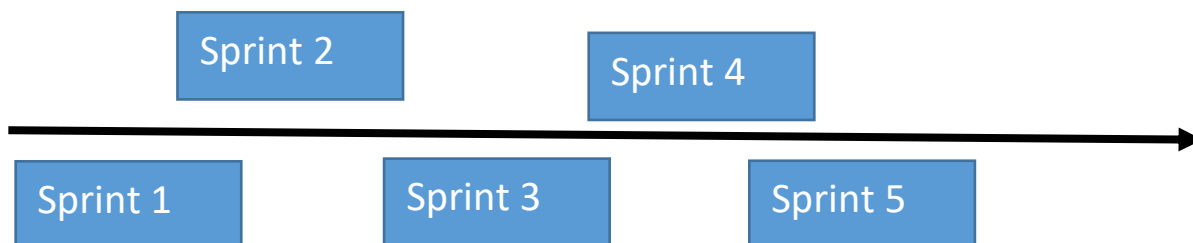
Impact / Effort / Resources

	Easy / Cheap	Difficult / Expensive
Minimal Improvement or Benefit	1	4
Significant Improvement or Benefit	2	3

Tools and ripples	15:00 – 15:15
Describe activity <ul style="list-style-type: none"> ▪ We are going to do build our own influencers maps and tools we have at our disposal ▪ Show them the image below – draw on whiteboard 	1 minute introduction
<ul style="list-style-type: none"> ▪ White board ▪ Poster Board 	<i>Supplies</i>
Key areas: <i>different to image.</i> List ALL things <ul style="list-style-type: none"> ▪ Key influencers – think earlier stakeholder maps ○ Who are our key influencers in the fox lane area? In Enfield in general? ▪ Platforms ○ Media, social media (types of social media), blogs, websites, newsletters ▪ Multipliers – see below ▪ Skills/Resources ○ What skills are needed? Graphics, writing, etc... ○ What tools do we have at our disposal? ▪ Activities - surveys, close the streets, fun days, etc... ▪ Key Dates/Events – council meetings, consultations, ▪ Analytics/Data ▪ Risks 	10 minutes <i>1 person to help me write on the board together</i>
<i>They need to circle things that they already have available to them.</i> Use a strong colour	5 minutes
Notes:	



Timeline and Plan your actions part 2		16:15 – 16:50
Describe activity	<ul style="list-style-type: none"> ▪ Draw a timeline on the white board or poster board ▪ Take sticky notes from the grouping of actions that are easiest. ▪ Use post it notes to fill in timeline ▪ Add post it notes of <ul style="list-style-type: none"> ○ Name of person leading ○ Support persons ○ Time expected ○ Money expected 	1 minute introduction
<ul style="list-style-type: none"> ▪ Post it notes ▪ Poster Board 		<i>Supplies</i>
Key areas: <i>different to image.</i>	<ul style="list-style-type: none"> ▪ 6 months ▪ Chain of actions what to start with ▪ Where is the council on actions ▪ Stuff we already have notes for 	5 minutes <i>together</i>
Things that are missing	<ul style="list-style-type: none"> ▪ Key dates ▪ Next consultation 	5 minutes <i>together</i>
Notes:	<ul style="list-style-type: none"> ▪ Part of our homework 	3 minutes



Closing	15:50 – 16:00
<p>Describe activity</p> <ul style="list-style-type: none"> ▪ Step 1 ○ Reflecting on the day ○ List 1 thing that you learned. ○ List 1 think y ○ Share what you learned ▪ Step 2 ○ Did you think we achieved the workshop goal? And your own goal? ▪ Step 3 ○ How do you feel about achieving your goals for LTN and Enfield? ▪ Step 4: ○ Anything else? ○ Thank them for their time and congratulate them on an intense session 	<p>2 minutes writing down their reflections</p>
<ul style="list-style-type: none"> ▪ Post it notes ▪ Poster Board 	<p><i>Supplies</i></p>

Appendix B.2 Stakeholder engagement how to guide

Stakeholder Mapping

Stakeholder Mapping is a graphical illustration of how your stakeholders feel towards your change project or program. It helps you to identify who you need to influence and what action you need to take.

It's probably one of the most powerful change management activities on Workshop Bank and a must-do activity for any project manager.

An example of a completed Stakeholder Map

Stakeholder Mapping Objectives

- To identify the scale and scope of issues and problem areas in any change process.

When Would You Use It?

- Early in your project. Identify the key stakeholder groups early and map their dispositions at the outset.
- Revisit in later stages as you evaluate efforts to improve positive attitudes and engage stakeholders.

Are there any rules?

- Never print or leave your map lying about – there are legal ramifications for maintaining information about individuals.
- Also, be aware that the data in your stakeholder map represents your perceptions about other people – and they may not necessarily agree with you! So it is wise to keep this sensitive information very confidential.

How would you define “Stakeholders”?

- Typically you can think of stakeholders as ‘Anyone who has a stake in the change initiative’ although this can be a bit broad.
- A more workable definition might be: ‘Anyone who can make, or break, your change project’.
- This group of more specific stakeholders can be segmented into four major groups – Sponsors, Change Teams, Reference Groups and Users.

What are the different types of “Stakeholders”?

1. Borough councils

Sponsors (or project owners) are often those who initiate change by mobilizing the resources needed and charging people with the responsibility for getting it done. Sponsors own the requirement for change – and if the requirement changes they must direct the change project accordingly.

2. Change Teams are those charged with the responsibility for executing the change and ensuring it happens. The change team is responsible for coming up with the solution to the change requirement.

3. Reference Groups include those people that change teams must refer to in order to arrive at the right solution. They ensure that the change will work.
4. Users are a broad group of people who benefit from the change solution. (Note: The Reference Group and some of the Change Team may also be classed as Users. This is often a good idea).

The types of stakeholders you might have

Process

1. Draw the stakeholder map with two axes:

- The X axis represents the spectrum of dispositions toward your change project; from Against at one extreme – to For at the other.
- The Y axis represents the spectrum of involvement from high at the top to none at the bottom.

The Stakeholder Map axes

Note: the Y axis intercepts at the mid-point of the X axis. This represents a position on the X axis equivalent to a neutral disposition – neither for, nor against, the change (see next slide).

2. The group discusses each stakeholder in turn determining their location on the map by rating their relative disposition towards your project and the degree to which they are actively involved in it (use the Example Dispositions slide to help you decide where each should sit).

Note: Two stakeholders may both be actively involved, but have quite opposing dispositions towards your project: one actively undermining it while the other is actively promoting it.

3. This worked example illustrates some typical stakeholder disposition towards a school change initiative. Ideally you would want everyone to be at the top right-hand corner – actively involved and championing your project! But this example shows a broad landscape of diverging dispositions that is more typical.

Note that in addition to the disposition of each stakeholder we have added one further dimension: the degree to which each stakeholder can influence the change is reflected in the size of the circle used to denote that stakeholder. This dimension reflects one aspect of the underlying political situation.

4. The last step in the mapping exercise is to add a final dimension: this is the relationships that exist between stakeholders.

5. Draw lines that connect two stakeholders in your map where a relationship currently exists. The thickness of the line can indicate your rating of the relative strength of that relationship – the closer the relationship, the thicker the line. This represents another aspect of the underlying political situation and is helpful to know.

6. In the effort to shift dispositions to a more favorable situation you might want to exploit the relationship that exists, say, between a strong supporter of your project and someone else who remains skeptical or even cynical.

Secret Sauce

- It is wise to know how each of the broad groups of stakeholders is disposed towards your change project, e.g. are they actively supportive, or unsure, skeptical or even against the change? Stakeholder mapping illustrates these dispositions – so that you can determine what action you need to take in order to shift unfavorable dispositions more positively.
- The size of the circle is important dimension to the success of change. You want the most influential stakeholders on the right of your map and migrating to the top so if they're not you need to work out a way to get them there.
- Note that relationship can be negative as well as positive. The assumption can be that all relationships are positive ones. If you think it is relevant, you might want to illustrate a negative relationship by a broken line.
- Be careful, because stakeholder maps can contain the identities of individuals. There are legal ramifications for maintaining information about individuals.

- C.1 Enfield parklet survey
- C.2 Tower Hamlets demonstration day survey
- C.3 Enfield parklet survey results
- C.4 Tower Hamlets demonstration day survey results

Appendix C.1 Enfield parklet survey

How can we make better streets?

This survey will be used to understand the communities perspective on “how we can make better streets” for Enfield. It will also help inform the Better Streets for Enfield group.

Q1. Are you a resident of Enfield?

- Yes
- No

Q2. How did you arrive to the event?

- Walk
- Bus
- Taxi/Uber/other
- Cycle
- Train
- Private Vehicle

Q3. What in your opinion are the top three things that would make better streets in Enfield?

- More greenery (trees, vegetation)
- More public seating or outdoor dining
- Wider footpath
- Better street lighting
- low traffic neighbourhoods
- Remove overhead power lines
- Slower traffic (say 20mph per hour)
- Review bus stop location/ designs
- Safe Pedestrian crossings
- Stop rat runs through residential streets
- More cycle parking
- Remove car parking spaces
- More cycle paths
- No loss of car parking spaces
- Reduced traffic congestion
- air pollution reduction
- More markets

Q4. What does a low-traffic neighbourhood mean to you?

Q5. Do you support low-traffic neighbourhoods?

- Yes
- No

Q6. What is your age?

- 16 – 18
- 35 – 44
- 65 – 74
- 18 – 24
- 45 – 54
- 75 – older
- 25 – 34
- 55 – 64
- Under 16 *Sorry, but you are unable to participate without your parents written permission.

Q6. Any other comments?

If you want to hear more about the better streets campaign please provide your email. By providing your email and ticking opt in you are confirming that you want to receive emails from Better Streets for Enfield. Emails are stored via MailChimp with GDPR compliance. We won't share your details with any third parties and you can unsubscribe at any time.

Email: _____

Tick here to opt in

This survey will be used to understand the communities perspective on “how we can make better streets” for Tower Hamlets. It will also help inform the Better Streets campaign being run by Tower Hamlets Wheelers.

Q1. What is your age?

- 16 – 18 35 – 44 65 – 74
 18 – 24 45 – 54 75 – older
 25 – 34 55 – 64
 Under 16 *Sorry, but you are unable to participate without your parents written permission.

Q2. Are you a resident of Tower Hamlets?

- Yes
 No

Q3. How did you arrive to the event?

- Walk Bus Taxi/Uber/other
 Cycle Train Private Vehicle

Q4. What in your opinion are the top three things that would make better streets in Tower Hamlets?

- | | |
|--|--|
| <input type="checkbox"/> More greenery (trees, vegetation) | <input type="checkbox"/> More public seating or outdoor dining |
| <input type="checkbox"/> Wider footpath | <input type="checkbox"/> Better street lighting |
| <input type="checkbox"/> low traffic neighbourhoods | <input type="checkbox"/> Remove overhead power lines |
| <input type="checkbox"/> Slower traffic (say 20mph per hour) | <input type="checkbox"/> Review bus stop location/ designs |
| <input type="checkbox"/> Safe Pedestrian crossings | <input type="checkbox"/> Stop rat runs through residential streets |
| <input type="checkbox"/> More cycle parking | <input type="checkbox"/> Remove car parking spaces |
| <input type="checkbox"/> More cycle paths | <input type="checkbox"/> No loss of car parking spaces |
| <input type="checkbox"/> Reduced traffic congestion | <input type="checkbox"/> air pollution reduction |
| <input type="checkbox"/> More markets | |

Q5. Would you support a trial of these things (Q4) to test solutions and implementation of better streets (for example, trailing the closure of streets to non-residential through traffic, temporary cycle lanes, or removal of parking bays?)

- Yes
 No

Q6. Have you heard of Better Streets campaign?

- Yes
 No

Q7. Any other comments?

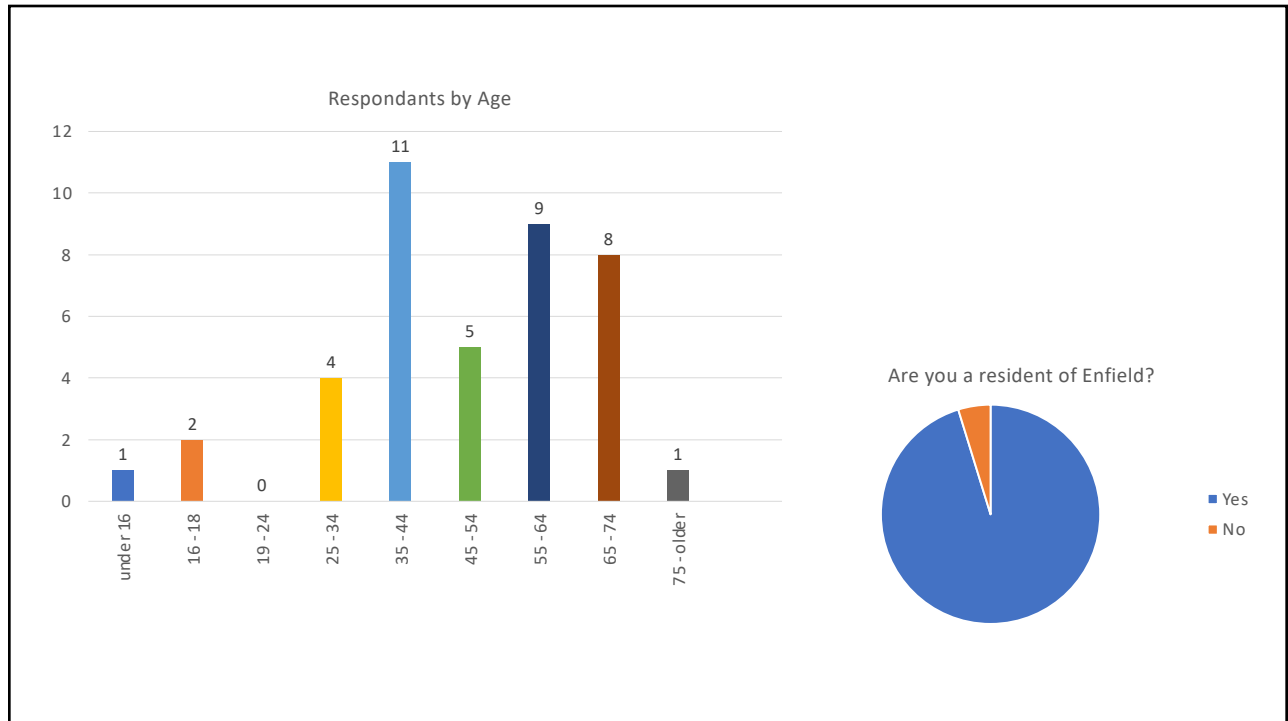
If you want to hear more about the better streets campaign please provide your email. By providing your email and ticking the opt in box you are confirming that you want to receive emails regarding the Better Streets Campaign from Tower Hamlets Wheelers. We won't share your details with any third parties and you can unsubscribe at any time.

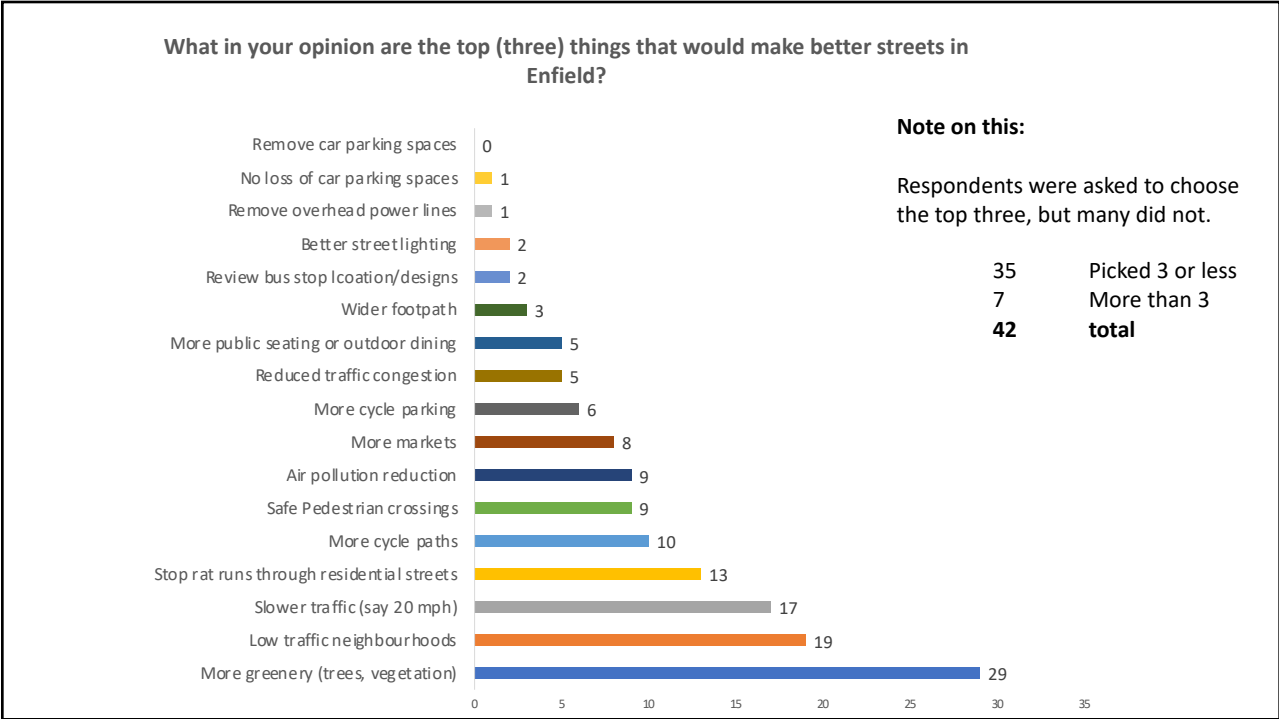
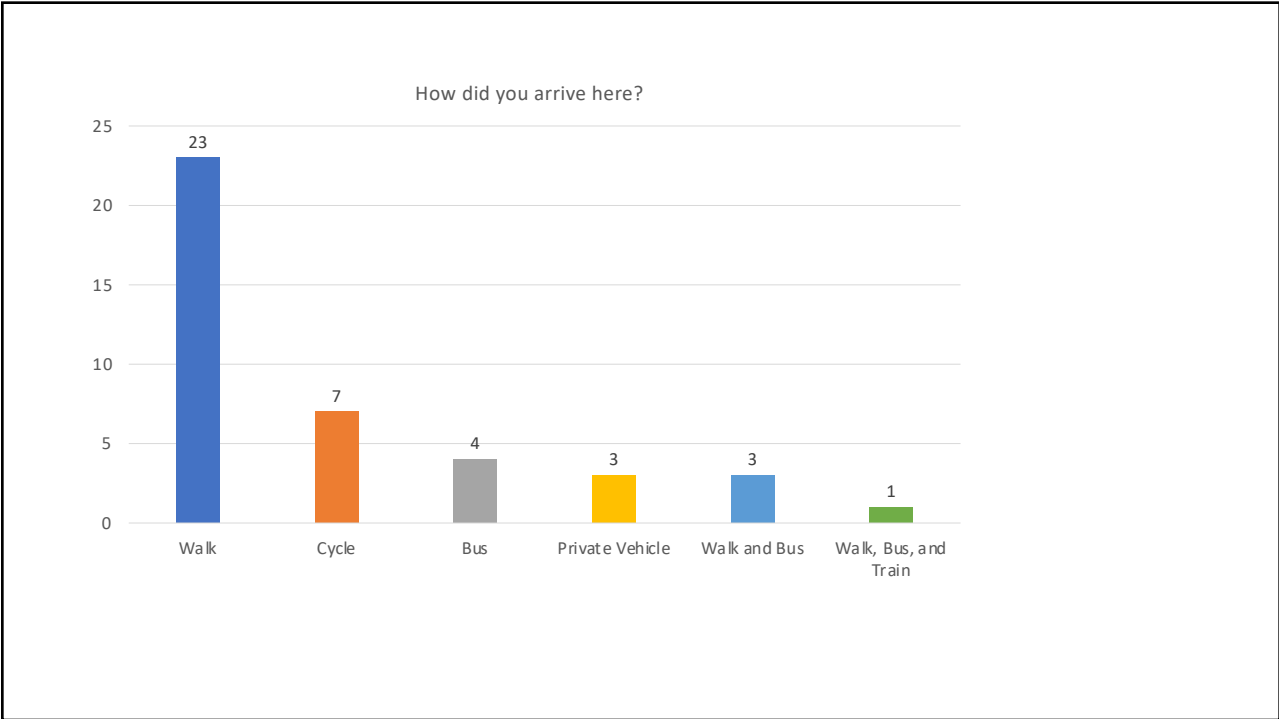
Email: _____

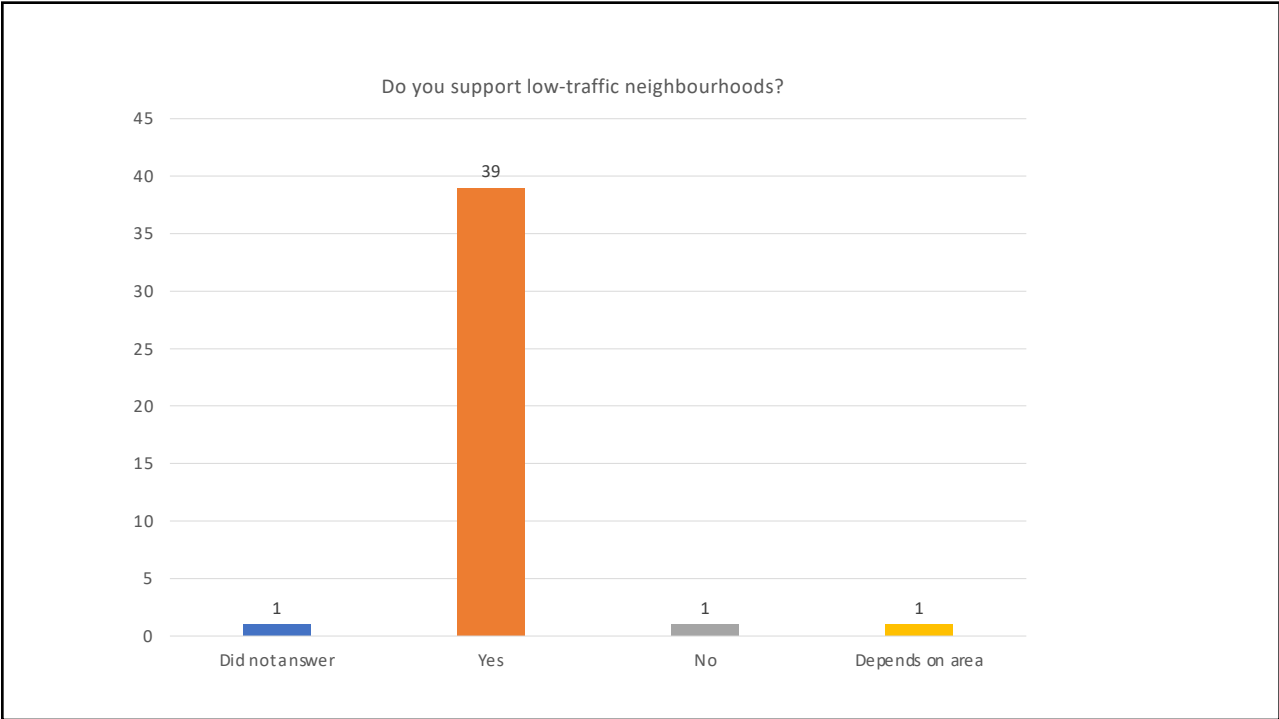
Tick here to opt in

Demonstration Event Pop Up Parklet Enfield

15th September 2019







What do low-traffic neighbourhood mean to you?	
Less traffic rat running through residential streets	safer streets for my kids
Living in a healthier environment will improve my quality of life including socialising with neighbours	Cars travelling max 20mph: at present cars drive 40 - 60 mph on residential roads
Only residents driving through/to residential areas fewer cars/slower speeds better environment for pedestrians	Probably make my journey to work harder
Peace and tranquility!! I live in Broomfield avenue and remember when it was a rat-run	Residents can wander safely in their own streets children ride bikes ?
peace and quiet/safe for walking / safe for cycling safer, less polluted areas	calmness
safer for all people and car users to consider walkers, cyclists old/young/disabled	no cars allowed in certain areas. Low emissions zones so hopefully less cars less polluting safety so lads can play outdoors
The ability to walk and cycle around with my young child (4 yo) without fear of being mowed down/ be affected by pollution	aermetically pleasing - trees and plants - clear some roads
No through traffic	Connectivity, opportunity to talk and linger, safer, healthier, human-scale and human-speed, my children can just play
not having to stand still in any streets	Less through rat run traffic
most streets don't have traffic	Where people feel safe walking around
Cleaner air and safer streets for children	Peace, harmony, friendly environment, safety for our children, better air, better community, reclaiming our streets, better air quality
Clarity of who goes where. i.e. side streets for residents/guests cars only.	Less pollution, fewer vehicles
Encourage public transport, cycles, walking	Less rat-running and save car free days an same routes for example Alderman hill?
Priority for walking and cycling - space/conclusions for social contact and kids play	calm, people centred streets
no racing cars roaring past the house at night, safes travel for my kids	More bike shelters to encourage cycling. Encouraging people to leave the ca at home and walk., cycle, bus. Peaceful streets
Safety for pedestrians residents, hence noise and pollution. Safer for cycling int eh area	Somewhere quiet where you can hear yourself think (without headphones) and where your feel your kids are safe
Less noise	not much traffic
Reduce air pollution and traffic congestion	Traffic is diverted around town centres

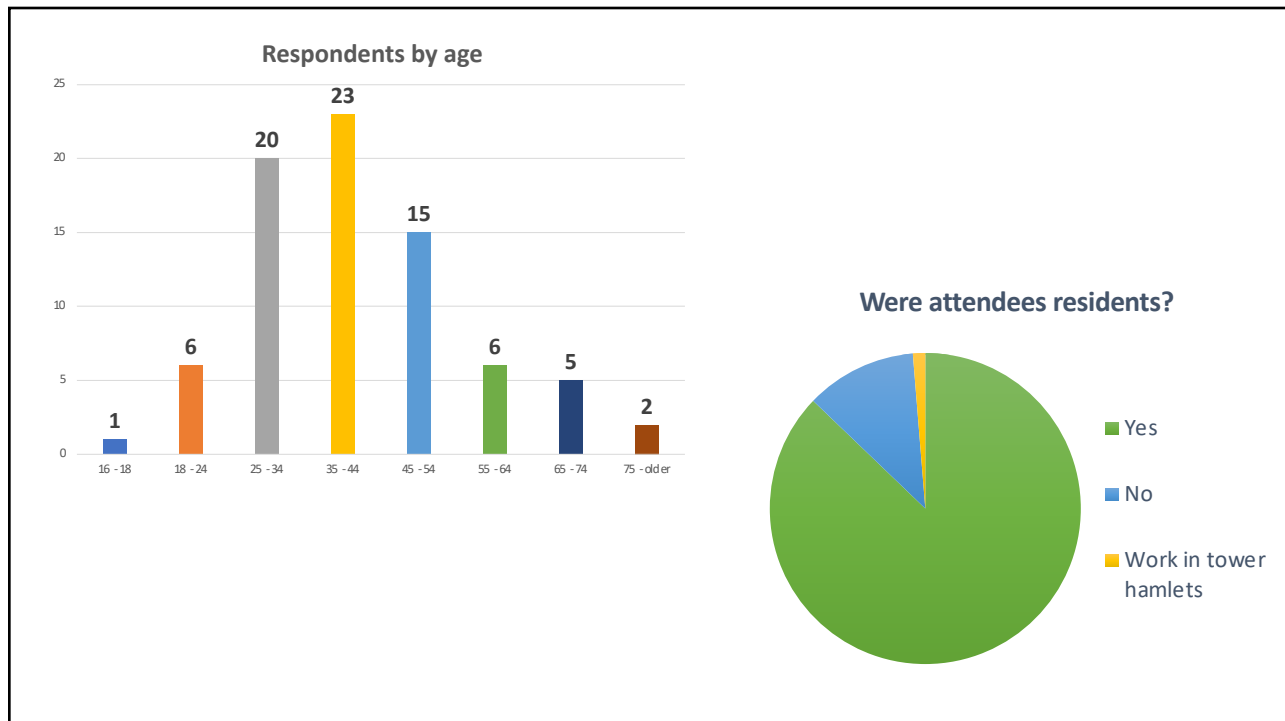


Any other comments?

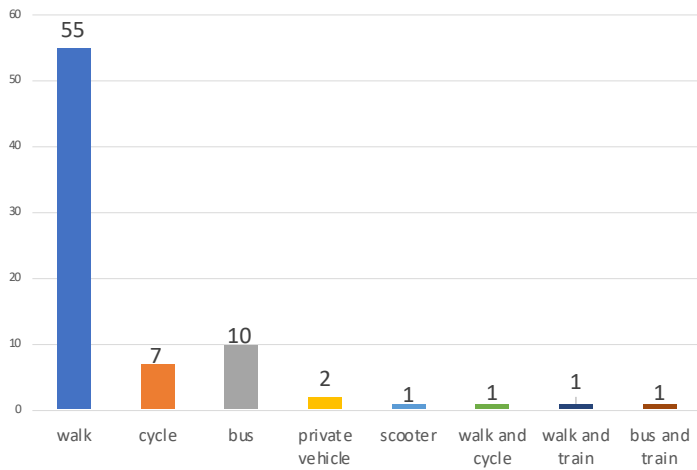
great idea
great idea can't wait to see it finished
Palmer's Green Action Team a very positive influence
Encourage people to use their cars less, improving the environment and their health by walking or cycling more
Interested in how you help a community . ??? Their own "patch" better e.g. picking up litter, considerate parking
Install street furniture such as seating, planting to encourage social contact
The cycling lanes have been a good start in 'civilising' our streets, but I'd like to see ?? Changes to prioritise safety of residents over the 'rights; of drivers
Huge supporter of the better strets leading to a stronger, coherent community (lived here for 26 years)
Hate the cycle lanes and those flower pots in the road were a complete waste of time and money and dangerous
Would like to see a return of when kids can play safely & freely outdoors without worry of serious harm or danger
more greenery and safer, low traffic neighbourhoods please
Need to encourage people out of their cars for local trips don't know how though!
water fountains and recycling bins along the high street would be good
Please just do it. And make it nice, i.e. green and inviting for pedestrians
more trees
I really think the LTN in fox lane would change peoples lives for the better
desperate for an end to traffic blighting our environment and community
Need to balance needs of pedestrians with those of car users. ? To insure cyclists
Move traffic free days please
I like your road!
Play streets etc should be spread through the borough

Demonstration Event Roman Road Festival

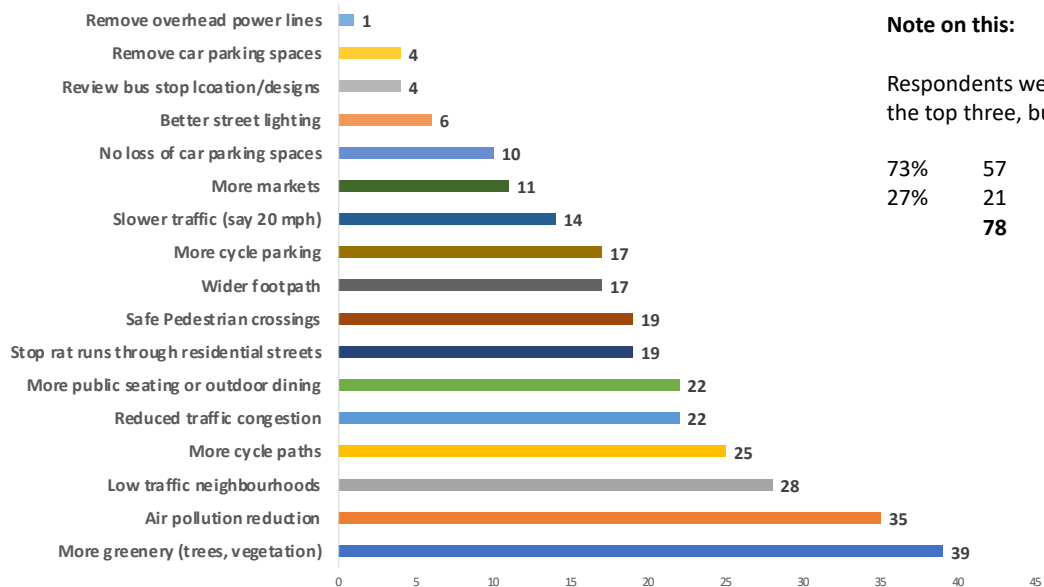
Better Streets Coalition
27th July 2019



How did you arrive to the event?



What in your opinion are the top (three) things that would make better streets in Tower Hamlets?

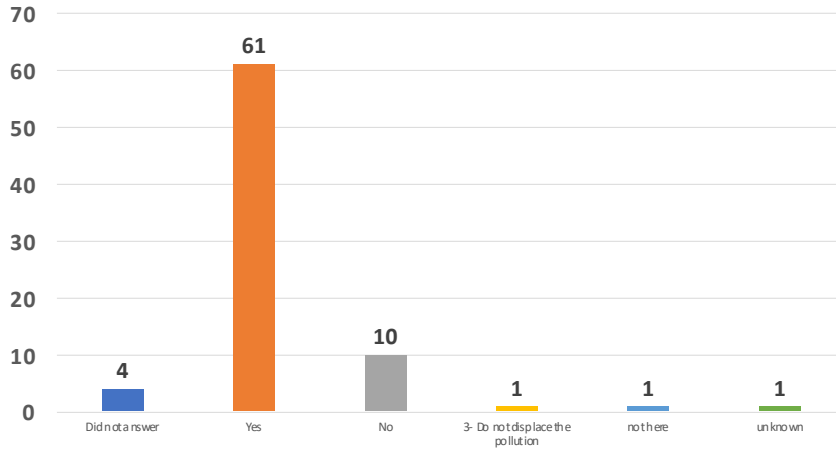


Note on this:

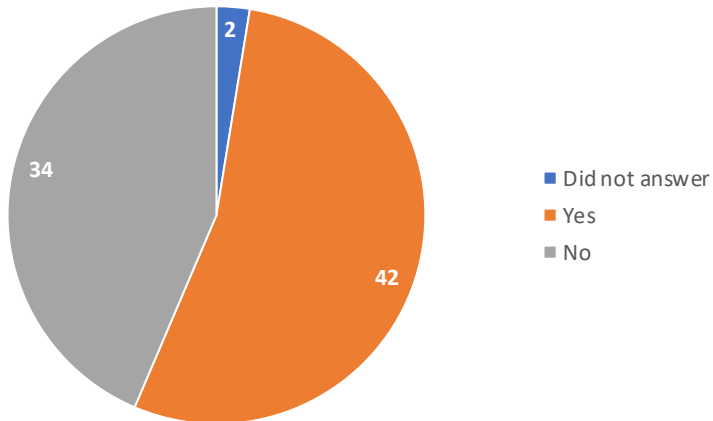
Respondents were asked to choose the top three, but many did not.

73%	57	Picked 3
27%	21	More than 3
	78	total

Would you support a trial of these things (Q4) to test solutions and implementation of better streets (for example, trailing of streets to non-residential through traffic, temporary cycle lanes, or removal of parking bays?)



Have you head of Better Streets campaign?



Comment	
No drugs	People have to be forced to adapt if we are serious about reducing pollution and burning less fossil fuels! Climate Change emergency.
Better communication with the public	Q6 - I think so
Better cycling infrastructure e.g. armadillos clear signs etc	said "no removal of parking bays"
bus good, guest house	save limehouse trend???
Concrns about bus gate in Grove Road (Vicky Park/and in??? Congestion on old ford road. Very ahh?? The bus gate	Schools to have less through traffic at drop-off/pick up times
Far too many cars.	stop cars from idling. This is big problem in mile end. Put up more signs to step drivers from idling.
Got the note about street closure trial - good luck!	The importance of multi-media communication for the community. You need to tell people 7 times before or is absorbed so communicate to the max.
great initiative. Thanks!	Thedegar toad st stephen to coburn road nightmare. Should be 1 way to stop congestion.
Hi	there needs to be more consultations from not just the rich!
I fully support to reduce car traffic and improve air quality around Bow.	This is so important. Pollution is a major public health conern and one for me as a doctor and parent of a child with asthma.
idea store wants us to give a talk	Trialling street closures is a good way to raise awareness and try ideas.
It would be good to get more secure parking/overnight storage for bikes on streets.	What about protected space for cyclists on main roads.
It would be helpful to have more 'cycle hoops'	What initiatives taken related to make childfriendly streets
Lots more secure bike parking in residential streets	Where else can we do to reduce air pollution I was carrying a load of cardboard boxes for the cardboard city.
more electric car power points charge drive through only drive the week	Yes we want new pavements because the one they put down leavas stains round circles
more police that are friendly	no cars
more things for kids/teens	No thanks
no	Old Ford Road motorbike/scooter speeding and noise pollution.
Trial/consultation	No knife crime

Appendix D Reflection workshop template and feedback

- D.1 Enfield Cycling Campaign and BSfE reflection workshop results
- D.2 Tower Hamlets Wheelers and BSTH workshop results
- D.3 Reflection workshop template (online workshop version)

Enfield Cycling Campaign and Better Streets for Enfield

Workshop recap and outcomes

Attendees

7 attendees

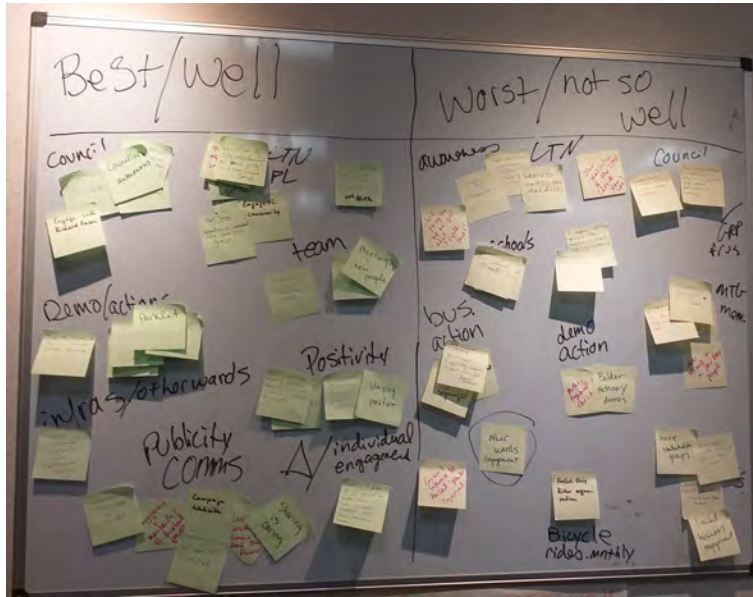
Workshop

We started with a silent task.

We each made a list of 5 things that we thought we did well or that we thought was the best part of the campaign, then made another 5 of what we thought was the worst part and not so well.

These were collected, then the workshop leader called them out and we grouped them.

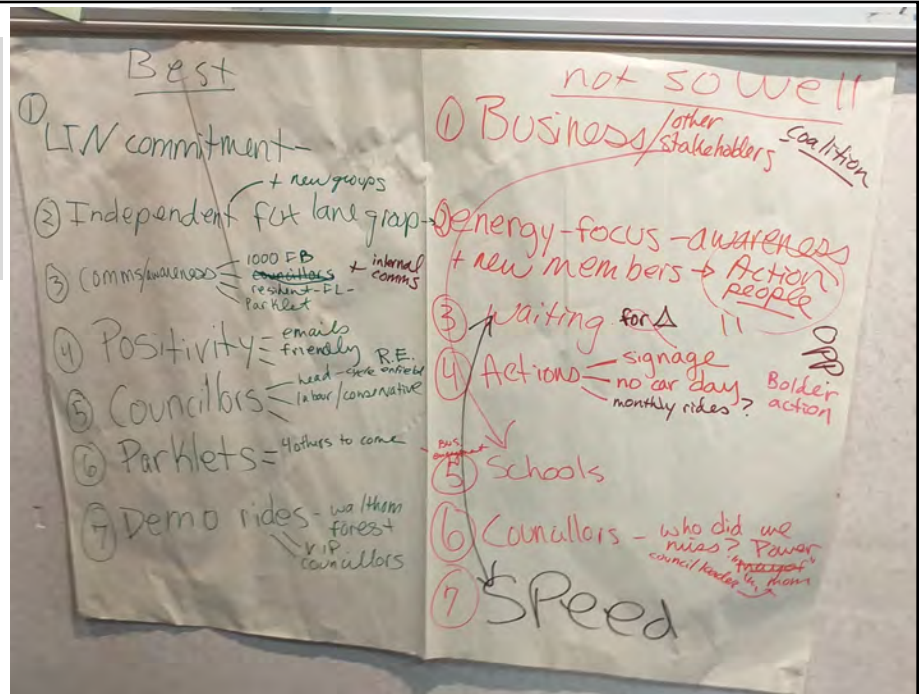
We then identified the main theme of these groupings.



Workshop

Once we add the themes, we narrowed the list as a group identifying the top 5 or 7 for each.

These are typed out in the next slides in more detail.



Things we did well

LTN Commitment	We secured the LTD Commitment we wanted
Independent For Lane Group	We have new groups joining us and non-cyclig members.
Comms/awareness	<ul style="list-style-type: none"> ▪ 1000 Facebook friends ▪ Parklet ▪ Residents – FL ▪ Internal comms.
Positivity	<ul style="list-style-type: none"> ▪ Emails are friendly, welcoming and show easy conversations and respectfulness towards others ▪ We are a friendly group and that shows to new members.
Councillors	<ul style="list-style-type: none"> ▪ Met with the head of Cycle Enfield and gained their support ▪ Reached out to both parties
Parklets	<ul style="list-style-type: none"> ▪ There will be four more parklets to come. This first was a demonstration for the council. ▪ At least 10 councillors from both parties showed up, plus head of cycle enfield.
Demo Rides	<ul style="list-style-type: none"> ▪ These were well received. ▪ VIPs and Councillors enjoyed them and help them understand the key asks better.

Things we could improve on

Business and other stakeholders	<ul style="list-style-type: none"> ▪ Need more groups and diverse groups as part of the better streets coalition. ▪ Schools were not addressed adequately
Energy – Focus – Awareness	<ul style="list-style-type: none"> ▪ We need more new members and ACTION people
Waiting for Change	<ul style="list-style-type: none"> ▪ The speed of change is still to slow. We need to work on ways that this could be speed up. We may need to do smaller thing (like parklets) to get to larger changes.
Actions	<ul style="list-style-type: none"> ▪ Business signage was not done ▪ No Car Day ▪ Monthly rides were reduced due to capacity and comms ▪ Bolder actions should have been taken
Councillors	<ul style="list-style-type: none"> ▪ Which councillors did we miss? ▪ How does this relate to a power map? ▪ Need to address connections and alliances better, for example the council leader and her mother.

Workshop

Next we identified how we did with the goals and where we won.

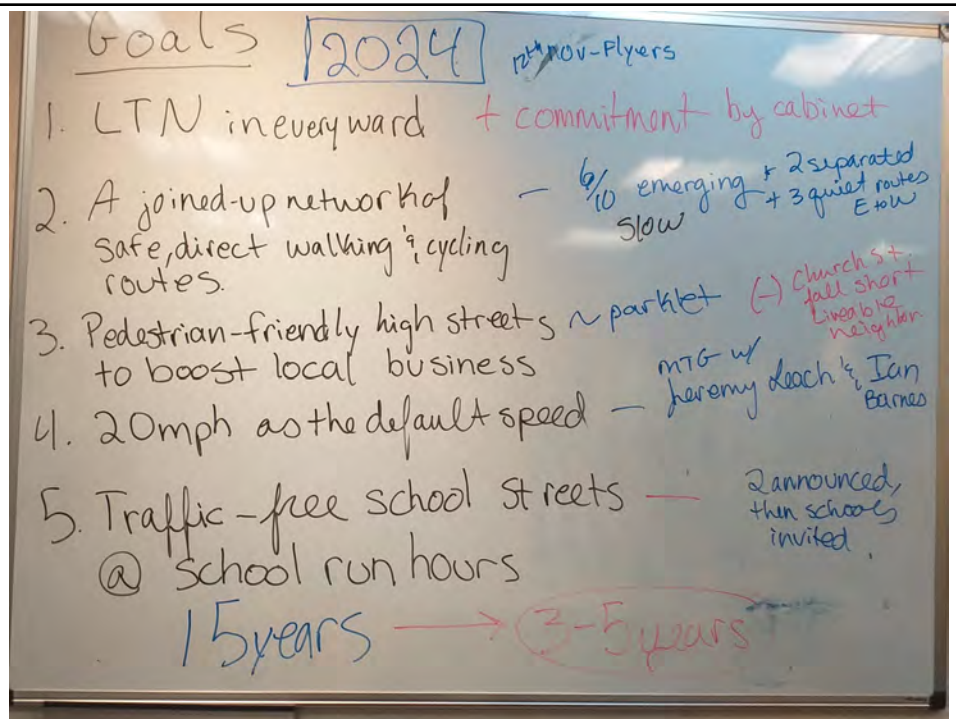
1. LTN = commitment by cabinet

2. Network = 6/10 it is emerging but VERY slowly

3. We did a parklet, but Church Street fell short of Liveable Neighbourhood

4. We met with Jeremy Leach and Ian Barnes about this and started the conversation

5. 2 school streets were announced, then schools were invited. It is happening really slowly



Goals

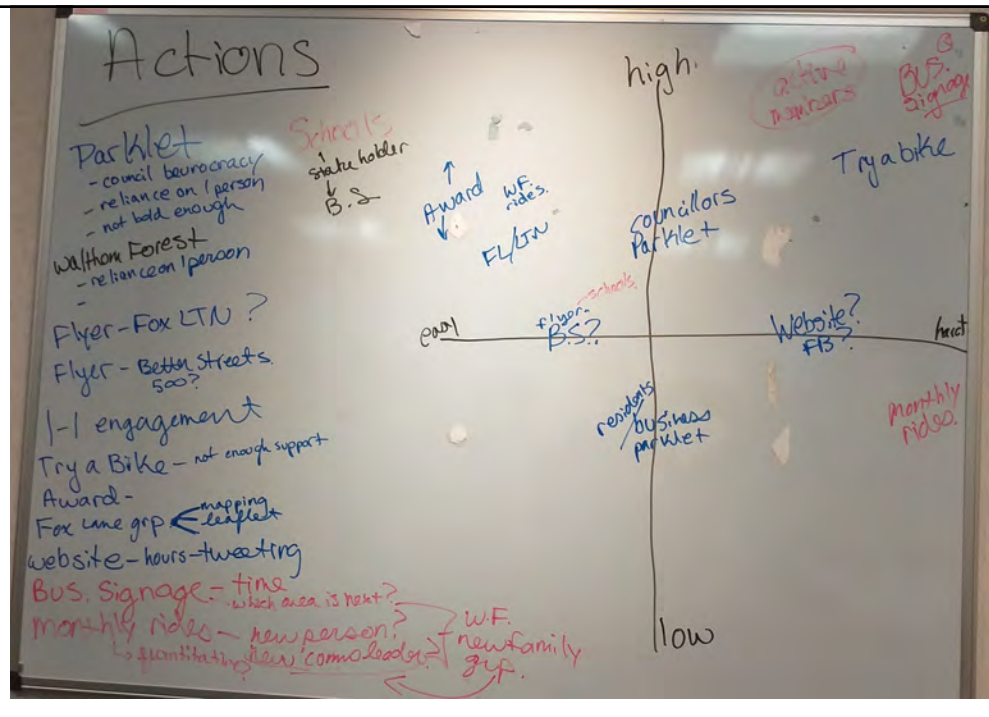
- We need a date for our goals, e.g. 2024
- At the moment it will take 15 years at best, we want to speed that up to less than 5 years.
- We need to understand what the fastest possible time they could do it in under legal rules (i.e. in a perfect world of submissions and construction, how fast could they get it done if we were private)

Workshop

Next we looked at the actions we actually did and those that we said we were going to do, but did not.

These were then grouped according to how easy/hard that action was to do, and if the impact was low or high.

These are discussed in more detail on the next slides.



Action	Notes	Difficulty	Reward
Parklet	<ul style="list-style-type: none"> - Council bureaucracy - Reliance on 1 person - Not bold enough 	Medium	Medium to high
Flyer Better Streets	- Easy to make and hand out, but do now know what impact has been of handing them out?	Easy to medium	Unknown/medium
Award	<ul style="list-style-type: none"> - Raise visibility in local community and medium - Fairly easy to do 	Easy	Medium - high
Fox Lane Group	<ul style="list-style-type: none"> - Good on the ground - Help leaflet - Help with mapping 	Easy	Medium- high
Try a Bike	- Not enough volunteer support	Hard	High
Waltham Forest rides	- Reliance on one person. Good for 1-1 engagement with councillors	High	Medium
Website & comms	- Takes hours to do this and tweet	Medium - Hard	Medium
Monthly Rides	- Need someone to support the comms for the rides	Hard	Medium - low
1-1 engagement of Councillors	<ul style="list-style-type: none"> - Takes time - Rides are good for this 	Medium	Medium - Hard
Business Signage	<ul style="list-style-type: none"> - Time it takes - What area do we know is next? - How can we print lots without needing multiple designs 	Hard	High

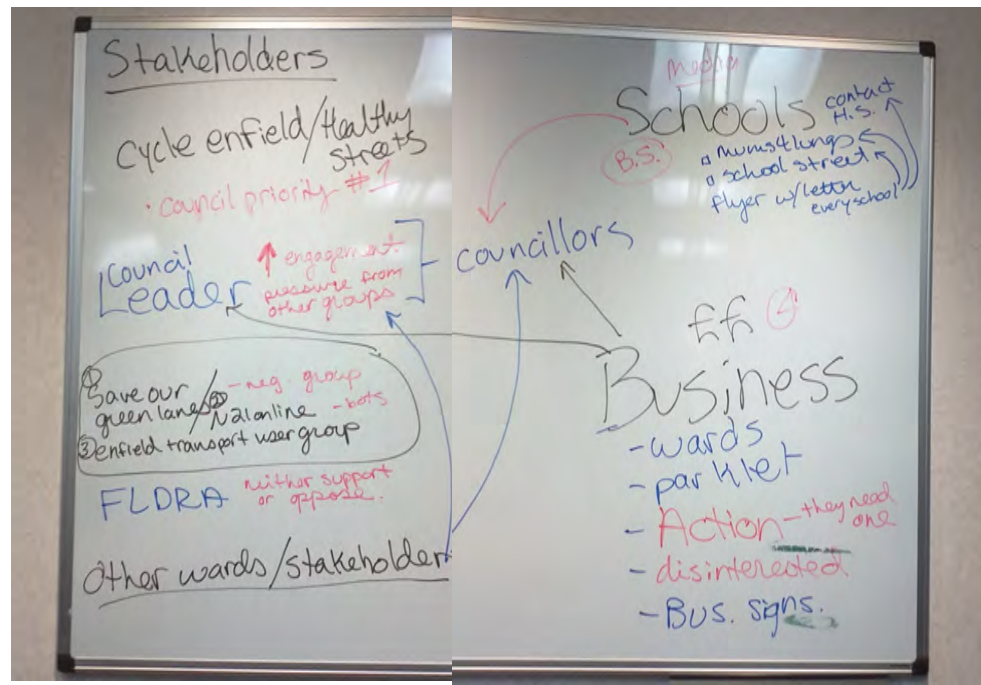
Actions - summary

- More volunteer time is needed
- Strategic engagement and demonstrations needed to overcome time constraints

Workshop

We then looked at our key stakeholders, their connections and gap areas of engagement.

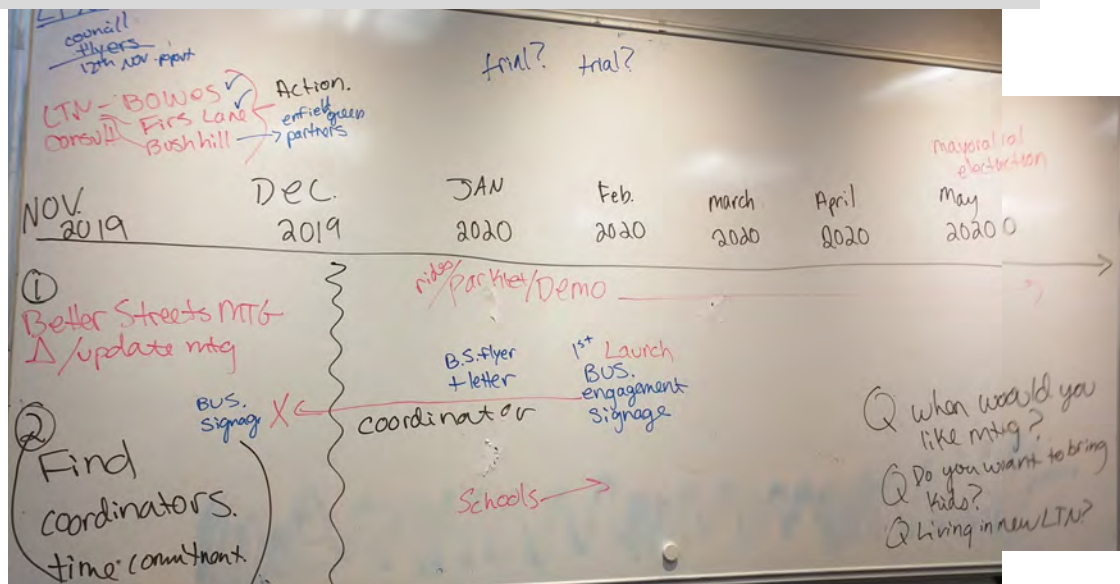
These are discussed further on next page.



Stakeholder	Gap	Task
Businesses	Only minimal involvement in phase 1. They can support persuading councils	<ul style="list-style-type: none"> engage with business/walking/cycling signs Better Street flyers to businesses What ACTION can we ask that businesses do? xx
Councillors	Not every councillor has been spoken to, though we have reached out to many more and are seen more as non-partisan now.	<ul style="list-style-type: none"> Continue 1-on-1 engagement
Council Leader	Continue engagement with council leader	<ul style="list-style-type: none"> Find supporters in council leader ward and other coalition groups to put pressure on her
Schools	Little engagement with schools in phase 1. This could percolate with the right letter and let them go off and form their own groups.	<ul style="list-style-type: none"> Send better streets flyer and letter to every school regarding school streets, LTN and how to get involved with other groups (for example mums4lungs, schools streets) Xx
FLDRA	High engagement. Currently neither for or opposed.	<ul style="list-style-type: none"> Continue reaching out to group/members and providing information.
Save our green lanes	Opposition group	<ul style="list-style-type: none"> Develop basic graphics to combat negative messaging.
Enfield transport user group	Opposition group	<ul style="list-style-type: none"> Develop basic graphics to combat negative messaging.
Cycle Enfield/Healthy Streets	Number one engagement group	<ul style="list-style-type: none"> Request quarterly meetings, identify barriers in faster rollouts.

Workshop

We wrapped up by looking at the next 7 months and the key events that are happening, plus key actions that we could do.



TIMELINE

November	December	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020
Better Streets Meeting Update		Better Streets Flyer + Letter (schools, businesses, and others)				Mayoral Election	
		Low Traffic Neighbourhood Trial					
LTN Bowes, Firs Lane, Bush Hill consultation	→	Others? →					
	Business Signage * needs coordinator	Business signage Launch					
		Rides/parklet/ demonstration	→	→	→		

Questions to ask members and committee

Survey to all of the group

- When would you like to have meetings?
 - Some options includes (agree with your committee)
 - Set day each month (e.g. first Monday of every month)
 - Set day each month (e.g. always on the 6th no matter which day that falls)
 - Weekdays
 - Weekends
 - Early evening (5pm to 7pm)
 - Late evening (7pm to 9pm)
- Do you want to bring kids to the meeting?
- Do you live in an area that has plans for an LTN?
 - List all below
- What time commitment would you be willing to do for the next six months, e.g. December 2019 to May 2020, particular tasks?

Survey format

- Have less than 5 questions
- Can fill out in 30 seconds
- No more than 1 or 2 open-ended questions
- Time commitment question could just be for committee members

Next Steps

1. Find out everyone's time commitment
2. Pick 2 events in the high impact category
3. Communicate the next 6 months
 1. Definitely do
 2. Priority 2 if we have more members who take ownership of that task
 3. Full strategy – lots of help

Appendix D.2 Tower Hamlets Wheelers and BSTH workshop results

Tower Hamlets Wheelers and Better Streets for TH

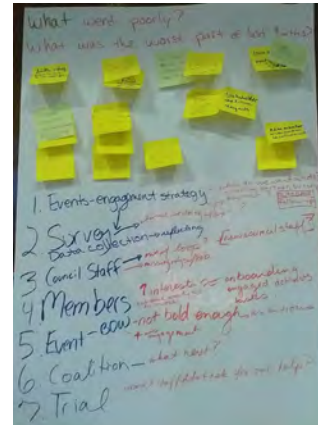
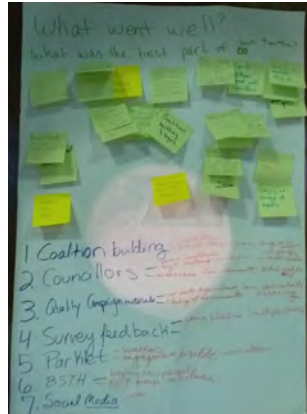
Workshop recap and outcomes

Attendees

1. Megan Sharkey (workshop leader)
2. Ian
3. David
4. Julie
5. Alex
6. Keith

24th November
Sunday
1:00pm - 4:00pm
Limehouse Town Hall

What was the best part of campaign/ what went well?
 What was the worst part of campaign/ what went poorly?
 Top 7



Things we did well	
Coalition Building	Gained credibility with people who don't want to bike. Feed into common vision for a business and residents area that will have long term support for campaign. 20+ coalition members.
Councillors	Myth busting - Varies on impact and use. We have had emails from multiple areas asking for this myth busting. Could we expand it? Increase in awareness, training new councillors, plus rides/walks to Waltham Forest. Total for year? # engaged? "I think we have taken 13 councillors/the mayor around WF mini holland since we started in May 2017. Since we started the BSTH campaign in earnest it was just a further three ...?"
Campaign Material	We have high quality campaign materials that can be used over the next few years, not date dependent. Can recirculate and share with others easily. Good library of materials for use. This will help with less time in the future.
Survey Feedback	Getting filled in and multiple events where we can get feedback.
Parklet	Big success with lots of good meeting. It was visible with direct interest. It was fairly easy and members were excited about it. Plus lots of good pictures that we have been able to use as campaign photos.
BETter Streets for Tower Hamlets	Bringin new people into the cycling group that wouldn't otherwise be there. Increased in social media. Increase in use of words better streets.
Social Media	We have a good twitter following and engagement. Stays relatively positive.

Things we could improve on	
Events - Engagement Strategy	What do we want out of our events? A coalition partner, a survey response, key asks, task? What is the outcome and follow-up that we should be doing? How are we maximising that event to get towards our goals and key asks? (LEADER needed)
Survey/Data collection	What are we doing with the information we have collected? We do lots of events, can we ask three questions and use that to build support?
Council Staff	We are out of the loop a bit. We missed meetings with Rob and were not invited. We aren't engaging with other council staff.
Members	How do we increase interest in activity levels? On boarding new members so that they fit in more easily. Increase the engaged activist in tasks. Are some wanting to do more, but are unable to do so? We do a lot it is hard for new people to know where they fit in and how they can join the campaign. We have more resources we are not using.
Event - Bow	Not bold enough. This was not led by us and we supported. Difficulties with council engagement and use of thigh streets. We did engage and learn about other groups which was positive.
Coalition	What next with them? There was a peak but not just hanging out. Can we reach out to groups not already supportive? We are not using our resources to their fullest.
Trial	Missed opportunity. Council staff didn't ask for our help; we didn't offer it. "I think the more acute problem is that even if we had offered our help/advice the council officers we have historically dealt with wouldn't have taken any notice (we didn't know any earlier than the public announcement that the trial was going to happen, which is perhaps telling in itself in terms of our engagement with council staff). To be blunt I think we lack credibility in their eyes, but I'm not sure that there's much we can do about that as the problem is so fundamental – essentially anything we say is essentially coming from a different planet from that they are on and they therefore discount it! Perhaps the key point here though is finding other ways in e.g. via the Project Centre consultants, more engaged staff elsewhere in the council, and the Mayor and councillors." Megan – the answer here is to engage with a broader range of council staff. There were many other departments involved in the trial.

Key asks, our goals

KEY ASK	Progress Notes	Reflection/next steps
"School Streets" closed to motor vehicles at pick up & drop off time	There has been a change from council staff not taking it seriously to having a borough wide strategy.	
Low-traffic neighbourhoods in every ward	Borough wide strategy and stakeholder engagement happening. 1 on 1 meetings have happened. Bethnal green has an increase in engagement	Citizen science Campaigning needs to remain strong What are the threats to going slow
Zero days with air pollution over the legal maximum	Anti-idling and increase in awareness and buy in from kids and others.	New argument about shifting the traffic to main roads and increasing pollution for others. New awareness of issue so comms need to change. Citizen science
More secure residents' and visitors' cycle parking from the borough and developers	Increase in cycling hangers, but is demand driven, so a concentration is needed before council will respond. If at least half of our members requested how much of a boost would that be?	Action emailing members the process to request. Work with council housing site managers re: installing cycle hangers/hubs/cages.
More spaces without motor traffic to increase high street footfall & create spaces for people	Bethnal Green proposal	More work needed. Visualisations for what space could be. Share the tool kit of LTNs with businesses

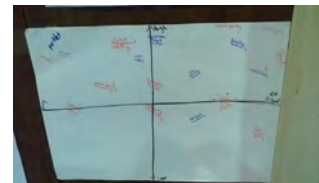
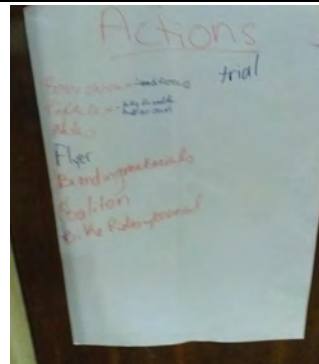
Actions

Easy/Hard

- How many people did it require?
- How much time?
- How many other groups did it require?
- Was council approval needed?

Low/high

- What was the impact?
- Was it well received?
- Did it help further the goals?
- Did we get new members?



Actions that happened	Notes	Difficulty	Reward
Waltham Forest Rides/Walks	These have been riding and walking tours in WF. They have been well received and help with one v one engagement.	medium	high
Bow Event - Council	Councillors stopped by and seemed interested	medium-hard	Medium - high
Bow event - residents	The residents weren't very engaged but possibly due to weather	medium	medium-low
Coalition	Building coalitions take times and networking, but helped broaden our appeal, increase engagement with others. We could utilise this more.	hard	medium-high
Branding materials	They have been well received. Find broad appeal and can share.	hard	high
Event rides	These are mainly done by Keith. Involving more people and finding a new ride leader over the next year needs to happen.	Medium - low	high
Parklet	This was a well received event and fairly easy to put together. Media and residents and businesses were engaged positively. Many pictures were taken on the day that has provided good optics.	Easy	High
General Events	We had a few events including in Victoria Park. The public generally were responsive. A survey or ways to engage them further were missed though.	Easy	Medium
Myth Busting	Some myth busting materials were provided to councillors. not all used them, however at least one is using ontweets	Easy	Medium- high

Actions - flagged that we discussed doing last year or think were missed opportunities

Actions - flagged	Notes	Difficulty	Reward
Members onboarding	We are attracting new members but not onboarding them to the fullest. We have many members who aren't sure where they fit in and how to get more involved. A tast list/activities list would help this. Part of welcome to Tower Hamlets email.	Easy-Medium	Medium - high
Survey	We have collected survey information but have not adequately shared that information with council and other coalition partners. This survey could be done at every event we do and build up to what we want to see.	medium-hard	Medium - high
Schools	We have had limited to no engagement with schools. Sending thema flyer and letter wwith information on school streets, air poulltion, could increase action by these gindividuals it could percolate on its own. Our myth busting would help dispel rumors about high roadss being more polluted and displacing all traffic there.	medium	medium-high
Event Engagement Strategy	We do alot of stuff and sharing information, but are not adequately linking all the things we do ot our key asks and actions. An engagement strategy to help link these would improve our effectiveness without spending more time.	Medium	High
Coalition	We could continue adding to the coalition and getting more partners. We need to keep working on these relationships. A goal of 100 partners.	hard	high
Council Staff - other	There are other council staff like a COMMS officer who would like to meet with us, however we haven't followed up. There are others in non-transport deapartments we could build relationships with so that they can put pressure on transport group.	Medium - low	high
Council Staff - transport	The transport staff have backed away from our engagement with them. This may be in part due to consultants taking over more of the work or that they are reallybusy. The trial was a missed opportunity for us to engagem and suppor thte council.	Medium	High
Trial	The trial was a missed opportunity to work with the council. With our support we believe that we could have helped them succeed.	hard	high
Sharing/reflection	We need to share our event learnings and reflections more regularly so that we can link them together and not wait so long to look back at key things. Help engage new members so that they understand what we are doing	medium	medium - high

Actions - summary

- not all actions as ambitious as we wanted
- Comms materials was great a good library, but we could link to our events and actions better.
- Parklet was easy, well received and we could make our own bike transportable version for regular events. Plus link to businesses.

Other notes and actions discussed

- List of activities/tasks that members can be involved in.
- myth busting - could be expanded and link to TfL, LTN information for businesses. We can share with them to get their support.
- Parklet - design
- Flyer - website - add coalition logos
- Ride leader - Need a new Keith in training
- Bicycle Hangers - 20 people need to put in area. We can ask all members to submit a request for a bike hanger, and how to request one in their area. (part of task list). Key area for housing associations.
- Council - Thomas Brown - communications officer
- Local Stakeholder Meeting with Rob - we were not invited. LCC head office was though.
- How many social media followers did we gain? What is our engagement levels?
- What have the benefits of the coalition been? We have learned about other areas, been involved in the Roman Road vision formation which took many of our ideas. We have been invited to other events. Gained broader support and recognition. How else have they helped?

Stakeholders

- What stakeholders did we not engage with?
- Who could we engage with more effectively?
- How can we effectively use the coalition?
- What are our main gaps?
- How many stakeholders are connected? Have we used this to our advantage?
- Who is the main opposition?
- Untapped resource?
- Any actions/strategy to engage? The task.

Stakeholder	Past Year Notes	Gaps, Future, and Actions
Councillors	We have had increased engagement with the councillors. The WF tours have gone well. Not all councillors have been engaged by the TH group.	Engage with more councillors. Send all of them myth busting talking points for liveable neighbourhoods.
Council - transport staff	They have limited their engagement with us. IT is not known exactly why. Possibly because of new consultants, difficulty in finding time, or ??? We missed helping them with the trial, however they have included us in pre-design stakeholder engagements	Request meeting that suits their time and see if anyone from our group can go not just the 2-3 designated council engagement committee members. Work with them on trial ideas. 2 pager on what we could do to support.
Council - other staff	We have not met with any other staff departments. The communications team, schools team, housing team, and others would assist in our goals.	Many of these areas would engage with councillors and other stakeholders
Coalition	Have 20+ partners, plus involved in their areas. Increased awareness of better streets and had increased involvement.	Set a new goal for total partners and types. (Megan says 100) Get to know them better and links we could use. Spread campaign message more easily.
Schools	Little engagement. Big growth area with mums4lungs and general awareness. Opposition group has emerged that uses kids with schools on high streets as a reason not to use LTNs	Send a flyer plus letter to every school. Include information on how to get involved (not just with us but others school streets and mums4lungs). Ideally some will become active on their own. We just share information. Easy action for possibly high reward. POTENTIAL THREAT AERA
Residents	Awareness is increasing. Engagement with Liveable Neighbourhoods	Continue engagement
General Opposition	Diffused, some are labour councillors and groups, Canary Wharf group, new group in media with kids and schools on high streets	Use broader coalition and other ally links to help combat. Don't worry about Canary Wharf.
Religious institutions	not engaged with.	Potential threat/opportunity. XR has done a climate event that linked to immigrants from countries hard hit by rising sea levels. In addition Muslim groups looking towards WF for inspiration for women only cycle rides could be an area to explore. Increase in Christian groups for climate change.
Housing Associations	Polar harca is a large housing associations that we have not engaged with.	Engage with housing associations. Request they join coalition for better streets.

Timeline

- What do the next 7 months look like?
- What are the key events?
- What time commitment do people have?
- What are the highest priority (e.g. easiest with high return) for time available?

TIMELINE									
December	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020		
Liveable Neighbourhood Bethnal Green Wapping			Phase 2 - 6 areas pre design						
Wapping bus trial		Keep up campaigning and monitoring trial.				Trial ends May			
TfL commercial road, stakeholder engagement									
Council mtg			Council Mtg		Council Mtg		Council Mtg		
Parklet Project - Development - LEADER NEEDED					Launch Parklet				
Calendar of Meetings, etc.. - LEADER NEEDED		Launch							
Engagement Strategy - ALL		Enact							
Winter Party					Event?				
Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg
Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.

Questions to ask members and committee

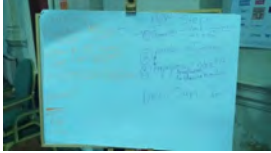
Survey to all emails on group -

example

- What prevents you from getting involved?
 - Time
 - Would like to participate, but...
 - I just want to stay in touch.
 - Don't know what activities I can involved in?
- What are you interested in being involved?
 - List of activities undertaken by tower hamlets
 - Event rides
 - Bike maintenance
 - Parklet
 - School campaigns
 - Better streets campaign
 - Infrastructure consultation
 - Council engagement
 - Social media
 - Low traffic neighbourhoods
- Do you have any ideas for what we should be doing? Or for the Better Streets campaign?
- Email

Survey format

- Have less than 5 questions
- Can fill out in 30 seconds
- No more than 1 or 2 open-ended questions
- Time commitment question could just be for committee members



Next Steps

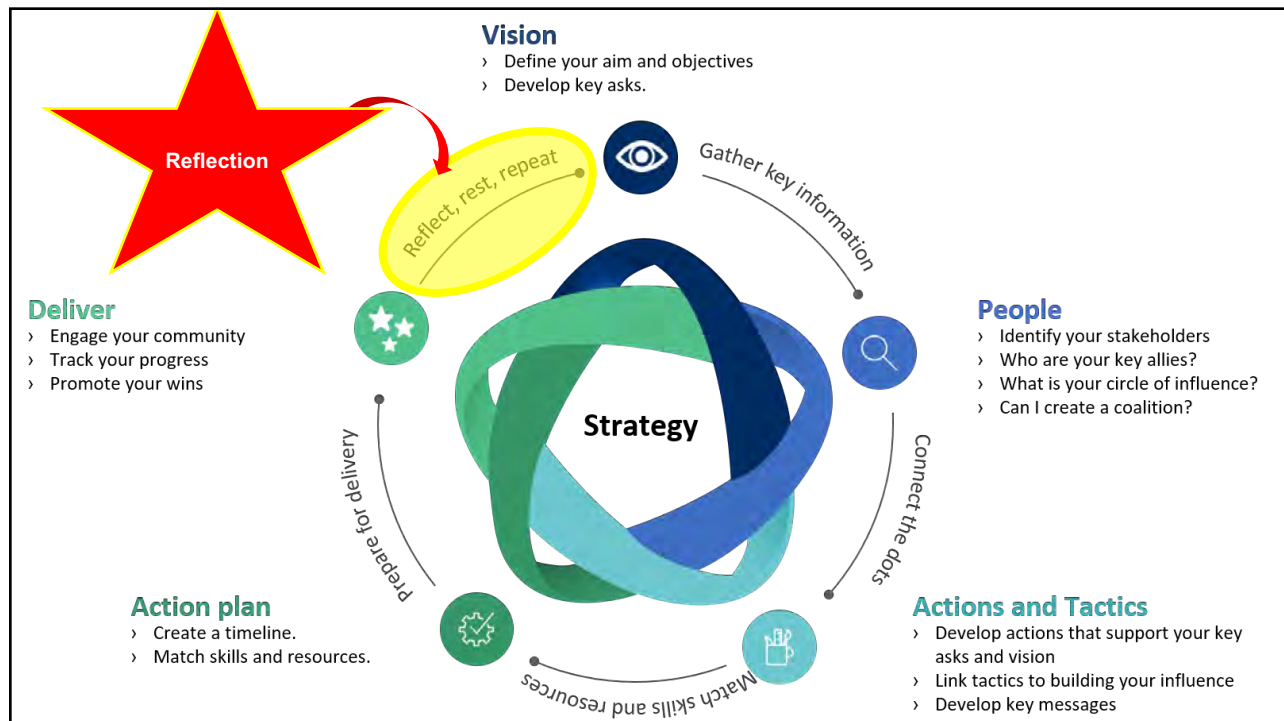
1. Currently active members
 1. Find out everyone's time commitment
 2. What area do they want to work on
2. Engagement Strategy
 1. Incorporating reflection practices and sharing knowledge
 2. Events and other activities - how to connect the message and coordinate activities?
 3. Next 6 months (priority list of activity)
3. Member on-boarding
 1. What we do. Ways they can get involved (this is part of the action/task list).

Reflection Workshop

Workshop recap and outcomes

Agenda

Timing	Activity	Materials to be shared
5 minutes	Introduction	Link with powerpoint slides and longer reflection workshop that can be run.
10 - 15 minutes	Activities 1	
10 - 15 minutes	Breakout 2	
10 minutes	How to Review - Closing	
5 minutes	Closing	
Total: 45 minutes		



Why do a yearly reflection?

- Stop, take a break and review
- Think of it as an annual taking stock, but without the paperwork
- Check your assumptions
- Don't do things that don't work
- Check in to the changing members, landscape and opportunities
- Assess your effectiveness
- Identify a strategy
- Identify actions
- Make a timeline for the next 6 to 12 months

What was the best part of
campaign/ what went well?

www.menti.com 18 48 8

OR

<https://www.menti.com/152idmi9kq>

What was the worst part of
campaign/ what went poorly?

www.menti.com 35 62 95 6

OR

<https://www.menti.com/aomaj3782q>

Breakout GROUPs

10 minutes

If you could change something about the way you are currently campaigning for streetspace what would you do?

Slides for Workshop

- The following slides are to be used for a reflection workshop

Running a Workshop

The following slides are to be used for a reflection workshop

Key asks, our goals

KEY ASK	Progress Notes	Reflection/next steps
<i>List the key asks/key goals of your group</i>	Key actions or campaigns of other areas that you undertook.	Next steps in relation to what went well, key energy areas, and activity

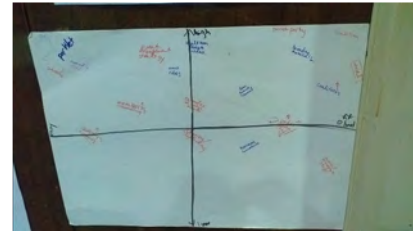
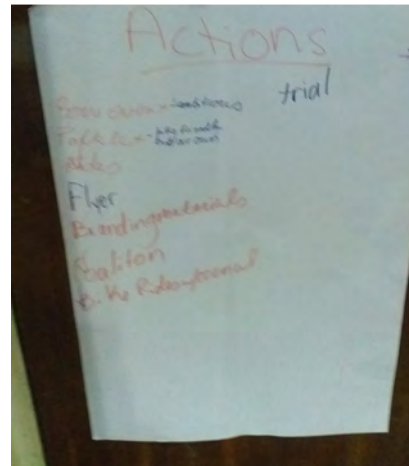
Actions

Easy/Hard

- How many people did it require?
- How much time?
- How many other groups did it require?
- Was council approval needed?

Low/high

- What was the impact?
- Was it well received?
- Did it help further the goals?
- Did we get new members?



Actions that happened	Notes	Difficulty	Reward
		Easy-medium-hard	Easy-medium-hard
activity	What occurred		
Coalition			
Branding materials			
Event rides			
Parklet			
General Events			
Myth Busting			

Actions - flagged that we discussed doing last year or think were missed opportunities

Actions – flagged htat didn’t happen	Notes	Difficulty	Reward
		<i>Easy-medium-hard</i>	<i>Easy-medium-hard</i>
Members onboarding			
Survey			
Schools			
Event Engagement Strategy			
Coalition			
Council Staff - other			
Council Staff - transport			
Trial			
Sharing/reflection			

Actions - summary

Example

- not all actions as ambitious as we wanted
- Comms materials was great a good library, but we could link to our events and actions better.
- Parklet was easy, well received and we could make our own bike transportable version for regular events. Plus link to businesses.

Other notes and actions discussed

- Post it notes from activity
- Summarise in the powerpoint, then share

Stakeholders

- What stakeholders did we not engage with?
- Who could we engage with more effectively?
- How can we effectively use the coalition?
- What are our main gaps?
- How many stakeholders are connected? Have we used this to our advantage?
- Who is the main opposition?
- Untapped resource?
- Any actions/strategy to engage? The task.

Stakeholder	Past Year Notes	Gaps, Future, and Actions
Councillors		
Council - transport staff		
Council - other staff		
Coalition		
Schools		
Residents		
General Opposition		
Religious institutions		
Housing Associations		

Timeline

- What do the next 6 months look like?
- What are the key events?
- What time commitment do people have?
- What are the highest priority (e.g. easiest with high return) for time available?

TIMELINE

ACTIVITY	October 2020	Nov 2020	DEC 2020	Jan 2021	Feb 2021	March 2021	April 2021	May 2021	June 2021
ACTIVITY				Phase 2 - 6 design					
ACTIVITY	bus trial	Keep up campaigning and monitoring trial.				Trial ends May			
ACTIVITY	TfL, stakeholder engagement								
ACTIVITY	Council mtg			Council Mtg		Council Mtg		Council Mtg	
ACTIVITY	Parklet Project - Development - LEADER NEEDED				Launch Parklet				
ACTIVITY	Winter Party					Event?			
ACTIVITY	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg	Monthly mtg
ACTIVITY	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.	Bike Main.

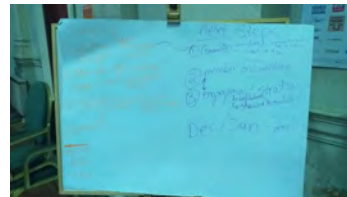
Questions to ask members and committee

EXAMPLE - Survey to all emails on group

- What prevents you from getting involved?
 - Time
 - Would like to participate, but...
 - I just want to stay in touch.
 - Don't know what activities I can involved in?
- What are you interested in being involved?
 - List of activities undertaken by tower hamlets
 - Event rides
 - Bike maintenance
 - Parklet
 - School campaigns
 - Better streets campaign
 - Infrastructure consultation
 - Council engagement
 - Social media
 - Low traffic neighbourhoods
- Do you have any ideas for what we should be doing? Or for the Better Streets campaign?
- Email

Survey format

- Have less than 5 questions
- Can fill out in 30 seconds
- No more than 1 or 2 open-ended questions
- Time commitment question could just be for committee members



Next Steps

1. Currently active members
 1. Find out everyone's time commitment
 2. What area do they want to work on
2. Engagement Strategy
 1. Incorporating reflection practices and sharing knowledge
 2. Events and other activities - how to connect the message and coordinate activities?
 3. Next 6 months (priority list of activity)
3. Member on-boarding
 1. What we do. Ways they can get involved (this is part of the action/task list).

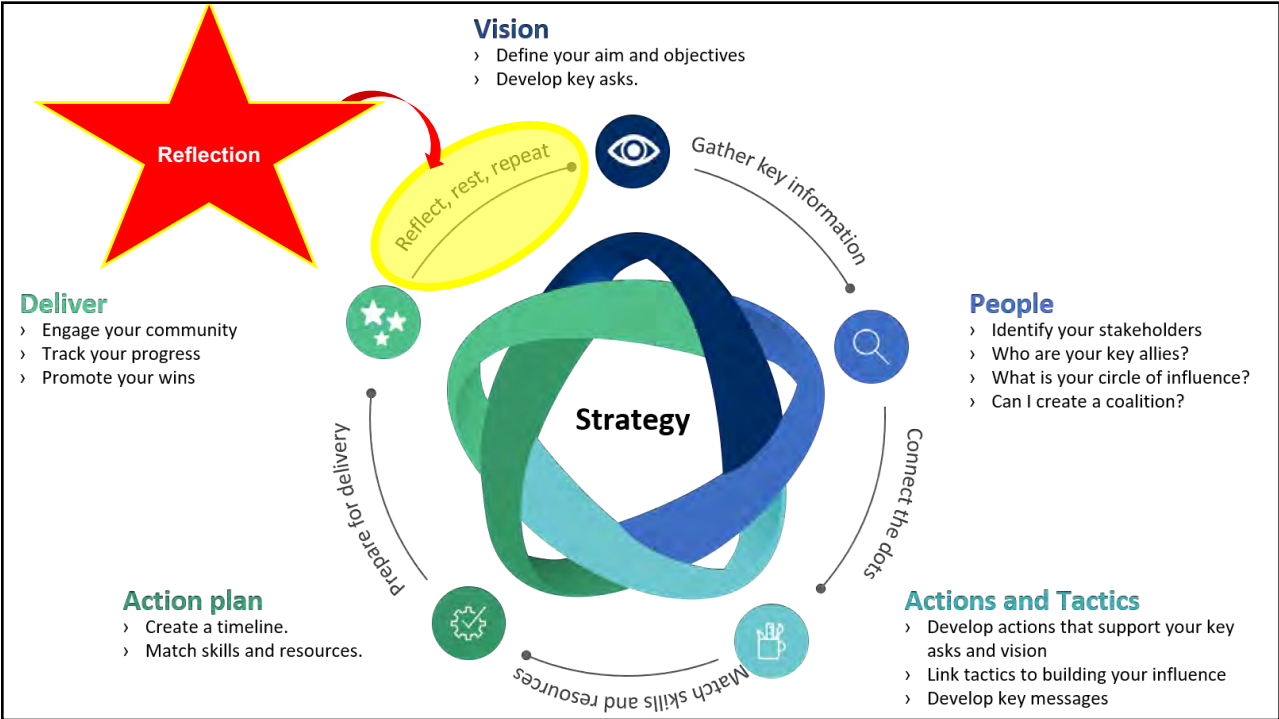
After reflecting, what will you do in your campaigning next year?

Menti.com

98 42 99 3

OR

<https://www.menti.com/ir8ctf81zt>



Appendix A

Survey ID	Q2 - Why did you get involved in the local group?
SI_1	To improve the liveability of streets, ensuring a better balance between cars and cycling/walking.
SI_2	Enfield had just won a Mini Holland bid and I'd just started cycling to take my daughter to school, so was keen to help make cycling safer
SI_3	I was excited about Enfield getting Mini Holland funding and wanted to be involved in feeding back local cyclist thoughts on the council cycle lane plans.
SI_4	Take part in the Prudential Free London Ride
SI_5	Interested in cycling infrastructure development
SI_6	I want active travel infrastructure and we need to work to fight for that.
SI_7	<p>Personal motivation: Started cycling to work thanks to the improved cycling infrastructure in London and yet realised how more could be done to encourage others to do the same.</p> <p>Parallel event, which led me to Southwark Cyclists: Jan 2019, read the book 'How to Resist' by Matthew Bolton, Executive Director of Citizen UK. He recommends picking a local group which campaigns for something which will have a direct impact to your daily life. Out of all the causes and groups I could have picked, Southwark Cyclists seemed like a good fit!</p>
SI_8	Got sick of dealing with traffic when cycling. Wanted to do something, and had been exposed to Southwark Cyclists through Dunwich Dynamo and Healthy Rides. The strategy was being discussed at one of my first meetings (if not first) and that really got me interested as it seemed like a really interesting time to get involved.
SI_9	Sociability and desire to improve conditions for cycling in the area - initially taking part in social rides organised by Barry Mason, and doing some evaluation reports on SC community cycle training projects, and later coming to meetings (with a particular concern about lack of cycle parking) which led into volunteering to edit the newsletter and more...
SI_10	I enjoy cycling and I think it's important to encourage bikes and discourage cars. I wanted to do this.
SI_11	When I moved to London five years ago, I was on zero hours contracts, looking for opportunities. The first thing I bought after a sim card when a bicycle - it would take me anywhere for free (the tube is very pricey when you are on low income) and I came from a city (Bordeaux) where cycling is a second nature, where everyone is very 'multi modal'. Prior to that I had lived in Bogota, and realised how political active travel infrastructure was, what Enrique Penalosa's 'ciclovias' had involved in terms of battles etc. In a few words, everything that I had always taken for granted appeared to me in its political nature - and why cycling was an urbanism solution to so many problems. When I arrived in London, the lack of cycle infrastructure, networks, combined with the driving behaviour shocked me. I joined Tower Hamlets Wheelers straight away.
SI_12	I wanted to make friends with local cyclists.
SI_13	Originally, it was for social reasons – a friendly group with an attractive bike week offer of croissants. A nice programme of local rides and further afield. Mostly(!) Friendly people in meetings, and a nice time after the meeting in the pub! The event that changed my attitude was Bow roundabout – the vigils there for the cyclists who died, when I first understood that people could die because of infrastructure, not just bad driving. It was a lightning bolt moment.
SI_14	Having spent a year living in the Netherlands I saw how a city could be changed and the positive effects that cycle infrastructure can bring. This made me want to become involved in helping to make such changes in London.
SI_15	<p>I first became actively involved in autumn 2016. I had been a member of LCC for at least five years and interested in cycling and motor traffic reduction for a long time before then, however.</p> <p>I think I got actively involved for a number of different reasons:</p> <ul style="list-style-type: none"> - I thought Tower Hamlets was a poor environment for cycling and wanted to make it better. - I had been very inspired by cycling bloggers and I wanted to "do my bit" for the cause. - I was inspired by the recent improvements in central London (C3, C6) - I had become an owner-occupier (as opposed to private renter) for the first time, meaning that I was likely to remain in Tower Hamlets for several more years at least, which made me more inclined to get involved in community activities. - I was very depressed by the result of the referendum on UK membership of the EU, and my campaigning was initially in part a displacement activity, and in part out of a more urgent feeling to do what I could to make the world (albeit only locally) a better place in the face of a desire to make the world a worse place.
SI_16	I wanted to use their bike workshop.

Survey ID	Q3 - How much time do you spend per week on your local group activities? What activities do you participate in during this time?
SI_1	3/4 hours I'm social media manager, go to meetings and led a project for a pop-up parklet
SI_2	At the time you were with us, I was probably spending two-three days a week on the group, doing everything from pulling together consultation responses, social media, organising events and liaising with the council
SI_3	Hard to say - maybe 3 hours per week. Monthly meetings - taking minutes Comms with local MP, councillors Social Media Events - led rides, try a bike Internal comms - email, WhatsApp Core group
SI_4	Was responsible for the quarterly newsletter; but now it's no longer an LCC thing in that format so just really attending rides and volunteering on Free London Ride
SI_5	20 minutes observing reported latest developments and responding to group conversations
SI_6	2-3 hours during the busy times. 1-2 during quieter times. I write consultation responses work on mapping and ideas for infra.
SI_7	It grew with time as I've come to know the people, understand the group's vision and goals and found a way to add value. Most of 2019, I spent the 2h every month attending the group's committee meetings. Then I joined a specific campaign around a consultation. Jul-Sept 2019, I did a couple hours leafleting every other week. In 2020, I was invited to take the role of Strategy Officer to continue the work you started with Southwark Cyclists. I'm now spending around 10h a week on local group activities, from reaching out to new meeting attendees, writing website blogs, taking photos which could be used on social media, replying to consultations, attending council meetings, scheduling meetings with other local groups to strengthen our relationship, writing Southwark Cyclist's strategy document (still work in progress!), getting involved SC's 'streets for distancing' campaign writing to councillors, monitoring traffic counts.
SI_8	Probably 15-20h a week. Coordinate the group, so a bit of everything.
SI_9	Currently I attend the monthly online meetings and the Cycle Stakeholder Group meetings with the council. Activities fluctuate but have included 2 hours a week helping with the Bike Train, bike breakfasts, led rides etc More recently: writing copy for a press release related to streetspace for covid-19 (burst of approx 7 hours in that week)
SI_10	I was the secretary when you did your research and I probably spent 2-3 hrs a week on local group activities in the winter and 5-6 hpw in the summer. Now a new set of people have taken over the group. They want to run things their own way and don't want old faces. That hurts but I haven't got time for personal reasons so I am leaving them to it.
SI_11	About 2 hours. It depends what I am working on, but between emails, reading articles, engaging with members and planning activities, it's on average two hours. Over the summer I usually take part in rides and events, this increases the time spent on campaigning considerably. I also enjoy calling or catching up with other LCC groups interested in Better Streets - time spent on that is definitely worthwhile to build coalitions beyond the borough.
SI_12	I spent on average 4-5 hours each week working on group activities once Better Streets really took off. Some weeks were much more, but most were about 5 unless there was a big event.
SI_13	I may spend up to half an hour a week on local group activities. Meetings monthly, then lots of tweeting and online actions. I spend 2-3 sessions (meetings, email discussions, calls) a week on organisational issues to do with LCC centrally - member of Board.
SI_14	Around 2 hours. This can include attending monthly meetings, additional meetings, creating content, doing research, contacting councillors and evaluating proposals.
SI_15	I spend around 8-10 hours a week on group activities. I am most interested in the campaigning and infrastructure side of things (rather than rides and events), so I tend to do consultation responses, campaign-related social media, correspondence and meetings with officers and council, and civi emails to the local group list.
SI_16	Two or three. Organising the workshop and during the summer group rides and events. I also support the work of the campaigning leads.

Survey ID	Q4 - Has working with me improved your skills as an activist and campaigner?
-----------	--

SI_1	somewhat
SI_2	to a great extent
SI_3	to a great extent
SI_4	somewhat
SI_5	
SI_6	somewhat
SI_7	to a great extent
SI_8	somewhat
SI_9	somewhat
SI_10	
SI_11	to a great extent
SI_12	to a great extent
SI_13	somewhat
SI_14	to a great extent
SI_15	somewhat
SI_16	somewhat

Survey ID	Q5 - What was the most useful change or learning you experienced working with me? (Has it improved your skills as an activist and campaigner? Helped you with personal goals?) If it wasn't useful, say why not.
SI_1	Helpful guidance at meetings on strategy and approach
SI_2	<ul style="list-style-type: none"> - Engaging with stakeholders and forming a coalition - this was most useful when I went on to start healthy streets groups in Westminster and Kensington & Chelsea - Thinking outside the box with events/actions, like the parklet - Clearly defining the group's vision and asks and the process of doing that as a group - Communicating written and visual information with clear inclusive language, eg for a presentation to a local residents association - Finding common ground with 'opponents' or key influencers - Facilitating group exercises. <p>All of this was extremely valuable in becoming a more effective activist. And I also have you to thank for becoming a professional activist because you suggested that I apply for the job I'm now doing!</p>
SI_3	<p>One of the biggest learning point was making sure that you are communicating and focusing your energy on the real decision makers.</p> <p>Also, the importance of engaging support beyond your core group to share the workload and become more effective. Local groups have finite resources and effective campaigns need to tap into the concerns of the wider community.</p> <p>The importance of understanding the concerns of others and identifying the needs and areas of common interest. eg residents may have no interest in making space for cycling or LTN's but if you tap into their concerns about rat running and pollution they will start to see that the merits of an LTN.</p>
SI_4	NA
SI_5	I have not really had any direct experience. Regret not, might have learnt something generally useful for other campaigns
SI_6	Better understanding of how we can push councils to go faster
SI_7	I met you right at the beginning of my campaigning journey, so I learned a lot! The most useful learning experience was your presence in our local meetings, the way you brought perspective and constructive suggestions based on personal experience and evidence to help us achieve our goals.
SI_8	Hard to answer the question above because I joined the group right as you were working on the strategy, so really hard to define what impact that had on me as a campaigner. I also didn't get heavily involved until after the initial draft of the strategy had been written so was only partially involved in it's development, attending a few meetings and few workshops.

	That said having a set of strategic goals has really helped me when I became coordinator because it gave me clear goals on what to focus on. I kind of jumped into this not having had a long history with the group, so it's very helpful having this framework to support me.
SI_9	The input on setting goals for the local group (during the day-long workshop at Grosvenor TRA) and suggestions on how to build local coalitions/working out who in the wider network is best placed to make the case with their network. This has been useful in thinking about wider campaigning work within Southwark and beyond.
SI_10	I found it a more useful experience than I had expected to think in terms of ultimate goals, missions or vision (whatever terminology used) OTOH I think it tempts people to think that only the ultimate goal matters and everything else can be discarded. It narrows the group and can lead to otherwise useful stuff being discarded. When the goal is "wonderful infrastructure" over-emphasis can lead to frustration and burn-out in the long gaps when infrastructure is being considered, consulted on, altered, re-considered, run out of funding,and finally built.
SI_11	Clarity of thoughts and goals. I think it made me more aware and conscious of not spending too much time or energy on things I do not have a real input or impact on. It made me more aware of what different persons in the group can or want to do - and where there is unexploited potential.
SI_12	One of the most important things I learned was how to build a very specific campaign and engage elected officials with direct requests as well as work on citywide efforts at a local level.
SI_13	I enjoyed the short sharp focused activity creating a positive event - parklet -to gain publicity. It was very interesting to see how people initially thought this was unachievable but in fact with very little work created a great deal of positive outcomes for the group.
SI_14	Learning about the importance of building broad coalitions to help us reach our goal and to look for alternative ways into the council if we encounter some no very willing officers.
SI_15	I think the most useful bits have been understanding the value of networks and a group of supporting organisations, as well as having a set of principles. Also understanding where the blockers are and whom we should be lobbying.
SI_16	Focusing on a task and sticking to the timetable.

Survey ID	Q6 - What are some personal barriers that you experience in your activism with the group?
SI_1	I don't fully understand the question. I have found some group members take a lot of 'air time' at meetings but contribute little.
SI_2	At the time (spring 2019), working with the group led to a period of burnout - I was doing too much alongside other life/work/church commitments and ended up getting shingles.
SI_3	Low number of members/volunteers in core group. Communications with officials can be frustratingly intermittent. Not always aware of plans/schemes that council are planning and dont always have opportunity to feed back on plans in the important early stages.
SI_4	Lack of time; meetings on a working day
SI_5	There seems to be a tendency to tribalism and automatically attributing to other parties attitudes, class identities and hostility. There seems to be difficulty in making compromises and taking on board other interests in pursuing campaigns Noyt sure if this is exactly hte question you are asking, but it is what comes to mind.
SI_6	Lack of active members. We are under staffed and our members are mostly inactive. We should have so many more people for activities based on our membership and I find that often impacts my motivation.
SI_7	Lack of clarity around the group's strategy, goals and how to get involved The jargon - I didn't know anything about cycling infrastructure, how to improve public space, influence local government, effectively campaign - i'm still learning!
SI_8	Lack of support, and I say that less as an individual and more as a group because we have some very dedicated, hard working members that are so helpful, but being a volunteer based organisation there's a lot a small number of us are doing. There's a lot more I'd like to do with the group, but we just don't have the volunteer hours to do them.
SI_9	I don't feel as involved as I have been in the past - partly through my own lack of time. In the past, I really enjoyed doing something practical (going on a ride/helping with bike train or Dr Bike) and discussing infrastructure/comms as we cycled or afterwards. I initiated lots of small projects that way, and the monthly meeting felt like a gathering of threads

	<p>rather than the starting point of activity.</p> <p>I'm personally less energised by the model of business meeting followed by pub, and now miss the personal connection in Zoom meetings.</p> <p>Practical activities obviously have been limited due to the pandemic, so it is even harder now, and I tend to let Whatsapp conversations drift past, rather than engaging in them.</p> <p>A perennial question for me in any kind of activism is how to make sure people who don't want to go to business/planning meetings can still feel involved in setting direction.</p>
SI_10	<p>When I was secretary, the main barrier was that I have a handicapped child and cannot go to meetings at the weekends where a lot of stuff happens.</p> <p>Since then I feel a personal coldness and indifference.</p> <p>Assuming that this is not the case, the comms are dreadful, contact with the wider group non-existent, admin seems to flourish at the expense of activity, fear and over-control. etc</p>
SI_11	<p>I struggle sometimes to juggle my work as a transport planner and as a campaigner. There's a bit of a feeling of being a bus driver who takes the bus on holiday - so much of my life revolves around transport and urbanism. I think a personal barrier is that I also need to take the time to think of other things, vary my personal activities, otherwise I feel like I'm obsessing about transport all the time.</p>
SI_12	<p>I often struggled with my ability to understand the hyperlocal politics as well as the existing hierarchy within the group.</p>
SI_13	<p>Main personal barrier – time! But I'm happy to participate in events that are already organised – I can't be one of the organisers. I'm a supporter and a networker – that's how I see my role in the group.</p>
SI_14	<p>Available time can sometimes be a barrier.</p>
SI_15	<p>I'm not sure whether to interpret the question to mean internally (i.e. barriers in relation to working with campaigning colleagues) or externally (i.e. barriers with councillors/officers/general public). I'll do both.</p> <p>Internal barriers:</p> <p>I think the biggest barrier for me is understanding what others want to contribute, and helping to ensure that people have an opportunity to contribute what they want to contribute.</p> <p>External barriers:</p> <p>Our council's officers are uninterested in and unambitious for cycling and walking.</p> <p>A number of councillors from the governing party are extremely supportive but others are entirely happy with the status quo. One positive in this regard is that the divide is decreasingly along ethnic lines, as more non-white councillors are starting to be supportive, but there is still something of that divide in existence (or at least a perception of it).</p> <p>In terms of the general population of the borough, I find it difficult to find ways into the full demographic of a very socially and ethnically diverse borough (our active members are primarily, although not exclusively, of European ethnic heritage and professional background, and despite the fact that around a third of the population of Tower Hamlets has Bangladeshi ethnic heritage to my knowledge no one from that ethnic group has ever been an active member).</p>
SI_16	<p>Writing objectives and briefs don't come naturally to me. My communication writing skills are not dynamic.</p>

Survey ID	Q7 - How has your group changed since working with me or during the process of my research?
SI_1	We've become more focused and goal oriented.
SI_2	<p>We now have more active members on the ECC/BSfE committee, and a very competent group of resident activists in the Fox Lane area campaigning for a low traffic neighbourhood. That grew out of the work you helped us to do in the Fox Lane area.</p> <p>I think our committee is more organised.</p>

	It was helpful to have some idea exchanges with the Tower Hamlets Better Streets group you were working with and to use their artwork.
	Has become more effective by engaging with local communities regarding planned LTN's and created/supported local LTN support groups.
SI_3	Also, perhaps are more aware of who the stakeholders are and where blockages might be.
SI_4	NA
SI_5	Don't know
SI_6	We have streamlined communications and made our goals clear
	The committee meetings are now split into two. Due to lockdown we have moved meetings to Zoom and have as a result had 5-8 new meeting attendees at each meeting. We're hoping we will be able to build a core group of volunteers this way.
	Updated the 'Get involved' page with clear ways for people to get involved
	Clearer understanding of SC's vision and goals. This is helping us be more consistent in our communications and asks of the council
SI_7	There is still so much to do to finalise the strategy and put things into motion, but overall the group feels more dynamic to me. I feel that you have given the group new energy.
SI_8	Hard to say as I wasn't involved before, but it appears that the group is a lot more focused and strategic, particularly in working with the council.
SI_9	I think it has become more focused, better able to communicate to council officers and councillors with a clear voice.
	I don't think the changes were due to you. They are due to the changes of personnel
	OTOH the emphasis on infrastructure above all else has led to a focus on lobbying and assertiveness towards the council and council officers. A dangerous feeling that if infrastructure isn't happening fast enough, this is the fault of the council officer I am speaking to and who isn't doing what I say fast enough.
SI_10	Plus a down-grading of bike parking, rides, Dr Bikes, personal inter-action etc
SI_11	We have grown to become more effective thanks to putting together a clear vision for our campaign - with Better Streets for Tower Hamlets. Defining clear principles was crucial to build a coalition and rally new members.
SI_12	During my time in London, the group became much more focused and energy was directed more specifically.
SI_13	I've seen huge changes in the group, and local perception has also changed dramatically – we are seen as a successful agent for change, working collaboratively, close links to the council, dynamic and creative, also inclusive to new members.
SI_14	We are no longer as narrow focused with our campaigning and have broaden our approach.
	More interaction with other local groups.
SI_15	More interaction with councillors and council officers.
SI_16	Very much so. As previous question, helped us focus on our tasks.

Survey ID	Q8 - Do you think building a coalition helped reach your groups goals?
SI_1	somewhat
SI_2	somewhat
SI_3	to a great extent
SI_4	don't know
SI_5	don't know
SI_6	somewhat
SI_7	don't know
SI_8	somewhat
SI_9	to a great extent
SI_10	don't know

SI_11	somewhat
SI_12	to a great extent
SI_13	to a great extent
SI_14	to a great extent
SI_15	somewhat
SI_16	to a great extent

Survey ID	Q9 - Regarding the process of coalition building, what should I know (benefits, difficulties, awareness raising, impact on council, etc...)?
SI_1	I'm not totally clear what is meant by this question but if you mean coalition with Council then its worked pretty well.
SI_2	<p>I'm not sure we built a coalition in Enfield other than with Living Streets, who we represent in Enfield. That has been helpful as some of our members attend their meetings and we're not seen as 'just cyclists'.</p> <p>More recently we've been working with the Enfield Climate Action Forum, as in we contributed to a discussion about transport. I think that could be a fruitful coalition.</p>
SI_3	<p>Main benefit of creating a coalition is a sharing of workload and increase support for our campaigns.</p> <p>Also with a wider coalition we have had a stronger voice supporting us when interacting with the council.</p>
SI_4	NA
SI_5	I cannot say, though would be interested to see your findings on this
SI_6	Its often difficult to reach out to groups we need as we are not perceived as a group that would be an ally to their causes despite our common goals. Cyclist is a dirty word.
SI_7	I don't think SC has started building a coalition yet, but we are starting to think about it by reaching out to groups we currently have contact with to strengthen our relationship and get to know their concerns and goals a bit better.
SI_8	<p>We haven't built that coalition yet, and that raises questions for me (that we can discuss another time). I only attended some of the strategy workshops so I don't know if this was discussed, but I see the other two groups you worked with have Better Streets groups they're supporting/leading. I've been very slowly developing this concept for Southwark (have spoken to Clare and Julie), but were these already existing before you started working with those 2 groups? What are the reasons Southwark didn't start a Better Streets group?</p> <p>Again, I don't know the history of SC, but recently we have been working closely with other campaign groups and it's been very beneficial. I think it mostly comes down to strength in numbers, having others outside to bounce ideas and brainstorm with, and working with local residents in areas where changes are happening. The challenges have been trying to find or start groups in areas where there isn't an existing campaign group.</p>
SI_9	There's still lots more to be done, and of course there's a big issue about how to share/record/pass on this kind of delicate knowledge about other campaign groups and individuals (their strengths/areas of expertise/networks/history).
SI_10	<p>We didn't try and do this. We seem to me to be focussed on infrastructure.</p> <p>I didn't know it was part of your project. IMO we are not trying to do this, or at any rate not trying hard enough to notice.</p>
SI_11	I think Better Streets has had a positive impact to promote ourselves with the press though, and at events to liaise with residents who do not cycle but are exasperated by car traffic. Better Streets has moved the conversation away from active travel towards quality of life, the negative impacts of traffic - to present active travel as the solution. I think it's a very strong message.
SI_12	I think one specific part of coalition building that is difficult is spreading ownership of the coalition...the feeling that people want to not just do assigned tasks, but that the coalition's success depends on them.
SI_13	<p>Maybe that it's easier than it looks? It seemed really straightforward to get people to agree to putting logos on our website – especially when we weren't just talking about cycling but about a range of issues that tied in with other people's aims. So the Better Streets initiative was a real catalyst for change for our group.</p> <p>I also remember very wise words that it's no good talking to the councillors that you like or who are sympathetic, you need to target councillors and others in power that actually have an influence.</p>
SI_14	We have found that through building a coalition this has helped raise awareness of our asks but of also our group within the local community. This has brought an added benefit as we have been able to make use of some skills from our coalition partners.

	In terms of difficulties, I would say this is around time. Building of these relationships and maintaining them is a sizeable time commitment.
SI_15	It has been a really good way of making links, which has been especially useful already in the Bow Liveable Streets campaign. I am not sure it has had much impact on the council. We should've perhaps been more forthright in waving our coalition around in front of the council.
SI_16	

Survey ID Q10 - Overall, what impact do you think providing clear goals, vision, and/or key asks has had on your group, engagement with other groups or with council?

- SI_1 A lot - it focuses our efforts - we appear more professional to all stakeholders. It also gives a sense of achievement.
- SI_2 A great impact - people can see at a glance of our website or Facebook what our asks are, we can track their success or otherwise as a group, and it's clear to the council what we are pushing for.
- SI_3 I think it has helped to make us more effective by focusing our energy and limited resources.
- SI_4 NA
- SI_5 For sure it is a good idea, though if rigorously done, may lose some supporters - if lucky may just find some more helpful supporters.
- SI_6 Its helped us to have more clarity and understanding when talking with councilers and officers
On a personal level, it has given me a purpose and motivation to get more involved in the group.
- SI_7 I hope this will translate with time in inspiring more people to join the group, greater engagement with the council and increased success in campaigning for better cycling infrastructure.
It's still a work in progress, so hard to say the impact it's hard thus far, other than giving me clarity in my role, but I think it'll be very helpful with coalition building and giving us a framework for working with local groups. I anticipate it'll be much easier working with local groups if they share our vision and key asks.
- SI_8 As far as working iwth the council, I think the comms policy and org structure that came out of the strategy has really helped because now we have a much more unified message when speaking with the council.
- SI_9 I think it has been helpful.
- SI_10 Bad, really. Narrowed our focus onto infrastructure and led us to discard everything else. Not your fault from what you say about coalition-building.
- SI_11 Very impactful - especially to liaise with other groups such as schools, hospitals, GPs, friends of open spaces etc. The Council however never took Better Streets for a separate entity to Wheelers. In terms of Cllrs engagement, it's been easier to organise walking tours with Better Streets than with Wheelers, which has been effective to visit Waltham Forest Mini Holland...
- SI_12 I think I had to leave London before this was entirely apparent, but the work in Bow did have clear asks, which led our group to mobilize more clearly. Having direct actions upcoming was also always a great motivator.
- SI_13 Again huge difference and major impact.
It has really helped us focus our campaigning. A clear message with key asks helps focus everyone in the group and improves our engagement with other groups or the council.
- SI_14 It also helps us keep on track better and evaluate how we are currently doing against those key asks.
I think it helped energise the group (particularly the process of coming up with a vision).
- SI_15 I think it has had less of a direct impact on our engagement with the council. However, an updated set of key asks would make good campaigning material prior to the next council elections.
- SI_16

Survey ID	Q11 - What impact do you feel that your group's direct action had on your goals?	Q12 (1) Have you noticed more people in your area wanting the following? - more people wanting healthy streets	Q12 (2) Have you noticed more people in your area wanting the following? - worried about air pollution	Q12 (3) Have you noticed more people in your area wanting the following? - recognition of walking (e.g. more space)	Q12 (4) Have you noticed more people in your area wanting the following? - recognition of cycling (e.g. more cycle lanes)
SI_1	somewhat	to a great extent	to a great extent	to a great extent	to a great extent
SI_2	somewhat	to a great extent	somewhat	somewhat	somewhat
SI_3	to a great extent	to a great extent	to a great extent	somewhat	somewhat
SI_4	don't know	to a great extent	to a great extent	somewhat	somewhat
SI_5	don't know	to a great extent	to a great extent	somewhat	somewhat
SI_6	somewhat	somewhat	somewhat	not at all	somewhat
SI_7	don't know	Don't know	Don't know	Don't know	Don't know
SI_8	don't know	to a great extent	to a great extent	to a great extent	to a great extent
SI_9	somewhat	to a great extent	somewhat	somewhat	somewhat
SI_10	don't know	to a great extent	to a great extent	to a great extent	to a great extent
SI_11	to a great extent				
SI_12	somewhat	to a great extent	to a great extent	somewhat	somewhat
SI_13	to a great extent	to a great extent	to a great extent	to a great extent	to a great extent
SI_14	to a great extent	to a great extent	to a great extent	somewhat	somewhat
SI_15	somewhat	somewhat	somewhat	somewhat	somewhat
SI_16		somewhat	somewhat	somewhat	to a great extent

Survey ID	Q13 - What changes have you seen in the local media or general responses on social media, etc... that has been more positive towards active travel and your goals in general?
SI_1	More positive (helped by Covid crisis) - I've noticed a gradual change in attitudes
SI_2	Covid-19 has changed everything but we can't really claim it as a group success! However, having a 1,000-strong Facebook group with a clear vision and aims has given us a strong voice on social media locally and I think we are viewed positively and supported in our call for emergency walking and cycling measures.
SI_3	Generally more supportive. Increased membership of our BSfE FB group.
SI_4	Just that more people would like to cycle
SI_5	Don't know There has been a lot of noise on social media, some of which has raised alternative points of view.
SI_6	its a really mixed bag and a bit of a roller coaster of up and down. Tends to be lots of support in theory and then comes crashing down when the in practice bit is needed
SI_7	Don't know
SI_8	It's accepted as fact that something needs to be done urgently. There's a bit of debate how, and individuals worried about change frame their argument that healthy streets initiatives will negative affects on traffic, air pollution, climate change, etc.
SI_9	Yes, lots more positive messages.

SI_10	I don't think any of the very positive changes above have been due to us. They are due to mums groups like Mums for Lungs and the changes mandated by the government post-Covid.
SI_11	
SI_12	n/a
SI_13	Massive change at the moment – almost too much to keep up with. And with schemes that haven't been successful initially – we now have strategies to deal with these, alternatives to offer people. It's so encouraging how many councillors are now getting involved with meetings – this has never happened before.
SI_14	We have started to see more positive responses and engagement with our social media posts. We have built better connections with some local media who have been willing to cover our stories.
SI_15	Some more positive people tweeting about local issues. Not sure it's due to us though. We've engaged the East London Advertiser to get some positive articles, which has been good.
SI_16	

Survey ID	Q14 - Anything else about your local group you would like me to know?	Q15 - What do you see as the biggest barrier to local government infrastructure change?
SI_1		<p>Funding</p> <p>Local opposition - the ingrained 'car comes first' culture</p> <p>Political will was a barrier due to the attitude of the transport cabinet member - since his replacement with Ian Barnes as deputy leader, who has become a champion for low traffic neighbourhoods, we are seeing real progress.</p> <p>I have put '1' for councillors below because the current transport lead Cllr Dogan is very inactive and that may be holding up cycling projects. I honestly can't describe any other sector of the council as a barrier.</p> <p>Public attitudes are still a barrier, with ongoing anti-cycling feeling, reactionary shopkeepers and high car use/ownership in the borough.</p>
SI_2		
SI_3		
SI_4		<p>Local resident opposition</p> <p>Don't know much about this.</p> <p>Local govt seems prepared for change if - only if - there is funding. But it seems to find it difficult to balance the different elements of the community and their interests. So they will do change but not always for the better.</p> <p>Scores below are my perception of willingness to pursue Optimum solutions</p>
SI_5		
SI_6		
SI_7		
SI_8		<p>Political will, lack of ambition, dealing with outdated regulations that don't favour this type of change.</p> <p>Lack of funding from central government and lack of understanding of the climate emergency among council staff.</p>
SI_9	There has been a complete change of leadership at the top. Andy and I both stepped down for personal reasons. The new leadership is inexperienced and anxious.	
SI_10	Since launching Better Streets we've definitely had more parents coming along to the meetings, who want a better environment for their children. Since the quarantine, Zoom / online meeting seem to also have opened up	<p>motorists who live within the borough</p> <p>Risk adverse officers - who always put in any risk assessment that residents will oppose parking suspensions or road closures. It is terrible but this consideration isn't balanced from the outset with the benefits those residents</p>
SI_11		

opportunities to participate for people who may not have the time to come to a physical meeting because of travel distance, family commitment, etc. We're currently trying to lock in some of that new participation.

will enjoy. There's also the political side of things - elected members always assume that parking is a holy grail, is popular as well as revenue generating. This is so flawed and we need a whole new way of generating revenue. Political will to go against (usually more affluent) car owners / the status quo.

SI_12 n/a
I'm wondering if the whole organisation needs rebranding with the better streets logo? It's been so successful and positive in bringing in new members, new alliances, new supporters.

Political will at council level, lack of ambition. Parking seems to be a huge issue for this council – very reluctant to take on.

SI_14 The number of active members has grown.

Political will
Lack of ambition from officers and councillors, perhaps derived from ingrained (but inaccurate) ideas that so-called "anti-car" measures will be on balance politically costly. Local councillors are supportive of change but they have many vocal constituents who are not.

SI_15

SI_16

Survey ID	Q16 (1) - Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Councillors	Q16 (2) - Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Directors of Divisions	Q16 (3) - Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Senior Transport Managers	Q16 (4) - Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Cycling officer	Q16 (5) Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Transport engineers	Q16 (7) Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Other, please specify	Q16 (text) - Who do you see as the biggest barrier to changes within council? (rank 1 - 6 with one being the most and 6 being the least, you can rank them equally if you prefer) - Other, please specify - Text
SI_1	1	5	6	6	6		
SI_2	1						
SI_3	1	3	2	5	4		
SI_4	1	2	3	4	5	6	Don't know the mechanics
SI_5	5	5	4		3		
SI_6	1				2		
SI_7							
SI_8							
SI_9	2		1		3	4	Council leader and cabinet
SI_10							
SI_11							

SI_12	3	1	2	5	4		
SI_13	1	4	2	5	3		
SI_14	5	3	3	6	3		
SI_15					1		
SI_16	4	3	3	5	5		

Survey ID	Q17 - How has your relationship with council staff changed? For example, have you noticed a change in the language that council use, has it increased early engagement with plans/schemes, or do they ask your more regularly for advice?	Q18 - Regarding your relationship with LCC head office, what are your biggest barriers to engagement or working with them? How do you think they help or hinder activist engagement?
SI_1	They ask for advice, engage with us and seem to respect us	I haven't worked with LCC head office
SI_2	It's been patchy. We have a good relationship with the key officer who heads up the Healthy Streets programme, but we have had to take the initiative in setting up meetings with him to hear his priorities, and there has been poor early engagement - sometimes seeing plans in high secrecy a few days before they're released. This is a council issue with a culture of secrecy that extends to cabinet members not even consulting ward councillors. We are aware of the need to work on this and ask for proper early engagement.	We have had a lot of support from Simon Munk as infrastructure campaigner which has helped our engagement significantly, eg drafting maps of LTNs, being informed enough to engage with officers on schemes. The only criticism I have is that sometimes the example or advice on engagement with 'opponents' including councillors is quite adversarial. I would like to see more of a culture at LCC that is deliberately non-confrontational and finds ways to work with others and find common ground. Maybe some guidelines need to be drafted and agreed to this end - I think it is a value of yours, but not articulated. The groups who are most effective do not position themselves as adversaries of councils or opposing groups such as residents or businesses, but stick to the facts, keep a respectful dialogue open, offer to help etc. I would like to see LCC articulating and guiding groups towards this approach.
SI_3	Has increased early engagement but this is frustratingly intermittent. Recently the Cycle Enfield lead has been engaging on a more detailed level and I'd say that we have a more authoritative voice and consider our opinion more.	Simon Monk very helpful as a sounding board when we are in two minds about an issue.
SI_4	NA	NA
SI_5	It is going for earlier engagement, but tends to limit how much of plans it is prepared to discuss and modify. -"this part we will discuss with you,	Can't comment

	<p>but this other part is fixed and we intend to do regardless"</p> <p>In a different scheme 3 years ago, the Council took note of - but refused to examine for about 12 months - an alternative plan developed and later crowd-funded by residents, then said that although the alternative plan had merits and was closer to the new Healthy Streets approach, it was now too late to consider. I think they are trying a little bit harder, but jury is out on that.</p>	
SI_6	<p>Slowly its improved we had a fairly bad standing and had been working to fix this the work around the strategy has helped accelerate that</p>	<p>Biggest barrier is getting information about members in our area</p>
SI_7		
SI_8	<p>To answer Q16, because I'm not sure of the ranks. I don't have enough experience with Directors of Divisions. Council leads don't have enough ambition, they don't push enough and they're worried about upsetting people. Senior managers are stuck in their old ways, and too, don't look for creative solutions, just give reasons why things can't be done. Engineers are better, but don't have the support they need from leadership and could do with more knowledge on how to design active travel infra. But there's also an issue with the status quo and regulations that really support travel by car.</p> <p>Ok, the actual question, not sure how it's changed, but right now we do engage with the council but they still really hold back what they tell us. Officers tend to ask us for advice more, but we don't get to feed in enough input to council and officer leadership.</p>	<p>Generally I get quick replies to my inquiries, though there some things I've been trying to chase up for months. There could be more to connect LCC members with their local groups (especially since the insert no longer goes out in magazines) and it'd be great if head office were more proactive on this.</p> <p>It would be great if LCC reached out to us when they were doing things in our borough (campaigns, comms for socials, etc), there's been a few times where we've found out after the fact.</p>
SI_9	<p>Yes, I think there is more early engagement, but there are still some frustrating unexplained silences in response to (for example) direct asks for action during the lockdown.</p>	<p>I'm not particularly engaged with them. If they had the staff available, I'd love to see a more 'flying squad' kind of involvement with local groups offering help at sticky points.</p>
SI_10	<p>We previously had a good relationship with council staff and councillors with early engagement etc. It didn't always result in what we wanted but we were engaged in new schemes from the beginning and asked for advice etc.</p> <p>I don't know what is going on now but the council has made an official complaint about the behaviour of one of our representatives and we</p>	<p>I think they get over-controlling. We are all volunteers and trying to control us just leads individuals to dis-engage.</p>

	have all been reminded that it is OK to be assertive but not to be rude/personally insulting.	
SI_11	Sadly very little. We've had some positive meetings with new officers who we had never met before and who are very much in line with the Better Streets / Liveable Streets approach, but the existing officers we used to deal with have not changed much. For instance traffic filters are still be designed as impermeable to cyclists, we are told that it is to prevent motorcycles from using the filters... There's an old mentality and it is very hard to influence certain designs. Luckily Project Centre is the consultant for liveable streets, their staff seem more capable of designing good cycle infrastructure - which hopefully will replace the standards used elsewhere in the borough.	I think they've been very helpful, Simon Munk has always provided great infrastructure feedback, tells us hot-off-the-press news all the time so we can organise responses. The only difficult thing I guess could be the relationship with Better Streets - as the entity is ultimately linked to LCC. I don't see this as a problem necessarily, but when opponents 'scrutinise' Better Streets then find out that it's all link to LCC - which can entertain some fantasist 'conspiracy' theory and undermine Better Streets amongst reluctant cllrs. This said, I think this issue is a low risk.
SI_12	n/a	I had a great experience with the head office / Simon Munk as well as working between them and TfL / Michael Barrett. This was less through Tower Hamlets, though, and more by my own initiative.
SI_13	The soundbites from the council are all very encouraging – yes we do get a few rogue councillors with offbeat ideas, but they are generally on message with the current Labour Party line on cycling. It's slow implementation – or no implementation that's the problem. I'm not sure about early engagement or whether they ask more regularly for advice. But communication does seem to have improved	I've had nothing but positivity and support from head office with any issues I've had problems with. They do a tremendous amount given the size of the team.
SI_14	We have developed new relations with council staff that we didn't have before, but some officers seem less willing to engage now than before.	
SI_15	We now have good early engagement from the council's consultants. We previously had engagement with officers which has continued as previously.	They definitely help! They could perhaps have more staff assisting local groups (as the assistance we do get from Simon and Fran is great) but that would obviously cost money which they don't have.
SI_16		I don't have much contact with them but they are generally supportive when I need material for events and rides.

Survey ID	Q19 - Do you think LCC is following its own campaigners' handbook? e.g. the strategy that was put in place by me or during the research project (building coalitions, having clear goals, volunteer lists, etc...)	Q20 - Anything else about the LCC campaigning activities, local group working relationship or other LCC head office context you wish to add?
SI_1	I don't know	
SI_2	Some more guidance for groups to this end would be useful, as we did at the activist conference in 2019.	As joint coordinator I struggled to keep up with the information coming from LCC and the tasks I was meant to do, such as attending group forums, passing on information or completing LCC surveys and training. I think that was just a personal capacity/organisational issue but something to be aware of.
SI_3	yes	Generally LCC are much better than they were before in supporting local groups. Previously very much focused on central campaigns. Now more of a focus on supporting local groups and giving them direction.
SI_4	NA	NA
SI_5	I think so	
SI_6	mostly	
SI_7		<p>I'm still learning about LCC through Southwark cyclists.</p> <p>One thing which has really helped is have the trustees attend our meetings. Really enjoyed the campaigners conference you organised too! This kind of event really helps you feel part of a wider group. I wasn't a member of LCC, but after this conference I wanted to be.</p> <p>Also great to see LCC employees involved in SC discussion channels and offering useful tips and feedback. Feels like a partnership between LCC and local groups, rather than a hierarchical relationship with LCC at the top.</p>
SI_8	As far as I can tell.	There's been a couple of times when we wanted to send time sensitive mailers and the civi process slowed it down. Having LCC give feedback on mailers is really helpful, and I very much understand that everything can't be dropped to do this instantly (though response is usually very fast), but it'd be nice to be able to send something without getting signed off for those occasional times.
SI_9	Not sure. I think (given resources!) it would be great to have a better way to capture local knowledge and resources during handovers - LCC perhaps doing an informal 'exit interview'	

	with local group chairs (or providing a template for this to be done locally).	
SI_10	don't know sorry	no
SI_11	I think I need to give this question a little more consideration - but generally I would say yes	No - but again I may need more time to think about this and get back to you separately.
SI_12	It was not always clear to me that that was the case.	I only felt like I truly understood LLC/ its goals during the conference. It was difficult to understand from afar.
SI_13	Probably not! Early days? We definitely need another campaigners conference to embed these ideas more fully. And to do this would mean having much more control over what happens at a local level – there are problems around this as lots of local groups have got used to doing things a certain way...You have been a terrific role model for how it should be done. Danger is that people invest in the person rather than the handbook...	As a Board member probably huge amount of unconscious bias here! Office do a great job (she would say that wouldn't she...)
SI_14		
SI_15	To my shame I haven't read the campaigner's handbook recently enough to be able to say.	
SI_16	I think so but as previous stated I don't have much contact with them.	

Survey ID	Q21 - Do you feel that participating in this research project has provided more skills to engage politicians and others on COVID street related actions?	Q22 - What strategies are you applying to COVID related campaigning?
SI_1	Agree	Following our goals Engaging with Council politicians and officers Active social media
SI_2	Agree	
SI_3	Agree	Main focus is to get visibility of plans and influence their final design. The council are focusing on "shelf ready" plans and our suggestions about temporary bike lanes supplementing tube line routes have not being considered.

SI_4	Undecided	NA
SI_5	Undecided	
SI_6	Undecided	We ran workshops with councilors bringing in Labour cycles so they would understand the issues in the language of their own party
SI_7	Agree	Regular meetings with the council Positive reinforcement of what the council is doing publicly (challenging in the background) Reaching out to other local groups to potentially build a coalition
SI_8	Agree	I think it's just helpful to have a strategy to keep focused during this time (though it is also helpful that our strategy aligns with TfL and DfT guidance).
SI_9	Agree	There has been real unity and shared purpose with other local campaigns (Mums for Lungs on air pollution, Living streets on walking). Not so good on reaching out to shopkeepers' groups, TRAs etc.
SI_10	Undecided	I am not part of the organised group's Covid-related campaigning and I don't know what's happening. Minutes of meetings are not being published and the outcome of campaigning or campaigning asks are not being reported on the website or the google group. Personally I am supporting the Covid-stuff being put forward by the council on local social media and publicising it to the google group so that individuals can choose to support it (or not)
SI_11	Agree	We are putting together a map of the recommended covid-19 interventions, liaising with the Whitechapel hospital, providing 1 to 1 cycle rides for new cyclists. All in all a range of activities that engage different people with different interests. I think a next step is probably to engage members from the coalition and gather consensus around what needs to be done.
SI_12	Agree	I am using the coalition building skills I gained doing cycle campaigning to wager large scale coalition building in Houston, TX around abolishing policing in our community.
SI_13	Agree	Doing a lot of responses to council streetspace plan, plus big push on social media. Ensuring key staff/board members are supported during crisis
SI_14	Agree	
SI_15	Agree	Asking people to email key political figures. In Tower Hamlets this sadly hasn't been very successful -- very little Covid funding has been won.
SI_16	Agree	Due to personal reasons I have not been active recently.

Survey ID	Q23 - How do you think COVID has affected your groups goals?	Q24 - What could have been done differently during the research which might improve the approach or outcomes for the group?
SI_1	Made them more attainable	I wasn't involved in the research but went to a workshop. The workshop was good but I think tighter

		participant/time management would've been good.
SI_2	Made cycling infra (pop-up lanes) and LTNs much more urgent! Also 20mph	I can't think of much - it was all really helpful. I remember the first or second workshop tried to cover too much ground in two hours so maybe that could have been split into two. I only really understood the 'finding a vision' exercise after attending another workshop you ran on the topic because we had to rush through it the first time. But I got there in the end.
SI_3	The focus has been more about supporting existing plans and feeding back into their final design.	
SI_4	Not part of the Committee but social rides suspended however, people have come up with ideas for buddy riding for people now experimenting with cycling to work due to problems with public transport. SC always responsive to local demands which is good.	NA
SI_5		
SI_6	It has slowed us down as we were part way through building a strong relationship and the lack of in person meetings has made this a challenge. The council loss of funding has stalled lots of projects	
SI_7	Hasn't changed. On the contrary, it has reinforced our goals and made them even more important.	Would have loved to meet the other groups and maybe done joint workshops, learning from each other (though realise it may not have been possible. It was already a challenge to get SC to schedule the strategy workshop!)
SI_8	Everything has become a lot more urgent and that's resulted in achievements that would have taken much longer. It's really sped things up.	Hard to say because I only partially attended and wasn't involved in pulling the strategy together.
SI_9	There's been a real sense of urgency, that this is a chance either to make the changes that have long been needed/defined/campaigned for, or to let things become even worse, more dominated by cars. It has been very satisfying to feel that the groundwork has already been done, so the council can bring forward schemes already consulted on, or more examples of measures that have been timidly piloted (eg school streets). So the goals haven't changed, but there are more good reasons to pursue them, and more people can see the point.	More efforts to involve once and future cyclists in setting the strategy (even if they might not take an active part in implementing it) e.g. parents, residents in flats without bike storage etc.

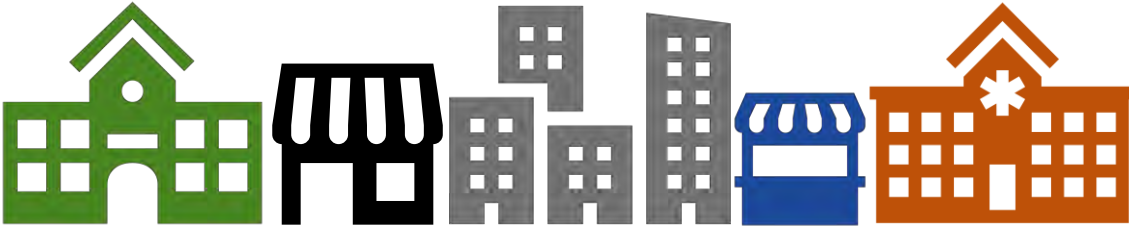
SI_10	I don't know. They seem to get angry about stuff that is for walking and only to care about cycling. Both the anger and the cause are unattractive	<p>If you are favouring coalitions then that should have been highlighted much more. The only thing that came back to me was "have a goal and organise everything around that".</p> <p>Potentially that can be interpreted very narrowly and intolerantly.</p> <p>It's the opposite of the flexibility, communicativeness and willingness to compromise needed to build a coalition,</p> <p>I think there's a danger that buzzwords like "campaigning" and "activism" can easily be translated into "shouting" and "no compromise with the council".</p> <p>I think our group has narrowed and lost wider influence.</p>
SI_11	More consensus - more passion and a momentum that if political will does not materialise in action there will be drastic consequences in terms of congestion, social and spatial justice. I think we are acting swiftly given the context.	I think the parklet or street party were really effective. It would have been great to do maybe more planning around these events.
SI_12	n/a	I don't think we effectively tried to bring in new members, which could've helped our bandwidth.
SI_13	Actually - it has made us more inclusive - better attendance at meetings, more opportunities to contribute online, more involvement by council. Covid has prioritised cycling and raised it up the political agenda too	I wasn't at launch of project - did you give a brief handout explaining aims, strategies, approaches and hoped for outcomes? So when it comes to a survey like this people can clearly see their progress, what they have done and what they have missed
SI_14		
SI_15		
SI_16	Quite a lot. Many action plans have been shelved for the time being, video conferencing is not the same as face to face meetings. Social gatherings have been banned so it has been difficult to engage with the local community.	

Survey ID	Q25 - Anything else you would like to tell me about this project related to me, my methods, the research process, or workshops?	Q26 - What is your role within the group? (for example, specific duties you might do, or your actual role: e.g. committee member, attend meetings, general volunteer, email list) (OPTIONAL)
SI_1		
SI_2	I liked the way you ran workshops and made them properly interactive, made us think and move around the room and everyone got to contribute. And just the sheer wealth of ideas and information you always had to hand. Finally, your whole 'can do' approach is very inspiring and empowering. That might have been my favourite part!	
SI_3	Really enjoyed the workshops. Rather than making things up as we went along it gave a clear focus and direction and renewed energy to the group. Helped us to be more innovative and look closely at potential initiatives and how effective they could be.	
SI_4	NA	
SI_5	I have really only seen anything about this project very recently	
SI_6		
SI_7	Loved your involvement! You've been inspiring to work with and look forward to reading your PhD.	
SI_8		
SI_9	Your presence in the meetings with the council was useful - both for contributions made but also the sense of the process being observed. The idea of an observer made me reflect on the process/effectiveness of the meetings. It was always good to hear what other groups were doing as inspiration or suggestion, but this seemed a bit adhoc, and that there was much more you could potentially share (perhaps that's for the new flying squad role at LCC!)	
SI_10	I think you are really nice and your track record is impressive. Maybe you need to take more account of personalities ie the way that certain personalities can interpret stuff. Or maybe that is just obvious :) and nothing can be done about it.	
SI_11	I look forward to reading more about the barriers and leverages that you have identified.	
SI_12	Just a big thank you!	
SI_13	Every workshop has been a great experience - really positive. Your methods - you give a lot of direction which is helpful. But may mean now you are gone it is harder to replicate. Yes you have handbooks, guides which is helpful. But we don't have the individual that gave the direction. Perhaps consider how you can consciously build one individual in the group to take on this role	
SI_14	The workshops were very useful and your guidance has helped shaped our strategy as a group	
SI_15	I'm not sure this is a big issue, but I'd note that we missed the timescales in our campaign plan. Perhaps they were unrealistically tight. I like the idea of having intense bursts of campaigning followed by a rest, but I am not sure that it fully works in real life. Often campaigning is opportunistic: if a scheme goes to consultation we will always want to campaign for a positive response, even if it is in a "rest" period. Equally, if a key councillor is keen to meet us we won't say "no" because it's in a rest period.	
SI_16	Loved your workshops, brought a refreshing change to the way we worked.	

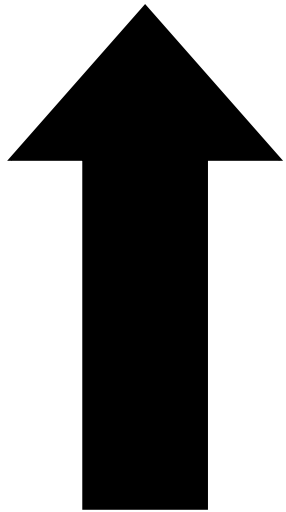
Appendix F Group resource graphics

F.1 Community and business engagement posters

F.2 Better Street graphics general



Palmers Green High Street



15 min

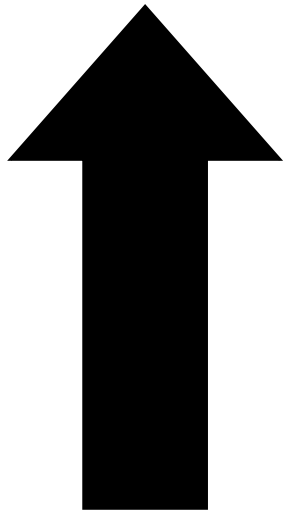


10 min





High Street



min



min



TO OLYMPIC PARK



ROMAN ROAD TRUST



8 MINS



27 MINS



TO BETHNAL GREEN STATION



6 MINS



21 MINS



**TO MILE END
CLIMBING WALL**



3 MINS



11 MINS

TO CRANBOOK COMMUNITY FOOD GARDEN



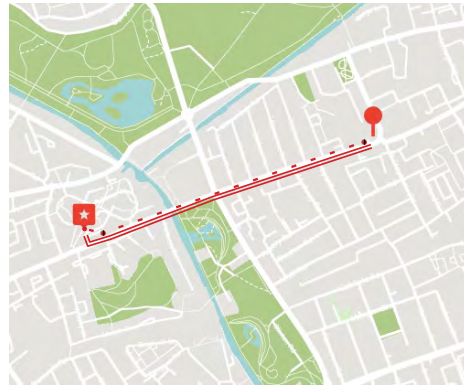
ROMAN
ROAD
TRUST



5 MINS



13 MINS



TO BETHNAL GREEN STATION



6 MINS



21 MINS

TO BETHNAL GREEN STATION



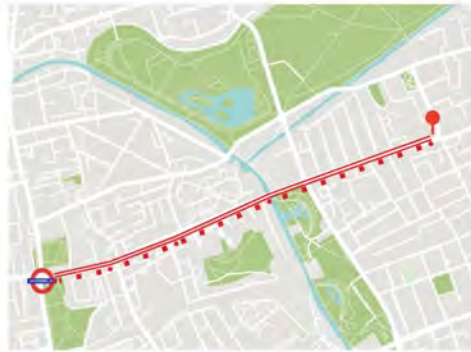
ROMAN ROAD TRUST



6 MINS



21 MINS







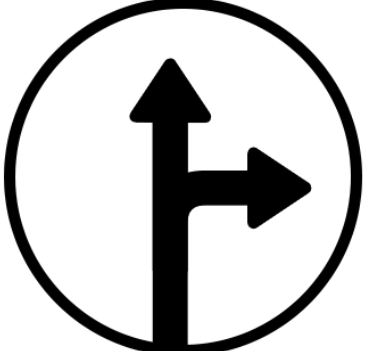
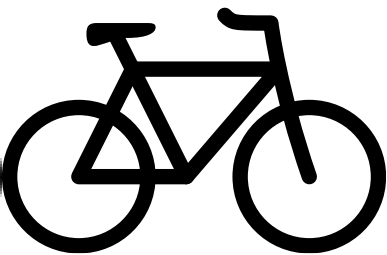
BETTER STREETS
FOR TOWER HAMLETS







BETTER STREETS
FOR TOWER HAMLETS



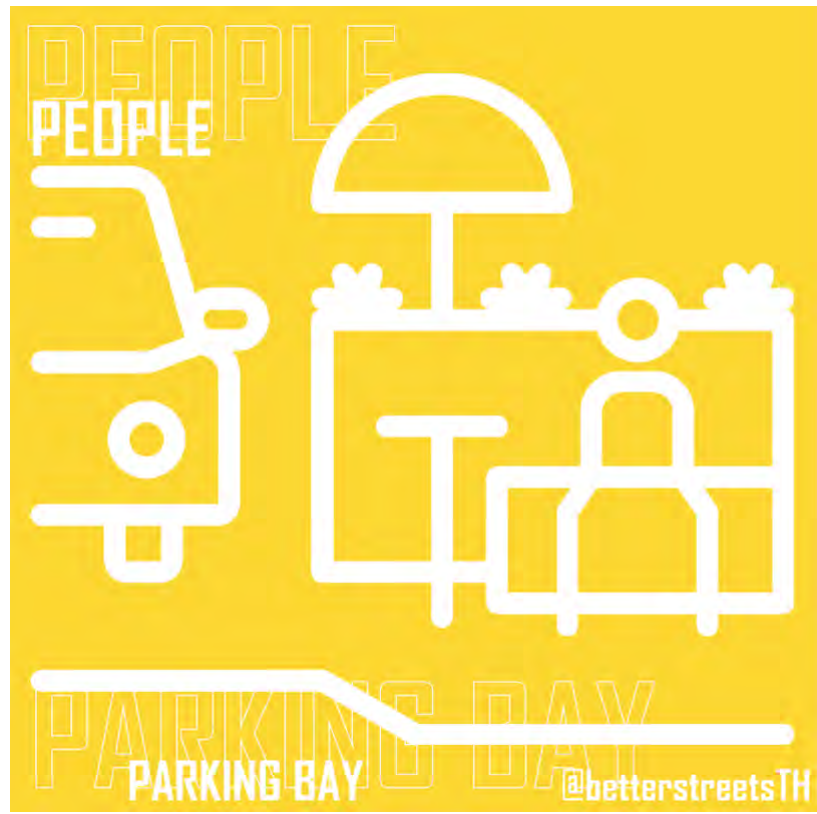


TWEET YOUR IDEAS FOR A #GREEN #TOWERHAMLETS TO
[@BETTERSTREETSTH](https://twitter.com/betterstreetsth) [BETTERSTREETSTH.ORG.UK](http://betterstreetsth.org.uk)



We want better, healthier and safer streets for everyone in the borough. Streets with clean, unpolluted air and green public spaces for everyone to enjoy.

Join us at betterstreetsth.org.uk
Tweet your ideas to [@betterstreetsTH](https://twitter.com/betterstreetsTH)





OUR VISION

Better streets, healthier streets, safer streets that are equal for everyone in the borough.

- We want streets that provide the ability to walk, bike, skip, scoot, or skate safely.
- Streets around our schools where we see more children using active travel than riding in cars.
- Clean streets with zero air pollution, so we can breathe easy.
- Vibrant high streets with people visible in all spaces relaxing, socialising, and supporting our local businesses

OUR ASKS



Every school has a school street



A liveable neighbourhood in each ward



Zero days air pollution



All developers & council must provide secure cycle parking facilities



Prioritise pedestrian only spaces - high street footfall

OUR PRINCIPLES



Clean unpolluted air

Safer spaces everyone feels safe and comfortable

Providing more space to pedestrians and cycle users

Spaces that encourage being active and healthy

Thriving communities / Businesses thrive and communities are more cohesive, there is less social isolation

Greener everywhere

THEY SUPPORT US



#PEOPLE PARKING

Parking bays can be used for more than just parking cars.

This was created because people who don't have a car in Tower Hamlets drastically outnumber those who do. Yet all of our kerbside space is devoted to car parking. Cars are parked - on average - 95% of the time! Surely we can find a better use for at least some of our previous roadside space?

Why not allow people to park themselves along a road instead, or give children a space to play, or simply have something lovely to look at, say, a mini-garden?

This is just one example of what we could do in a parking space. Please do park yourself here, as

TWEET YOUR IDEAS FOR A #GREEN #TOWERHAMLETS TO
@BETTERSTREETSTH BETTERSTREETSTH.ORG.UK



#PEOPLE PARKINGBAY

Parkingbayscanbeusedformorethanjustparkingcars.

Thiswascreatedbecausepeoplewhodon'thaveacar in TowerHamletsdrasticallyoutnumberthosewhodo. Yet allofourkerbsidespaceisdevotedtocarparking. Cars are parked - on average - 95% of the time!

Surelywecanfindabetteruseforatleastsomeofour previous roadside space?

Whynotallowpeopletoparkthemselvesalongaroad instead,orgivechildrenaspacetoplay,orsimplyhave something lovely to look at, say, a mini-garden?

Thisisjustoneexampleofwhatwecoulddo inaparking space. Pleasedoparkyourselfhere, aslongasitlasts.

Wewant#betterstreetsin#towerhamletswith#clean, #unpolluted #air and #green #public #spaces for #everyone to enjoy.

**TWEET YOUR IDEAS FOR A #GREEN #TOWERHAMLETS TO
@BETTERSTREETSTH. BETTERSTREETSTH.ORG.UK**





INSTRUCTIONS FOR CONDUCTING A TRAFFIC COUNT

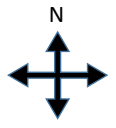
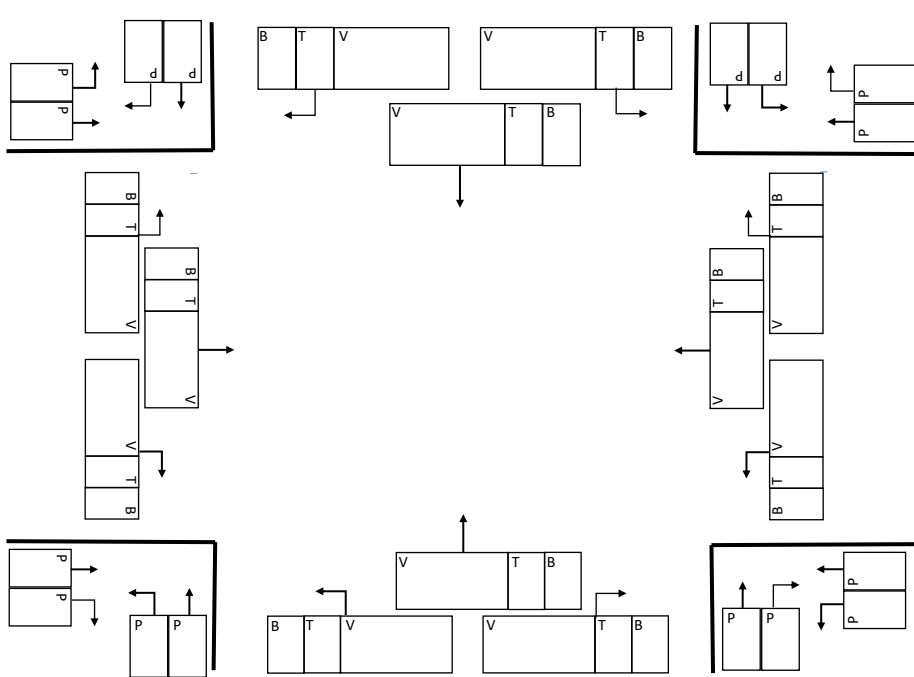
These instructions explain how a volunteer can conduct a traffic count with sufficient accuracy to allow the data to serve as evidence. The purpose of the count is to determine the volume of traffic (cars, trucks, and other vehicles) traveling a specific section of road.

Following are the steps involved in conducting a traffic count.

1. Begin the count at least a half-hour before you anticipate the maximum volume of traffic. In most areas maximum traffic volume occurs during the morning and evening weekday (workday) rush-hours. Generally rush-hours occur between 6:30-9:30 AM and 5:00-7:00 PM.
2. Make counts in 15-minute increments. If you begin at 7:00 AM then count the number of vehicles traveling the road from 7:00 to 7:15 AM. Begin the count again for the period of 7:16 to 7:30 AM, and so forth.
3. Use the military approach to recording time. With this approach a 24-hour clock is used. So 7:00 AM is 0700, 1:00 PM is 1300, and 7:00 PM is 1900. This way no one will confuse your morning count with the evening rush-hour.
4. Use hatch marks to record each vehicle. At the end of each 15-minute period total the hatch marks and note the total.
5. For most traffic counts there will be two directions of flow - east/west or north/south. Record traffic flow separately for each direction (as shown below). Generally you should distinguish between cars and trucks. A "truck" is any vehicle with 6 or more tires or 3 or more axles. Everything else is a "car."
6. Be sure to wear bright orange garments and stay well back from the flow of traffic.

References:

Adapted from <http://ceds.org/pdfdocs/TrafficAll.PDF>



Appendix H Social Media Guide

H.1 London general social media guide

H.2 Tower Hamlets social media guide



Social Media Guide

1. Tips for using Twitter and Facebook

- Use our [‘How to find your elected representatives in England’](#) guide to identify your local representatives. Make a list of who you want to tweet at and share Facebook posts or messages with and search for them a few days before the event, these might include:
 - ✓ Your MP
 - ✓ Mayor of London - @MayorofLondon
 - ✓ Your ward councillors
 - ✓ Your Council Leader
 - ✓ Your London Assembly Member
 - ✓ Chairs/Deputy Chairs of the London Assembly’s Transport and Environment Committees
 - Environment
 - Chair: Caroline Russell - @CarolineRussell
 - Deputy Chair: Leonie Cooper - @LeonieC
 - Transport
 - Chair: Caroline Pidgeon - @CarolinePidgeon
 - Deputy Chair: Florence Eshalomi - @FloEshalomi
 - ✓ Your borough council (@xx)
- Keep your tone positive and respectful even if you are being challenging or critical.
- Use the hashtags #betterstreets and #London-
- If you have enough characters remaining in your tweets, it might be good to add in #schools or #airpollution into your tweets so they are picked up and retweeted by a larger audience.
- Tag or retweet to the @London_cycling Twitter accounts.

- If you are directing your tweet at somebody in particular, make sure that others can also see it by **putting a full-stop** before their Twitter account name to start the message, e.g.: “.@[yourMP] will you... “.
- If posting on Facebook, focusing on your ‘personal better streets story’ could win more likes and shares – write about how the street in your area affects you, your children and your community and why this has led you to call for action.
- Although there are no character restrictions on Facebook, it’s still best to keep posts short and to the point.
- Add images/photos of you and your children (if you feel comfortable doing this) or your local better street hotspots so your tweets and posts have more impact.
- Keep an eye on other people using the #betterstreet and like and retweet if you are supportive of what they say: it will help spread the message and give you more material to share.
- You could include hashtags for your borough, constituency or council ward to gain local interest.
- Share Facebook posts with the **xx Facebook group** and your own groups and networks.

2. Suggested tweets

#BetterStreets

@your twitter handle @lcc

- ✓ We want better, #healthier and #safer #streets for everyone in the #TowerHamlets @TowerHamletsNow.
- ✓ @[yourMP/councillor/council leader] we need urgent action for #betterstreets in #[your borough/constituency], **can you show your support for the #low-traffic neighbourhoods?**
- ✓ Ask your MP to join us in supporting bold action to tackle #London’s congestion and toxic air to protect our children's safety, health, and future where they live, learn & play #[your constituency] #Better Streets @yourtwitterhandle @LCC

3. Suggested hashtags

4. Lists to follow



Social Media Guide

1. Tips for using Twitter and Facebook

- Make a list of who you want to tweet at and share Facebook posts or messages with and search for them a few days before the event, these might include:
 - ✓ Tower Hamlets borough council ([@towerhamletsnow](#))
 - ✓ MPs (Jim Fitzpatrick/ [@FitzMP](#) or Rushanara Ali/ [@rushanaraali](#))
 - ✓ Mayor of London - [@MayorofLondon](#)
 - ✓ Your ward councillors – full list [here](#)
 - ✓ Council Leader – [@MayorJohnBiggs](#)
 - ✓ London Assembly Member - Unmesh Desai/ [@unmeshdesai](#)
 - ✓ Your local school, community centre, GP or business
- Keep your tone positive and respectful even if you are being challenging or critical.
- Tag or retweet to the [@BetterStreetsTH](#) Twitter accounts.
- All tweets should include the following hashtags #betterstreets #towerhamlets
- If you are directing your tweet at somebody in particular, make sure that others can also see it by putting a full-stop before their Twitter account name to start the message, e.g.: “.@[yourMP] will you... “.
- If posting on Facebook, focusing on your ‘personal better streets story’ could win more likes and shares – write about how the street in your area affects you, your children and your community and why this has led you to call for action.
- Add images/photos of your local better street hotspots or you and your street, local area, school walk/children (if you feel comfortable doing this) so your tweets and posts have more impact.
- Keep an eye on other people using the #betterstreet and like and retweet if you are supportive of what they say: it will help spread the message and give you more material to share.
- You could include hashtags for your borough, constituency or council ward to gain local interest.
- Share Facebook posts with the **xx Facebook group** and your own groups and networks.
- **Follow our list** of people and groups in tower hamlets.

2. Suggested Tweets

- We want better, #healthier and #safer #streets for everyone in the #TowerHamlets @TowerHamletsNow.
- .@[yourMP/councillor/council leader] we need urgent action for #betterstreets in #[your borough/constituency], can you show your support for the #low-traffic neighbourhoods?
- .@Mayorjohnbiggs join us in supporting bold action to tackle #London’s toxic

air to protect our children's lungs from #airpollution where they learn & play
#towerhamlets #CleanAirforChildren @ClientEarth @lunguk

Vision

- I want #betterstreets in #towerhamlets where I can choose to #walk, #bike, skip, scoot, or skate in #safety and comfort.
- I want #betterstreets in #towerhamlets that enable my #children to travel to and from #school without #cars.
- I want #betterstreets in #towerhamlets with #clean, #unpolluted #air and #green #public #spaces for #everyone to enjoy.
- I want #betterstreets in #towerhamlets thriving with #people relaxing and socialising, supporting #local #business to build our #community.
- I want #betterstreets in #towerhamlets that provide #space for #pedestrians and #bikes encouraging #healthier, more #active lifestyles. @london_cycling.

Key asks

- @[your school] I want a #SchoolStreets closed to motor vehicles at pick up & drop off time. @BetterstreetsTH
- @[yourcouncillor] I want a low-traffic neighbourhoods in #[name your ward] ward. @BetterstreetsTH
- @towerhamletsnow I want #Zero days with #airpollution over the legal maximum. @BetterstreetsTH
- I want more #secure #residents' and #visitors' #cycle #parking from the @towerhamletsnow and #developers
- We need more #spaces without motor traffic to increase #highstreet #footfall & create spaces for #people. @[name a business] @BetterstreetsTH

3. Others comms' and facts

- Visit the better streets for tower hamlets website for images and other support.
- Supporting data and facts for better streets can be found here.

APPENDIX I

Event #	Group	Title of event	Purpose	Date
1	LCC	Board meeting	Quarterly meeting	2017-10-25
2	LCC	Campaigns and Active Membership	Quarterly meeting	2017-11-22
3	LCC	Research development	Email and conversation with the Chair of LCC regard	
4	LCC	Participation Agreement	Meeting with CEO about participation	2017-11-23
5	LCC	Board meeting	Quarterly meeting	2017-12-13
6	LCC	survey meeting	Discussion of local group survey	2017-12-18
7	LCC	Away day	Annual board away day, we discussed	2018-01-06
8	LCC	CAMS	To discuss local group outreach	2018
9	LCC	Local Groups	Outreach for participation in research	2018-06-25
10	LCC	Local Groups	Follow up for participation in research	2018
11	LCC	Local Groups	participation in research	2018
12	LCC	Campaigns and Active Membership	Quarterly meeting	2018-01-10
13	LCC	Business Committee	Quarterly meeting	2018-01-16
14	LCC	Research meeting	discussion of activist development	2018-01-27
15	LCC	Campaigns and Active Membership	Quarterly meeting	2018-03-07
16	LCC	Business Committee	Quarterly meeting	2018-03-08
17	Tower Hamlets	Bike Tour	Bike Tour Waltham Forest with Council	2018-03-26
18	LCC	Board meeting	Quarterly meeting	2018-03-28
19	LCC	?	?	2018-04-09
20	LCC	Local Group Forum	Quarterly meeting with local groups t	2018-04-12
21	LCC	Campaigns and Active Membership	Quarterly meeting	2018-05-02
22	LCC	Business Committee	Quarterly meeting	2018-05-08
23	LCC	Policy Forum	Quarterly meeting	2018-05-12
24	LCC	Board meeting	Quarterly meeting	2018-05-23
25	LCC	Campaigns and Active Membership	Quarterly meeting	2018-06-12
26	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2018-06-22
27	LCC	Campaigns and Active Membership	Quarterly meeting	2018-07-04
28	LCC	Business Committee	Quarterly meeting	2018-07-10
30	Tower Hamlets	Participation Agreement	participation in research	2018-07-16
31	Tower Hamlets	Participation Agreement	participation in research	2018-07-25
34	Tower Hamlets	Tower Hamlets meeting	Monthly meeting	2018-07-18
35	LCC	Board meeting	Quarterly meeting	2018-07-25
36	LCC	Research meeting	discussion of activist development	2018-08-03
37	Tower Hamlets	christmas party	Social bonding	2018-08-12
38	Tower Hamlets	Participation Agreement	Meeting with co-coordinators (Julie and	2018-08-31
39	LCC	Campaigns and Active Membership	Local Group Survey	2018-09-04
40	LCC	Campaigns and Active Membership	Quarterly meeting	2018-09-05
41	LCC	Business Committee	Quarterly meeting	2018-09-11
42	Tower Hamlets	Tower Hamlets meeting	Monthly meeting	2018-09-12
43	LCC	Campaigns and Active Membership	Quarterly meeting	2018-09-13
44	Enfield		participation in research	2018
45	Enfield	Enfield Cycling Campaign	Monthly meeting	2018-09-17
46	LCC	Board meeting	Quarterly meeting	2018-09-26
47	LCC	Local Group Forum	Quarterly meeting with local groups t	2018-10-01
48	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2018-10-05
49	Tower Hamlets	Tower Hamlets meeting	Monthly meeting	2018-10-10
50	Enfield	Enfield Cycling Campaign	Monthly meeting	2018-10-15
51	Southwark	Council Meeting	Liveable Neighbourhood Funding Mec	2018-10-15
52	Tower Hamlets	Tower Hamlets Wheelers/LBTH update meeti	Quarterly council meeting	2018-10-24
53	LCC	Board meeting	Quarterly meeting	2018-10-31
54	Enfield	traffic counts	to support low traffic neighbourhoods	2018-11-06
55	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2018-11-14
56	Southwark	southwark cyclists meeting	Monthly meeting	2018-11-14
57	Tower Hamlets	Tower Hamlets meeting	Monthly meeting	2018-11-14
58	LCC	Briefing for council	Briefing for council	2018-11-23
59	Southwark	Council meeting	email meeting Councillor Livingstone	2018-11-23
60	Enfield	Workshop	Strategy development	2018-11-25

61	Southwark	research meeting	Discussion with mary about social me	2018-11-26
62	LCC	Local Group Forum	Quarterly meeting with local groups t	2018-12-04
63	LCC	Campaigns and Active Membership	Quarterly meeting	2018-12-06
64	Tower Hamlets	Council	sharing confidential information	2018-12-06
65	Tower Hamlets	Council meeting	Quarterly council meeting	2018-12-07
66	Southwark	New Secretary	Mary - new secretary - discuss with h	2018-12-09
67	Southwark	southwark cyclists meeting	Monthy meeting	2018-12-09
68	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2018-12-12
69	LCC	Board meeting	Quarterly meeting	2018-12-19
70	Tower Hamlets	Workshop	Strategy workshop	2019-01-05
71	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-01-09
72	Enfield	Council staff meeting	One on one meeting with council staf	2019-01-16
73	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-01-18
74	Enfield	Enfield Cycling Campaign	Monthy meeting	2019-01-21
75	LCC	Campaigns and Active Membership	call with Fran about the activist worki	2019-01-24
76	Enfield	Workshop	Strategy development	2019-01-26
77	Tower Hamlets	Better Streets	online discussion to progress the strat	2019-01-28
78	LCC	Meeting	Activist workshop	2019-01-29
79	Southwark	southwark cyclists meeting	Monthy meeting	2019-02-13
80	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-02-13
81	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2019-02-22
82	Southwark	southwark cyclists meeting	Monthy meeting	2019-03-13
83	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-03-13
84	Tower Hamlets	Better Streets	online discussion to progress the strat	2019-03-18
85	LCC	Board meeting	Quarterly meeting	2019-03-27
86	LCC	Local Group Forum	Quarterly meeting with local groups t	2019-04-04
87	Southwark	Workshop	Workshop for the strategy	2019-04-06
88	Enfield	Fox Lane Quieter Neighbourhood	Presentation to the FDLRA on quieter r	2019-04-10
89	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-04-10
90	LCC	Workshop	Activist workshop	2019-04-11
91	Enfield	Better Streets	strategy discussion for changes	2019-04-16
92	Enfield	Better Streets	strategy discussion for changes	2019-04-16
	LCC	Liveable neighborhood BID	strategy discussion with staff	2019-04-24
93	Tower Hamlets	Better Streets Coalition	Discussion of the common vision for r	2019-04-29
94	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-05-08
95	LCC	Better Streets	Phone call	2019-05-13
96	Tower Hamlets	Better Streets	Better streets chat	2019-05-13
97	Tower Hamlets	Better Streets	Pop up parklet	2019-05-19
98	Enfield	Enfield Cycling Campaign	Monthy meeting	2019-05-20
99	LCC	Board meeting	quarterly meeting	2019-05-22
100	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2019-05-31
101	Enfield	Fox Lane Quieter Neighbourhood	Discussion of the fox lane low traffic r	2019-06-02
102	LCC	Policy Forum	quarterly meeting	2019-06-03
103	LCC	Campaigners Conference	To deliver the framework for change	2019-06-08
104	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-06-12
105	Enfield	Council Meeting	to discuss low traffic neighbourhoods	2019-06-13
106	Enfield	Residents Meeting	FLDRA - low traffic neighbourhoods	2019-06-13
107	Enfield	Enfield Cycling Campaign	AGM	2019-06-17
108	Southwark	southwark cyclists meeting	Monthy meeting	2019-06-19
109	Tower Hamlets	Better Streets Coalition	Meeting to discuss demonstration eve	2019-06-24
110	Southwark	Workshop	workshop for the strategy developme	2019-06-29
111	Tower Hamlets	Council Meeting	Liveable Neighbourhood meeting	2019-06-29
112	LCC	Local Group Forum	Quarterly meeting with local groups t	2019-07-02
113	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-07-10
114	Enfield	Enfield Cycling Campaign	Monthy meeting	2019-07-15
115	Enfield	Better Streets	Discuss pop up parklet	2019-07-29
116	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-08-14
117	Tower Hamlets	Tower Hamlets meeting	Monthy meeting	2019-09-11
118	LCC	Campaigns and Active Membership	quarterly meeting	2019-09-12

119	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2019-09-27
120	LCC	Meeting	Discussion of local group survey	2019-10-01
121	LCC	Local Group Forum	Quarterly meeting with local groups t	2019-10-01
122	Tower Hamlets	Workshop	Reflection workshop	2019-11-24
123	Enfield	Workshop	Reflection workshop	2019
124	LCC	Meeting	Meet with campaigns coordinator	2020-01-30
125	LCC	Meeting	Meet with campaigns coordinator	2020-01-30
126	Southwark	Southwark Cyclists	Monthly Meeting	2020-05-13
127	Tower Hamlets	Monthly meeting	Monthly Meeting	2020-05-13
128	Southwark	Southwark Cyclists	Monthly Meeting	2020-06-10
129	Southwark	Cycling Stakeholder Meeting	Quarterly council meeting	2020-07-24
130	LCC	Board meeting	Board meeting	2020-07-28
131	Southwark	Southwark BetterStreets	Monthly Meeting	2020-08-05
132	Southwark	Southwark BetterStreets	Monthly Meeting	2020-08-12
133	LCC	Meeting	Slack conversation	2020-08-22
134	Southwark	Southwark Cyclists	Monthly Meeting	2020-09-08
135	LCC	Board meeting	Policy Forum	2020-09-29
136	LCC	Board Meeting	Board meeting	2020-09-29
137	LCC	Campaigners Conference	Campaigners conference presentatio	2020-10-28
138	LCC	AGM	AGM	2020-10-28
+	other individual meetings not noted			