Children's collective embodiment—Mobility practices and materialities in mobile preschools

Danielle Ekman Ladru1 | Katarina Gustafson2

1Department of Child and Youth Studies, Stockholm University, Stockholm, Sweden
2Department of Education, Uppsala University, Uppsala, Sweden

Correspondence
Danielle Ekman Ladru, Associate Professor in Social and Economic Geography, Senior Lecturer in Child and Youth Studies, Department of Child and Youth Studies, Stockholm University, SE-106 91 Stockholm, Sweden. Email: danielle.ekman.ladru@buv.su.se

Abstract
This article looks at young children’s mobility practices in public spaces within the context of a mobile preschool practice (i.e., a preschool in a bus), with a specific focus on how materialities matter in children’s mobilities. Using ethnographic data from a mobile preschool, we argue that the mobile preschool group’s mobility should be understood in terms of collective embodiment and the mobile preschool should be viewed as a moving collective body in public space through which children can negotiate their own mobility practices and exercise agency. We show how this collective body is constituted through an assemblage and collaboration of children’s and teachers’ bodies and material objects. Collective embodiment not only enables and supports children’s mobilities in public space but also helps young children to appropriate and claim their democratic right to public space through the visible copresence of bodies and things.

KEYWORDS
collective embodiment, materialities, mobile preschool, mobility, young children

1 | INTRODUCTION

Due to the highly institutionalised character of childhood, young children usually spend their days within the spatial confines of the home, preschool building, or yard and are largely absent from public space. Ample research has shown that due to institutionalisation, risk discourses, privatisation processes, and increased surveillance, public space has become less accessible for children and more difficult for children to appropriate for their own activities (Karsten, 2003; Malone, 2007; Pain, 2006). Zeiher (2003) points out how childhood “islands” are scattered in urban space, resulting in the “ferrying” of children between these islands. Children, and young children in particular, are seen as “at risk” and vulnerable in public space and as “out of place” outside the protected space of the home, preschool building, or other “spaces for children” (Rasmussen, 2004). While it is important to acknowledge the invisibility of young children in public space, it is equally important to research their existing mobility practices beyond childhood microspaces (Ansell, 2009). Children—including young children—do in fact move both in and between different childhood arenas and other private and public spaces. They do move, whether with or without their parents, siblings, or other adults and with or without a car, bus, or bike. Hence, it is only by focusing on young children’s actual mobility practices in public space that we can know how these are enabled and restricted and how young children are able to claim public space for their own activities. As Valentine (1997) points out, in order to appropriate space, you must be allowed and feel welcome to use the space. In research on young children’s mobility, the focus is often on how children are physically active or sedentary within a particular childhood space, such as the preschool yard (e.g., Raustorp et al., 2012). Less focus has been placed on children’s mobility beyond their own neighbourhoods, in public spaces used by the general public (Milne, 2009, p. 104). In order to acknowledge young children as citizens in public spaces (Jans, 2004), it is necessary to look more closely at young children’s mobility practices in public...
spaces and to increase our knowledge about how these are performed, supported, and restricted in places both near and far (Ansell, 2009; Massey, 2005). This article looks at young children's mobility practices in public spaces within the context of a mobile preschool practice located in a medium-sized Swedish city, with a specific focus on how materialities matter in children's mobilities.

Mobile preschools are preschools in buses that take children to a variety of public spaces roughly 30 min by bus from the “home preschool” each day to engage in educational, care, and play activities. Mobile preschools are primarily a Scandinavian phenomenon; there are currently 40 preschool buses in 14 municipalities around Sweden (Gustafson, van der Burgt, & Joelsson, 2017). Having access to a large bus, these preschools enable children to travel outside the spatial confines of the preschool building and yard to experience a variety of public spaces. With a theoretical view of children's mobility as interdependent (Mikkelsen & Christensen, 2009; Nansen et al., 2015) and of children’s agency as relational (Corsaro, 2018; Holloway, Holt, & Mills, 2018; Prout, 2005), we discuss how mobile preschool children's mobility in and appropriation of public space is enabled, practiced, and sometimes restricted through a "collaboration" (Nansen et al., 2015, p. 9) between children, teachers, and a variety of materialities such as the bus, the children's and teachers' bodies, and the material aspects of the places visited. Rather than being static, this collaboration is continuously changing and being negotiated in relation to the character and/or activities of the collaborating actors. We argue that the mobile preschool group's mobility should be understood in terms of collective embodiment and the mobile preschool should be viewed as a moving collective body in public space. We will use ethnographic data from one mobile preschool to show how this collective body is constituted through an assemblage and collaboration of children's and teachers' bodies and material objects (the bus, the equipment, and natural and artificial objects in the places visited). The collective body not only enables and supports children's mobilities in public space but also helps young children to appropriate and claim their democratic right to public space through the visible co-presence of bodies and things.

### 1.1 Children's interdependent mobility practices

Although it has not been particularly focused on in population geography (Holt & Costello, 2011), children's everyday mobility has been researched extensively in fields such as children's geographies (e.g., Chaudhury, Hinckson, Badland, & Oliver, 2019; Villanueva et al., 2014), transport studies (e.g., Fyhri & Hjorthol, 2009), and environmental psychology (e.g., Kyttä, Hirvonen, Rudner, Pirjola, & Laatikainen, 2015). A considerable amount of this work has focused on school-aged children's independent mobility, that is, on children's movements on their own without the supervision of adults (Mikkelsen & Christensen, 2009). Starting with the oft-cited study by Hillman, Adams, and Whitelegg (1990) on how 7- to 15-year-old children's spatial range and independent mobility decreased dramatically between 1971 and 1990, research on children's independent mobility has tended to focus predominantly on (often quantitative) investigations of children's (often aged 7–15 years) spatial range (Kyttä, 2004; Shaw et al., 2013) and physical activity (Schoeppe, Duncan, Badland, Oliver, & Curtis, 2013) and on whether or not they move with adults (Prezza, 2007). Lately, influenced and fuelled by the "mobilities turn" in the social sciences (Cresswell, 2009; Sheller & Urry, 2006), this focus in the field has received a significant amount of criticism (Mikkelsen & Christensen, 2009). For example, Horton, Christensen, Kraftl, and Hadfield-Hill (2014) argue that actual mobility practices and what happens when children practice mobility have not been the focus of attention in this field of research. Another criticism concerns the taken-for-granted relationship in literature that equates children's independent mobility with physical activity. As an example of this criticism, Nansen et al. (2015) describe how children might walk (or run) to the bus, get on the bus, and then walk or run from the bus stop to school. Hence, mobility involves both movement and mooring (Hannam, Sheller, & Urry, 2006), and children's walks often involve a mix of physical activity and activities with less movement, such as hiding, spying on someone, or petting a dog (Cele, 2006). A third criticism focuses on the "interdependence" of children's independent mobility. Mikkelsen and Christensen (2009) argue that this concept is based on the taken-for-granted assumption that becoming independent from adults is a natural stage in a child's development. They maintain that this assumption has made the "interdependent" character of children's mobility invisible and show how children often move with companions such as friends, adults, or pets. We also consider that the focus on children's independent mobility has resulted in a lack of research interest in young children's mobility, since young children do not yet have the cognitive skills to move on their own in public spaces, and need adult or sibling companions in order to do so.

The interdependency of children's mobility is also discussed in relation to non-human living and nonliving things. Mobility is viewed as something that is social in the widest sense. Thus, mobility is an "achievement of a multitude of human-environment interfaces" (Cresswell, 2009, p. 260)—an assemblage of not only people but also things. Cortés-Morales and Christensen (2014) discuss the mobility practices of very young children (aged 2 and aged 7 months) and parents and how these always involve material objects such as push chairs, car seats, and bags. They argue that children's mobility is shaped by interdependent networks. In addition, Nansen et al. (2015) discuss how primary school children's mobility is interdependent and a product of an assemblage of other children, adults, and things; they conceptualise children's mobility as compositions, collaborations, and compromises. Mobile composition, where composition is "defined as the act of combining parts or elements to form a whole" (Nansen et al., 2015, p. 473), involves a number of travel companions, such as other children and adults, and "companion devices" (Nansen et al., 2015, p. 473), such as mobile phones, that support children's mobilities. Mobile collaboration, where collaboration is defined as "the act of working together for a common purpose" (Nansen et al., 2015, p. 475) has to do with how children's mobility is neither entirely dependent nor independent. Several people and things collaborate in enabling and supporting children's movements in public space. For
example, parents often find it reassuring when their children travel with friends or when they are able to talk to them on the phone (Nansen et al., 2015). Mobile compromise is the view that children’s mobility is shaped through negotiations between children and parents. Nansen et al. (2015) consider that mobility, on one level, might become more “independent” over time; they also argue that children’s mobility is shaped by individual and family routines and schedules. Available social and material resources that collaborate in supporting children’s mobility, such as friends and mobile phones, are used in negotiations by both children and parents in order to form compromises regarding mobility. Nansen et al. (2015, p. 479) show that children are “agentive in assembling their everyday mobility, yet also that this agency emerges from and is mediated through interdependent relationships with different kinds of companions.”

A close look at young children’s mobility practices beyond the spatial confines of the home and preschool reveals the ways in which young children are agentic in their appropriation of public space and their negotiation of their own mobility. In line with Prout (2005; see also Corsaro, 2018), we view children’s agency as not something that individual children possess but as something that is “produced and distributed through relational arrangements” (Nansen et al., 2015, p. 469), such as relations with the preschool bus, teachers, and a variety of material aspects of space. Holloway et al. (2018) underline the importance of moving beyond political liberal notions of children as holistic subjects with agency and argue for a theoretical understanding of children as embodied subjectivities/agents that are “inter-connected, porous, unbounded, and tied to a host of interdependencies to people and things” (p. 15). We will show how the materialities of the bus, other objects, and children and teachers’ bodies form a part of the interdependencies of mobile preschool children’s mobilities and how these both enable and restrict children’s mobilities and agency in different ways. Although mobility has been extensively focused on by population geographers, Holt and Costello (2011) point out that population geography has not paid much attention to children’s and young people’s everyday mobility practices or to what the authors call “micro-mobilities,” which they think of as “the stuff of everyday life” (2010, p. 301). We suggest that paying attention to micromobilities is particularly important in relation to young children, since it is through bodily movements (rather than verbal claims) that young children appropriate spaces and make them their own (Christensen & Cortés-Morales, 2016; Corsaro, 2018; Ekman Ladru & Gustafson, 2018; Manso, Ferreira, & Vaz, 2017).

2 | RESEARCH CONTEXT AND METHODS

The analyses in this article are based on an ethnographic research study performed over 14 months within a mobile preschool practice centred in the medium-sized mid-eastern Swedish town of Uppsala, for which we used a “mobile ethnography” approach (Cresswell, 2012, p. 647). This study is part of a larger project; we have also carried out shorter ethnographic fieldwork periods in two other mobile preschool practices—one in Stockholm and one in Malmö. Here, we report our findings from the mobile preschool known as the “Tommy-bus” in Uppsala. It is important to mention that although all three practices are mobile preschools, they can be said to make up very different local mobility cultures or local mobility arrangements. While all the mobile preschools are adult-led and disciplined, they vary quite substantially in the ways in which children are allowed to move in the spaces visited. In this article, we focus on the mobile arrangement of the Tommy-bus, since we observed many examples of how children were able to negotiate their mobility and engage with material objects in the spaces visited. We participated with children and teachers in the Tommy-bus, followed them while moving and mooring in and between diverse locations, made video recordings, and took field notes in order to analyse their everyday activities and mobility practices. In terms of ethics, the project has been approved by the Ethical Review Board. We were given written consent from caregivers and teachers. Children were informed about the research and about our participation by their parents, the teachers, and by us beforehand and on occasions during the fieldwork when they asked questions. During fieldwork, we were careful not to disturb the children’s activities; we remained sensitive to signs that the children did not want us around or did not want to be filmed. For reasons of confidentiality, names and details of places, children, and teachers have been changed in the text as well as in photograph captions. Also, in order to make sure that children cannot be identified from the photographs, we have used a blurring technique on children’s and teachers’ faces and on other specific details such as clothing. The mobile preschool is an early childhood education and care (ECEC) practice that has existed in Sweden for a decade and involves daily travels by bus to a variety of public spaces for educational activities and play. The places visited are often green open or wooded areas of varying sizes but can also include playgrounds, museums, and other public spaces. In Sweden, mobile preschools are a part of the ECEC system, which is attended by more than 90% of all 4- and 5-year-old children (Swedish National Agency for Education, 2017). Like all Swedish preschools, mobile preschools are funded by the local municipality and are often run by the municipality as well. However, some are run by private companies, parents, or staff. Parents pay a small monthly fee per child, 3% of the household’s income but a maximum of around 140 Euro (Swedish National Agency for Education, 2019). In terms of social class, mobile preschools are attended by children from families with differing incomes, depending on the income level of the local area the mobile preschool’s “home preschool” is located in. Swedish preschools are usually designed as home-like spaces in order to mirror the dependency of

---

1This is part of the research project “Mobility, informal learning, and citizenship in mobile preschools,” funded by The Swedish Foundation for Humanities and Social Sciences Grant P15-0543:1.

2This included a total of 44 days of participant observations with 150 hr of video recordings, in addition to field notes.

3The idea originally comes from Denmark; mobile preschools are primarily a Scandinavian phenomenon and are now increasing in Sweden. Most of these preschools are organised in the same way (Gustafson et al., 2017).

4A total of 84% of all children between 1 and 5 years of age participate in ECEC in Sweden.
young children on the family and local private sphere. At the same time, however, there has been a development towards “schoolification” in preschools (e.g., Löfdahl & Folke-Fichtelius, 2015). For Swedish municipalities, mobile preschools were initially a way to deal with a lack of preschool space, while offering preschool children new learning environments and access to green spaces. From a societal planning point of view, the need for a bus to host and ferry preschool children to different places each day raises wider questions of how neighbourhoods tend to be planned and organised with no real concern for children’s everyday lives (Cele & van der Burgt, 2015) and how facilities for children tend to be “scattered like islands on the map of the city” (Zeiher, 2003, p. 66). The mobile preschool conducts its practice with the help of a redesigned bus that is equipped with a toilet, kitchenette, and storage for diverse educational materials, toys, and food for the day. The preschool buses are often given personal names, such as “Tommy,” who is a well-known character in children’s literature about Pippi Longstocking. The bus accommodates around 20 children (4–6 years old) and three teachers, one of whom drives the bus. They leave the stationary preschool every morning at 9 a.m., drive about 30 min to diverse locations where they spend the day, and return at 3 p.m. Depending on the parents’ work schedule, children can stay at the stationary preschool before and after bus hours.

The bus is a separate division but also works as a sort of trademark of the stationary preschool, since the large bus is very visible when parked outside the preschool. The oldest children at the preschool are those who participate in the preschool bus division; the younger children, who play in the preschool yard in the morning, always gather by the gate and wave farewell to the bus. When the driver honks the horn, the children on the bus wave and the bus drives away. This acts as a signal for the younger children that it is time to go indoors and have their morning snack.

3 | FINDINGS

Mobile preschools enable young children’s participation in public spaces. The access to a bus enables mobile preschools to travel to and use a variety of spaces in and outside the city on a daily basis. Mobile preschool children’s mobility practices therefore differ from the mobility practices of children in “regular,” “stationary,” preschools, since children in the latter preschools usually spend most of their days within the confines of the preschool, indoors, and outdoors in the preschool yard, with only occasional visits to spaces outside the preschool for play or educational activities. By taking children to places outside the preschool space, mobile preschools make visible this taken-for-granted part of the time–spatial organisation of Swedish society. During the course of our ethnographic fieldwork, we noticed that it surprised people to encounter a group of preschool children in apparently (to them) unexpected spaces and at unexpected times.

Mobile preschool children’s mobility also differs from the mobility of children in regular preschools in that mobile children’s mobility is both more sedentary and more physically active. During the mobile preschool day in the Tommy-bus, the children spend a considerable amount of time sitting in their safety seats in the bus. The children sit in their seats during travel, but also while eating lunch, having snacks and listening to teachers during an educational activity; there are also “waiting slots,” while children sit in their seats as they wait for the bus to leave, for lunch to be served or to get off the bus (see also Gustafson & van der Burgt, 2015). The cramped space of the bus and the copresence of three teacher bodies and 20 child bodies (and occasionally two researchers) obviously restrict children’s mobility while inside the bus. This does not mean, however, that the children do not move at all when in their safety seats. On the contrary, we observed that the children’s (awake) bodies were never still in the same way as adults’ bodies are still when sitting down. Almost always engaged in talk and play, the children were constantly moving their arms, legs, heads, or whole bodies. Still, the children’s mobility inside the Tommy-bus should be characterised as sedentary. Outside the bus, on the other hand, there was plenty of walking, running, jumping, and climbing, and the children were often very physically active, although this depended on the type of play.

During our ethnographic field work, we have come to understand the mobile preschool as a moving collective body in public space. We understand the collective body as an assemblage and collaboration of children’s and teachers’ bodies, along with material objects such as the bus, equipment, and natural and artificial “stuff” encountered in the places visited. We imagine the collective body as a net with nodes (i.e., the children’s and teachers’ bodies and material objects) held together by rubber bands. When the collective body moves, the nodes in the nets move (and moor) individually but stay connected through the stretching ability of the rubber bands. In the analysis below, we describe how this occurs in practice and focus on how children are actively engaged in collective embodiment in their mobility practices.

3.1 | Collaborating as a collective body—Children’s and teachers’ bodies

In the everyday mobility of the mobile preschool, the children and teachers travel on the bus to a diversity of public spaces. When arriving at a place, the bus stops and parks, but the mobility of the children and teachers continues: the group gathers outside the bus (Figure 1) and then walks from the parking spot to another place in order to engage in an activity. After some time, the group might walk on to the next place to engage in another activity before returning to the bus. These walks are performed as walks-in-line by children and teachers and are a distinct feature of mobile preschool mobility practices through their recurrent and routinised nature (Ekman Ladru & Gustafson, 2018). Walking in line is a way for the group to stay together and move in a safe way and for the teachers to retain control of the group. Usually, there is one teacher in the front and another in the back of the line. During our ethnographic fieldwork, we walked in line with mobile preschool groups on many different occasions and in many different places and observed that walks-in-
The children's collective embodiment also showed itself in how the children acted in relation to the line while walking in line. Since walking in line is a crucial part of mobile preschool mobility practices and safety routines, children learn to appropriate this routine and integrate it as embodied knowledge. Walking in line is a key mobility practice in the mobile preschool; therefore, children are socialised into how to walk in line starting from the day they enrol in mobile preschool. It might be said that the children must learn to subordinate themselves to the moving collective body. However, once having mastered and appropriated this routine, the children can be involved in numerous activities while being sure to stay within the moving collective body that makes up the line. While walking, the children talked, joked, stopped, and then moved on again, played with pocket-sized toys, picked up stones or branches, laughed, complained, quarrelled, jumped, daydreamed, and so on. We also saw children engaged in improvisation and embellishment of the walking-in-line routine (Corsaro, 2004). In the Tommy-bus preschool, as long as the children demonstrated their subordination to the social (and spatial) order of the collective body and moved and stayed with the group, they were allowed to engage in all these other activities that were not “just walking.” The ways in which they were allowed to do this, however, depended on the surroundings and, more importantly, on how the teachers viewed the surroundings in terms of risk for the children. In green or open areas without a lot of traffic or crowds, the children from the Tommy-bus had a great deal of freedom to move around, run ahead, or lag behind (Figure 3).

Still, the children continually coordinated their bodies to remain part of the moving collective body. Upon noticing a “hole” in the line, children from the back of the line would run forward to “close the hole.” Running together to close the hole was something the children seemed to enjoy. Some children “played” with the line in the sense that they deliberately lagged behind or walked to one side in order to “stretch” the collective body in what can be called “secondary adjustments” to the rules of walking in line within the mobile preschool practice (Corsaro, 2018). On occasion, the teachers lost their patience and told one of the children to move on or stay with the group, since—as one of the teachers put it—the child “has been on the bus for ages and should know how to walk in line!” In general, however, the children from the Tommy-bus had a considerable amount of freedom to play with the line and stretch it in a number of creative ways.
In particular, one boy named Leo (aged 4) was often engaged in this type of alternative mobile practice. Leo rarely followed the rhythm of the line entirely. Instead, he would carry out all sorts of complicated manoeuvres in the space outside the path and outside the line. On other occasions, he would lag quite far behind and then suddenly run very quickly past everyone else. While keeping a close eye on him, the teachers handled Leo’s behaviour by letting him continue to “do his thing” most of the time, trusting that he would keep on moving overall, albeit in a different way than what was expected. This situation is a clear example of how children participate in the negotiation of their own mobility and how they exercise agency through the collective body. Leo negotiates his mobility in relation to the materiality

**FIGURE 2** The choreography and rhythm of the collective body, as illustrated by a network of imaginary rubber bands and nodes that compress and stretch during a preschool day. The nodes represent the children’s and teachers’ bodies and material objects. The arrows represent the preschool group walking in line. The lines represent the different children spreading out and coming together again in the places visited. (Colour figure can be viewed at wileyonlinelibrary.com)

**FIGURE 3** Variation in the line as children stay close or run ahead. (Colour figure can be viewed at wileyonlinelibrary.com)
of the line and the path they are walking on. He also negotiates his mobility in relation to the teachers and the other children. Both teachers and children called out to Leo from time to time, trying to get him to make a closer connection to the line; sometimes he would do so, and sometimes he would not.

A girl named Suzy (aged 5) provided another example. Suzy often lagged behind from the start of the walk, as she was busy talking to a teacher or to other children while putting on her outdoor clothes inside the bus. Often, she did not seem to want to leave the bus in order to go outside but showed a preference for drawing or other artwork indoors. However, in the Tommy-bus preschool, staying inside the bus, when the group is supposed to go outside, is not an option. In this particular mobile preschool practice, the local mobility arrangement is that almost all educational and play activities are conducted in places outside of the bus, often in nature areas. Since one of the teachers often left the bus a bit later in order to tidy up, however, the teachers let Suzy take her time, in order to extend her time inside the bus to a certain degree. Together, the teacher and Suzy then walked to connect with the group. Thus, by attaching herself to an adult node in the rubber net, Suzy is able to stretch the net substantially.

These examples show how mobile preschool children's mobilities are supported and sometimes restricted through collaboration between children and teachers and between children and children. In addition, children's mobilities are supported through compromises between children and teachers. The examples show that children can exercise agency through collective embodiment. Hence, agency is relational, and different social and material actors are part of the relational arrangements (Corsaro, 2018; Nansen et al., 2015; Prout, 2005).

The degree to which the children were allowed to "play" with the line and "spread out" in the places visited had to do with how the teachers perceived the spaces in which they moved in terms of risk and safety. During our field work, we observed that the teachers (and children) were involved in ongoing safety work that was based on the teachers' knowledge of the social and material potential risks of the places visited, their views of the children's competencies to handle risk in different public spaces and the level of trust established between the teachers and children. Since children's mobility practices are negotiated between children and teachers, it is clear that the view of mobility as compromise is relevant in this mobile preschool practice. The establishment and maintenance of a collective body is an important part of this safety work. In this particular mobile preschool practice, upon arriving at a new place—whether a forested area, playground, or field—the teachers informed the children if there was something in the place the children needed to be aware of. This might be a nearby road, a steep edge or slippery stones due to the rain. In some spaces, the adult nodes in the rubber net made sure that the net stayed compressed.

Another part of the teachers' safety work involved their instructions to the children to not go beyond where they could always "see a teacher." In practice, we found that this actually meant that children should be able to "hear a teacher," since trees, bushes, or hilly terrain often obstructed the field of view. Like their embodied knowledge on how to perform the walking-in-line routine, the children gradually established a sense of how far they could go in different places in order to avoid "stretching" the collective body too far. However, the teachers were constantly involved in testing the durability of the network by reminding the children to monitor their location, in order to ensure that the collective body remained intact.

The children also engaged in this kind of safety work. An example that illustrates how the children made sure that other children remained part of the collective body and did not stretch its "rubber bands" too far is a situation in which children spontaneously started to pick up plastic rubbish in a large windy field (Figure 4).

Two girls began to chase plastic bags blowing in the wind and ran off about 200 m into the field. After a while, other children at the side of the field began calling out to the girls: "Come back, you went too far off!"

### 3.2 Collaborating as a collective body—The bus as a companion device

The bus itself is a requisite for the mobile preschool practice and plays an important part in the mobile preschool's mobility practices in several aspects. The technology and materiality of the bus support these children's mobility in the wider public space, and the bus can be viewed as the children's companion in public spaces, that is, as a "companion device" (Nansen et al., 2015, p. 473) that enables and supports their mobility. The technology, size, and layout of the bus together form a node in the assemblage of the collective body and enable young children to move in a variety of public spaces during preschool days. The bus is a crucial part of the composition of mobile preschool children's mobility; together with the teachers, it forms a collaborative arrangement (Nansen et al., 2015) to support the children's mobility, that is, a children–teachers–bus assemblage (Prout, 2005). With the bus, mobile preschool children gain access to a diversity of green, open, and civic spaces in and around the city and can have a "face-to-place" experience with these spaces (Urry, 2003). Our ethnographic data show that the teachers actively use the mobility of the bus in their educational planning in order to create a variety of "face-to-place" learning experiences for the children. For example, the preschool group visited a charcoal production site one day. The next day, they travelled to an outdoor museum with a historical coal pit to investigate the differences between the historical and modern technologies of making charcoal. Other examples included visiting different kinds of neighbourhoods and housing areas in order to explore how different people live. Our analysis also shows that the mobility of the bus enables the children not only to gain knowledge of the places where the bus parks but also to learn to orient themselves in the urban environment in relation to landmarks such as churches, water towers, different playgrounds, or a sibling's school. During travel, the children often look out the window and discuss what they see. In addition to commenting on landmarks, they frequently comment on
material objects that remind them of people or places important to them. Their comments included “my grandfather has a bike like that one,” “look, that bench looks just like the one at the (home) preschool,” or “we have apple trees like that in our garden.” Hence, while travelling, the children are constantly involved in a process of integrating the material objects they encounter from a distance into their personal lives by connecting them to people and places important to them. According to Prout (2005, p. 82), childhood places are not bounded and separate but are connected through “flows of heterogeneous materials.” Our data show that during their travels, young children are able to follow these flows and make connections between material objects, themselves, and other people.

Preschool days are usually very structured in terms of times for educational activities, meals, snacks, “free” play, and resting. Mobile preschool days are similarly very structured; however, due to the technology, size, and layout of the bus, mobile preschools are able to carry out educational, play, and care activities that shift the usual preschool “time–space prism” (Hägerstrand, 1970) in terms of the locations that are reachable during the day. As described in the method section, in order to make the preschool day work, the bus has a specially designed layout and is fully equipped with a kitchenette, toilet, storage space, and educational and play equipment. Without these things, the mobile preschool practice would be unable to carry out regular preschool activities in different places. Hence, all this material “stuff” is a prerequisite for the children’s mobilities and is part of the composition of these mobilities (Figure 5).

The size of the bus is another part of the composition of the children’s mobilities. “Tommy” is a large bus that not only enables 20 children and three teachers to travel together but also takes up a great

**FIGURE 4** Children at the side of a field calling out to other children that have gone “too far off” [Colour figure can be viewed at wileyonlinelibrary.com]

**FIGURE 5** The material “stuff” within the bus, such as the objects being loaded onto the bus in this image, is a requisite for the children’s mobilities [Colour figure can be viewed at wileyonlinelibrary.com]
deal of physical space in the places visited. During our ethnographic fieldwork, it became clear to us that the large size of the bus seemed to enable the preschool group to appropriate the public space and claim it for themselves. A large bus parked in a neighbourhood is very visible to passers-by, and the combination of young children and a large bus with colourful pictures on its sides attracts a lot of attention. People—both adults and other children—often smiled and waved at the preschoolers. Sitting in the bus gives the small children a higher position and a rare chance to look down on (instead of up to) the people outside. For example, when the bus was parked outside a primary or secondary school while the children had lunch inside the bus, older children passing by looked up and smiled and waved to the children in the bus. As James (2000) points out, height signals “growing up” and is an important marker of social status between children. As children have little control over their actual sizes, they use different strategies to increase their height and thus increase their social status. Similarly, Corsaro (2018) discusses how preschoolers like to climb on high fences or play equipment in order to gain control over their surroundings and how this gives them a status position within the group. Time after time, we noticed how the mobile preschool children were paid attention to and noticed in public spaces and how this was connected to the composition of materialities that supported the children's mobility. Earlier research has shown that children either feel that they are seen as suspicious by adults in public spaces or feel "invisible" (Matthews, Taylor, Percy-smith, & Limb, 2000). For example, Cele and van der Burgt (2015) discuss how school children report being ignored by adults in public spaces such as the metro and connect this to the concept of the childhood body being "out of place" in public spaces. Prout (2000, p. 17) argues that attention to the childhood body is crucial in order to understand children's agency. Mobile preschool children's bodies are small and would be considered to be very much "out of place" if they moved about one by one. However, due to the composition of 20 small bodies, three adult bodies, and a large bus, these preschoolers are visible to the general public in public spaces and are welcomed by smiling faces and greetings (Valentine, 1997). As a consequence, the children and their bus can appropriate a large share of public space for themselves, while receiving a level up in social status. Hence, this collective embodiment is a way for young children to be visible in public spaces and claim space as citizens. This is a good example of how children's agency is produced through the relational arrangement of the collective of children, together with the teachers and the large bus. Here, the children's bodies are not only higher up; they also increase in size through the process of collective embodiment resulting in the children—teacher—bus assemblage.

Even when the group is nowhere near the bus, it is clear that the bus is still part of the collective body, albeit as an ambient companion device (Nansen et al., 2015, p. 10), since people recognise, notice, and relate to the group as “the preschoolers with the bus.” To the preschool group—both children and teachers—the bus is not just a companion device to support their mobility. It is viewed more as a living companion than as a device, in a relation with a machine that has been termed an anthropomorphised relation between man and machine by Mellström (2002, p. 378), among others. The bus has a name—Tommy or the Tommy-bus—and the mobile preschool children and teachers are often referred to as the “Tommy-children” and “Tommy-teachers.” Tommy is both a means of transportation and a home base for the mobile preschool group; it also acts as an important identity marker for the children and teachers. During our field work, the children or teachers would sometimes call out, “Look, there's Tommy!” when approaching the bus after an activity. On other occasions, the children would chant “Tommy! Tommy!” in order to display a sense of ownership of the bus. The children also used the bus as a reference point in order to orient themselves in relation to their surroundings. Our fieldwork data include one example that occurred when the bus was waiting at a railway crossing. This part of the railway track was on a not-entirely-level surface, and a train waiting on the track was slanting a bit towards one side. A boy (aged 4) noticed the slant while looking out of the window and said, “Look, the train is leaning towards Tommy.” Tommy is always a part of the mobile preschool's collective body, and the establishment and maintenance of this relational arrangement is something that teachers, children, and others actively and continuously engage in. Even before children enrol in this mobile preschool group, they know that this is the Tommy-bus. Tommy is very popular; we regularly overheard children from other sections of the home preschool saying that they would also like to go with Tommy. Each morning, when the bus is parked outside the home preschool while teachers load food containers and other equipment, younger children watch the bus and wave to the mobile preschool children already sitting in their seats.

### 3.3 Children's appropriation of space through collectively embodied mobility

The mobile preschool children's appropriation of public space is not only enabled and supported by the taking up of space as a cohesive collective body. In some places, the stretching out and therefore apparent dissolving of the collective body characterises a different kind of spatial appropriation. During our fieldwork, we closely watched the children's movements and moorings in the places visited and analysed the circumstances in which the children were really able to appropriate the place for themselves. While the Tommy-bus travelled to a variety of public spaces—such as museums, sport facilities, shopping areas, and public playgrounds—in order to engage in educational and play activities, the preschool often chose large natural recreational areas just outside the urban fringe. In these large and relatively calm green areas, due to the absence of crowds and traffic, the children were allowed to move around freely in different directions and engage in play activities of their own choice. We observed how the children were able to really appropriate these places through collective embodiment and movement in play. For the teachers themselves, it was easier to allow the children to engage in all kinds of movement and play—increasing so-called “risky play” (Figure 6)—without the interference and “safety work” of other people, such as
teachers from other preschools or passers-by, who might have a different view of how safety work should be conducted.

The most important factor in the children's appropriation of space was for the children to be welcomed to use the place, including all the material aspects of that place. In the Tommy-bus preschool, the children were allowed to run around, climb in trees, jump from large stones, wrestle, sit and talk or reflect, and so on. Instead of staying close together, the children disseminated all over the place in groups of one, two, three, or more. Hence, the children's bodies—the nodes that constituted the net of the collective body together with the invisible "rubber bands"—stretched the net by moving (and mooring) in different directions. In doing this and through their play activities, new temporary nodes consisting of material objects were "woven" into the net when children interacted with the material aspects of the space. We argue that the stretching out of the collective body and the opportunity for children to integrate new material nodes into the net were ways for the children to fully claim a space for themselves. For example, the children were allowed to use all kinds of natural materials in their play activities. They used stones, branches, leaves, and so on and were constantly involved in the gathering, organising, and carrying of this material, while simultaneously discussing with each other how these tasks should be done. The children also carried around ladybugs and other insects. As long as they do not harm the animals, trees, or other plants, the children were allowed to engage with any living and nonliving things available.

The children were also allowed to use artificial material that was part of the built environment or that happened to be in that place and could be described as "dirt" or "trash." We observed many play activities in which children used the artificial material "stuff" that was available. For example, in one place, one of the children continually carried around a metal luggage carrier. In another place, a rusty hanger was integrated into a play activity. In a third place, someone had left a dry olive tree in a ceramic pot, and the children were quick to use the plant in their play. Research shows that adults often forbid children to play with natural materials or "trash" that are part of a physical space, that is, things that are not "designed for children" (Jones, 2000). Hence, being able to use the entire area of a space for all kinds of embodied movement and mooring and being able to engage with all of the material "stuff" available in that space allowed the children to make the space their own. The materiality of the space supported the children's mobilities, since their interaction with material objects led to numerous bodily movements and moorings. It was striking how the children's movements and moorings circled around living and nonliving natural and artificial things, including other children's and teachers' bodies. In addition to their appropriation of calm green areas, we observed the children's collective appropriation of other public spaces. On Fridays, the Tommy-bus often visited one of the large themed playgrounds located in neighbourhoods around the city. These were some of the children's favourite places to visit, and the children collectively engaged with the playground equipment available in the space (Figure 7).

As the children used the playground in their collective play, it seemed that the playground equipment became almost "absorbed" into the children's collective embodiment. These examples illustrate the ways in which the material objects and material aspects of a space collaborate in supporting children's mobilities. They also make visible the ways in which children's mobility and appropriation of a space are enabled and supported through a collective body composed of the children's bodies, the teachers' bodies, and a variety of material objects.
4 | CONCLUSION

This article contributes to the existing literature with knowledge about young children's actual mobility practices in and between different public spaces and how these movements and moorings are supported through a variety of mobile assemblages. Using detailed ethnographic data from the Tommy-bus preschool, we discussed how mobile preschool children's mobility in public spaces and their appropriation of public spaces are enabled, practiced, and sometimes restricted through a collaboration between the children, the teachers, and a variety of materialities such as the bus, the children's and teachers' bodies, and the material aspects of the places visited. Using a view of the mobile preschool as a children–teachers–bus assemblage, we argued that the mobile preschool group's mobility should be understood in terms of collective embodiment and that the mobile preschool should be viewed as a moving collective body in public space. We showed how this collective body is constituted through an assemblage and collaboration of the children's bodies, the teachers' bodies, and material objects (i.e., the bus, equipment, and natural and artificial objects in the places visited). In order to show how children, teachers, and a variety of material objects collaborate in collective embodiment, we proposed an image of the moving collective body as a rubber net—consisting of human, non-human yet living, and non-living nodes held together by rubber bands—which changes in shape and content depending on the children's actions, the teachers' actions, and the character of the places visited. In wider public spaces, the collective body forms a cohesive shape that not only enables and supports children's mobilities in the public space but also helps young children to appropriate and claim their democratic right to public space through the visible copresence of bodies and things. These findings underline Prout's argument that paying attention to the child–hood body—its size, its position, and how it (dis)connects to other bodies and things—is crucial for understanding children's agency.

Mobile preschool children gain access to a variety of public spaces that are not "spaces for children" on a daily basis and are able to claim these spaces for themselves when they are invited to use these spaces for their own activities. In this sense, local mobility arrangements such as the Tommy-bus preschool can be said to be empowering for young children. However, it is also important to reflect on the consequences of the mobile preschool practice on a wider societal planning level. On one level, mobile preschools dissolve the insularisation of "spaces for children" for mobile preschool children. However, on another level, mobile preschools require a large bus and appropriate road infrastructure. They therefore indirectly promote an urban infrastructure that reinforces car-bound mobility and consequently a further insularisation of "spaces for children."

Looking closely at the local mobility arrangements and assemblages in mobile preschools, in "regular" preschools, or in other contexts provides important knowledge regarding how young children can claim both "spaces for children" and "spaces not for children" for their own activities through movements and moorings. When young children are welcomed to engage in their own activities in a place, they do so through bodily movement and through verbal and kinetic engagement with the living and nonliving "stuff" available. This shows the significance of studying children's situated micromobilities through detailed "mobile" ethnographic work (Cresswell, 2012). Instead of viewing preschool children's mobility as restricted by adult discipline, we align with Prout (2005) to argue that children can exercise agency not despite but through the children–teachers–bus assemblage. Hence, none of the children, teachers, or material objects such as the bus are separate entities when it comes to mobile preschool mobility; instead, they are entangled and work together in multiple ways to create local mobility arrangements in mobile preschool practices. This study's account of how children's agency in the negotiation of their mobility practices is relational as well as collective is also of significance in the broader discussion on children's mobilities. Children exercise agency through collective action and collaboration with peers (Corsaro, 2018) as well as through collective action and collaboration with adults and materialities (Holloway et al., 2018; Prout, 2005). The findings of this study indicate the significance of studying children's mobilities in relation to the local mobility arrangements and human/non-human assemblages they are situated in and move in, through and out of. The ways in which teachers and children view and handle risks in a particular local mobility arrangement are an important part of the ways in which children's mobilities are negotiated. We propose that understanding children's mobility as a collective embodiment—where children are part of moving, "stretching," and "compressing" collective bodies assembled of and in collaboration with other children, adults, non-human living things, and a variety of material objects and aspects of place—may be fruitful in future studies of not only young but also older children's mobilities and agency in their participation in public space.

ACKNOWLEDGEMENTS

The authors acknowledge the financial support provided by The Swedish Foundation for Humanities and Social Sciences (Grant P15-0543:1). The authors thank the children and teachers of the mobile preschools that the fieldwork was conducted in.

FUNDING INFORMATION

The Swedish Foundation for Humanities and Social Sciences (Grant P15-0543:1).

CONFLICT OF INTEREST

We do not have any conflict of interest.

ORCID

Danielle Ekman Ladru https://orcid.org/0000-0003-0892-5836
Katarina Gustafson https://orcid.org/0000-0001-7800-195X

REFERENCES

Ansell, N. (2009). Childhood and the politics of scale: Descaling children's geographies? Progress in Human Geography, 33, 190–209. https://doi.org/10.1177/0309132508090980
review. *Journal of Science and Medicine in Sport, 16*, 312–331. https://doi.org/10.1016/j.jsams.2012.11.001

Shaw, B., Fagan-Watson, B., Frauendienst, B., Redecker, A., Jones, T., & Hillman, M. (2013). *Children’s independent mobility: A comparative study in England and Germany (1971–2010)*. London: Policy Studies Institute, University of Westminster.

Sheller, M., & Urry, J. (2006). The new mobilities paradigm. *Environment and Planning A*, 38, 207–226. https://doi.org/10.1068/a37268

Swedish National Agency for Education (2017). *Barn och personal i förskolan 2017*. [Children and staff in early childhood education and care 2017.] Retrieved from https://www.skolverket.se/publikationer?id=3949

Swedish National Agency for Education (2019). Retrieved from https://www.skolverket.se/skolutveckling/statsbidrag/statsbidrag-formaxtaxa-2019

Urry, J. (2003). Social networks, travel and talk. *The British Journal of Sociology*, 54, 155–175. https://doi.org/10.1080/0007131032000080186

Valentine, G. (1997). “Oh yes I can.” “Oh no you can’t.”: Children and parents’ understandings of kids’ competence to negotiate public space safely. *Antipode, 29*, 65–89. https://doi.org/10.1111/1467-8330.00035

Villanueva, K., Giles-Corti, B., Bulsara, M., Trapp, G., Timperio, A., McCormack, G., & Van Niel, K. (2014). Does the walkability of neighbourhoods affect children’s independent mobility, independent of parental, socio-cultural and individual factors? *Children’s Geographies, 12*, 393–411. https://doi.org/10.1080/14733285.2013.812311

Zeiher, H. (2003). Shaping daily life in urban environments. In P. Christensen, & M. O’Brien (Eds.), *Children in the city: Home, neighbourhood and community* (pp. 66–81). London and New York: Routledge Falmer.

How to cite this article: Ekman Ladru D, Gustafson K. Children’s collective embodiment—Mobility practices and materialities in mobile preschools. *Popul Space Place*, 2020; e2322. https://doi.org/10.1002/psp.2322