

# Motion City Councils:

## FOR THE CONVERSION OF SCHOOL ENVIRONMENTS INTO CHILD HEALTH PROTECTION AREAS

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### INTRODUCTION

The "Mobility and Childhood Seminar" is a working group formed by professionals in urban planning, education, mobility management, road safety and public health, and representatives of different administrations, universities and research centers, consulting firms, citizen organizations (environmental, volunteer, educational...) and non-governmental organizations, involved in the development of policies and programs aimed at promoting active, safe and autonomous mobility for children, as well as defending their rights.

The Seminar has been working and meeting annually since 2012, with the support of CENEAM, National Center for Environmental Education, under the Ministry for Ecological Transition.

### REASONS

Until a few decades ago, most children in Spain, both in towns and cities, were able to walk to school and use the streets to play, unaccompanied by adults. Today, this autonomy of movement has been drastically reduced by an urban model that prioritises mobility in private vehicles, which has a number of implications for children's lives, development and health.

In addition to the safety consequences, it is necessary to make visible another set of impacts on air quality and public space that affect children's development and health.

### **INSECURITY**

Concerned about the safety of their children, many families now do school runs, aggravating traffic congestion around schools and generating a **vicious circle that is difficult to break**: more cars, more risk, fewer children on foot, more cars, more risk, fewer children on foot...

**Car-dominated roads are detrimental to children's safety and autonomy.** Traffic accidents continue to be one of the leading causes of death in children under 15 years of age. In recent years, as many as 1,800 children of this age have been involved in urban pedestrian-vehicle crashes. In Spain, 12 pedestrians younger than 15 years were involved in fatal urban traffic accidents between 2019 and 2022.<sup>1</sup>

### **TRAFFIC INDISCIPLINE**

The school environment typically fails to provide good examples of compliance with traffic rules. During school start and finish times, there are often double queues, parking on pavements and pedestrian crossings, and other risky behaviours due to road congestion, rush, and permissiveness from local authorities. These behaviours pose a real risk to pedestrians and cyclists.

### **DIFFICULTY IN PLAYING AND TRAINING MATURITY AND AUTONOMY**

The perception of danger has led to overprotection and constant adult control of childhood, preventing the learning and mastery of many skills that are essential for good physical

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<sup>1</sup> [DGT \(2022\)](#)

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development and the maturation of basic psychological skills: social skills, problem-solving, spatial orientation, sense of efficacy, self-care, self-confidence, etc.

Children's and young people's difficulties in walking, running, and interacting with their immediate environment, as well as in meeting and playing freely with peers, have been linked not only to a lack of autonomy, but also to increasing problems of loneliness and isolation, or increased emotional stress and hyperactivity.

Such is the importance of play to children that it is recognised as one of their fundamental rights by the Convention on the Rights of the Child, which also states that "*society and public authorities shall endeavour to promote the enjoyment of this right*".

### PHYSICAL ACTIVITY, OBESITY AND SOCIAL INTERACTION

Spain has one of the highest obesity rates in Europe. Approximately **40% of children are overweight**. Of these 19% are boys (almost 1 in 5) and 17% are girls.<sup>2</sup> The risk of childhood overweight and obesity is influenced by interactions between genes, lifestyle habits, and physiological and social factors. It is also increased by exposure to environmental factors, such as air pollution.<sup>3</sup> According to a study published in 2022, the respective number of overweight and obese children in Barcelona would be reduced by 1,468 and 3,094 each year if the city met the thresholds for particulate matter and nitrogen dioxide specified in the World Health Organization (WHO) 2021 global air quality guidelines.<sup>4</sup>

Childhood obesity has both immediate and long-term effects on physical, social, and emotional health. Obese children and adolescents are at an **increased risk of other chronic health conditions**, such as asthma, sleep apnoea, bone and joint problems, type 2 diabetes, and heart disease. They are also more prone to social isolation, depression, and low self-esteem. Less active children in general have a higher prevalence of emotional and psychological disorders (Ministerio de Sanidad)<sup>5</sup>. Sports and exercise help children acquire social skills, offering them a flexible environment in which they can interact with different kinds of people and actively explore skills such as teamwork, problem-solving, and goal-setting.<sup>6</sup>

Childhood overweight is **closely linked to a sedentary lifestyle** and the difficulties that children have meeting minimum recommendations for daily exercise, which should include active travel to and from school and sports and games in their neighbourhood. The Spanish Ministry of Health recommends a daily average of **60 minutes of moderate to vigorous exercise** for children aged between 5 and 17 years. However, only about 1 in 3 children worldwide achieve this target. The overall trend is for greater screen time and lower physical exercise<sup>7</sup>. **A school is**

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<sup>2</sup> Iniciativa Europea de Vigilancia de la Obesidad Infantil, Organización Mundial de la Salud (OMS)

<sup>3</sup> ISGlobal, "Un experimento natural muestra la relación entre contaminación atmosférica y obesidad infantil", *ISGlobal*. [[Online](#)]

<sup>4</sup> M. Rigau Sabadell, "Ambient air pollution, urban green space and childhood overweight and obesity: a health impact assessment for Barcelona, Spain", *Respository UPF*, pp. 1–20, 2022.

<sup>5</sup> S. Aznar, T. Webster, and J. López, "Actividad física y salud en la infancia y la adolescencia. Guía para todas las personas que participan en su educación," *Ministerio de Educacion y Cultura, Centro de Investigación y Documentación educativa*, 2006.

<sup>6</sup> J. Li and W. Shao, "Influence of Sports Activities on Prosocial Behavior of Children and Adolescents: A Systematic Literature Review", *International Journal of Environmental Research and Public Health*, vol. 19, no. 11. 2022. doi: 10.3390/ijerph19116484

<sup>7</sup> M. S. Tremblay et al., "Active Healthy Kids Global Alliance Global Matrix 4.0—A Resource for Physical Activity Researchers", *J Phys Act Health*, vol. 19, no. 11, 2022, doi: 10.1123/jpah.2022-0257

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an ideal place for promoting physical activity and social skills to address sedentary behaviour and overweight.

**CHILDHOOD EXPOSURE TO AIR POLLUTION**

Air pollution is an invisible health threat that causes more deaths every year than traffic accidents. According to the European Environment Agency (EEA), air pollution is responsible for approximately 430 000 premature deaths in Europe a year. Children are especially vulnerable as their respiratory systems and brains are still developing. According to EEA estimates, air pollution causes 1200 premature deaths annually among children younger than 18 years in Europe.<sup>8</sup>

People living in cities are particularly affected by air pollution, as NO<sub>2</sub> and particulate matter with a diameter of 10 microns or less (PM<sub>10</sub>) (this includes fine [PM<sub>2.5</sub>] and ultrafine particles) are major risk factors for diseases such as respiratory infections, asthma, cardiovascular disease, and lung cancer. Approximately 33% of childhood asthma cases in Europe are attributable to air pollution<sup>9</sup>.

Air pollution also affects cognitive health and academic performance. Both acute and chronic exposure can lead to impaired executive function, problem-solving difficulties, and an increased risk and prevalence of attention deficit hyperactivity disorder (ADHD). High concentrations of pollutants such as PM<sub>2.5</sub> and NO<sub>2</sub> in schoolyards have been linked to slower development of working memory in children between 7 and 10 years old.

There is also research showing that children living in areas with high levels of PM<sub>2.5</sub> and low green space exposure are 62% more likely to have ADHD than those living in areas with low levels of PM<sub>2.5</sub> and high green space exposure.<sup>10</sup>

Air pollution can also undermine mental health, with research showing higher rates of mental illness in people aged 18 years who grew up in an area with high levels of traffic-related air pollution.<sup>11</sup>

A recent study of school routes and environments conducted in the city of Barcelona<sup>12</sup> showed that children inhale 20% of the total air pollutant dose while walking to school, even though this accounts for just 6% of their day. The rest of pollutants come from home (35%) and school (30%).

The above findings highlight the need for safe (accident-free) and healthy school routes.<sup>13 14</sup>

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<sup>8</sup> European Environment Agency, "Air pollution levels across Europe still not safe, especially for children," EEA . [\[Online\]](#)

<sup>9</sup> H. Khreis et al., "Outdoor air pollution and the burden of childhood asthma across Europe", *European Respiratory Journal*, vol. 54, no. 4, p. 1802194, Oct. 2019, doi: 10.1183/13993003.02194-2018

<sup>10</sup> ISGlobal, "Los niños y niñas con mayor exposición a la contaminación del aire y menor exposición a espacios verdes tienen un 62% más de riesgo de padecer TDAH", *ISGlobal*, 2022. [\[Online\]](#)

<sup>11</sup> R. M. Latham et al., "Childhood exposure to ambient air pollution and predicting individual risk of depression onset in UK adolescents", *J Psychiatr Res*, vol. 138, 2021, doi: 10.1016/j.jpsychires.2021.03.042

<sup>12</sup> ISGlobal, [Estudio BREATHE](#).

<sup>13</sup> Gascón, M. [Entorno urbano y Salud: ¿Qué ciudades queremos?](#)

<sup>14</sup> Asociación Española de Pediatría, Comité de Salud Medioambiental. [Caminando al Cole. Un modelo para innovar en salud de los niños y medio ambiente \(2019\)](#)

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**NOISE EXPOSURE IN CHILDREN: A DEAFENING PROBLEM NOT BEING DEALT WITH**

Noise affects our autonomic and endocrine nervous systems, leading to changes in heart rate and blood pressure and triggering the release of stress-associated hormones, such as cortisol. Several studies have detected a link between noise pollution and impaired cognitive function, hormonal disturbances (e.g., diabetes), stroke, and mental health issues such as depression and stress.<sup>15</sup> Exposure to road traffic noise at school has been associated with slow development of working memory and increased inattentiveness.<sup>16</sup>

It has been estimated that noise is responsible for more than 72,000 hospitalisations and 16,600 premature deaths in Europe every year. While confirmatory studies are needed, there is also evidence suggesting that noise is a risk factor for behavioural and attention problems in children. According to the WHO, noise exposure may be one of the leading preventable causes of deafness in childhood.<sup>17</sup>

**URBAN HEAT ISLANDS AND CLIMATE CHANGE**

Industrial and traffic pollution, asphalt surfaces (which retain heat and prevent the natural soaking of rainwater into the ground), and densely concentrated buildings that trap heat cause pockets of heat known as urban heat islands. All these factors, together with a shortage of green spaces, such as parks and trees, and blue spaces, such as seas, rivers, ponds, and fountains, cause heat build-up that can seriously affect the health of urban populations, in particular children and older individuals. Extreme heat in classrooms can negatively affect cognitive development, concentration and focus, general performance, and working memory<sup>18</sup>.

Numerous studies have shown that more greenery in public spaces can act as a buffer against the negative effects of extreme temperatures and reduce mortality. There is also growing evidence that urban greenery has beneficial effects on mental and cardiovascular health in the general population (due to stress reduction) and on neurodevelopment in children<sup>19</sup>. Studies have shown that children tend to engage in physical activity for longer and at higher intensities in green spaces, such as parks.<sup>20 21</sup>

Climate change effects will add to existing challenges regarding urban climate comfort, unless we adapt buildings and public spaces to rising temperatures and ever-more common heat waves.<sup>22</sup> Schools in particular are generally ill equipped to provide optimal thermal comfort. Many of the existing buildings are old and have deficient thermal insulation.<sup>18</sup>

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<sup>15</sup> Foraster, M. “El ruido: mucho más que una molestia”, ISGlobal. [[Online](#)]

<sup>16</sup> M. Foraster et al., “Exposure to road traffic noise and cognitive development in schoolchildren in Barcelona, Spain: A population-based cohort study”, *PLoS Med*, vol. 19, no. 6, 2022, doi: 10.1371/journal.pmed.1004001

<sup>17</sup> Sordera y pérdida de la audición, Organización Mundial de la Salud (OMS). [[Online](#)]

<sup>18</sup> M. Ubalde, “Cuidado con los niños y niñas durante las olas de calor. ¿Qué se puede hacer en las escuelas?”, ISGlobal.

<sup>19</sup> “5 claves para ciudades más saludables”, ISGlobal. [[Online](#)]

<sup>20</sup> J. C. ALEJANDRE and M. LYNCH, “‘Kids Get in Shape with Nature’: A Systematic Review Exploring the Impact of Green Spaces on Childhood Obesity”, *J Nutr Sci Vitaminol (Tokyo)*, vol. 66, no. Supplement, pp. S129–S133, 2020, doi: 10.3177/jnsv.66.S129

<sup>21</sup> D. Buczyłowska, T. Zhao, N. Singh, A. Jurczak, A. Siry, and I. Markevych, “Exposure to greenspace and bluespace and cognitive functioning in children – A systematic review”, *Environmental Research*, vol. 222, 2023. doi: 10.1016/j.envres.2023.115340

<sup>22</sup> <https://twitter.com/mitecogob/status/1133336525020835840/vi>

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**AGREEMENTS**

For all the above issues, and considering that Spain is one of the states that has ratified the Convention on the Rights of the Child (CRC) (Ratification of the Convention reflected in the BOE No. 313, of December 31, 1990), this motion is presented for the approval of the following agreements by the municipal plenary.

**AGREEMENTS:**

**First. - Facilities of the schools themselves:**

1. To replace the parking areas located within the school grounds with parking areas and playgrounds.
2. To reserve a safe space for the parking of bicycles, skateboards, and scooters on all school grounds, or in the surrounding areas, in order to encourage active mobility to the center.
3. Revegetate school playgrounds with trees and plants that provide shade, freshness, and color to these spaces, improve air quality, and dampen noise.

**Second. - Surroundings and access to schools:**

4. Limit parking and traffic in the surrounding streets and, especially, in the vicinity of the entrances to the centers.
5. Strictly monitor and enforce road regulations at the entrance and exit of students so that the school environment is a safe space and coexistence.
6. Prioritize pedestrian and cyclist mobility in the school environment, creating car-free access corridors, encouraging the presence of vegetation and water, and promoting recreational, meeting, and play areas in the public space.

**Third. - Urban planning:**

7. Integrate in the drafting of the UMPM (Urban Master Plan of the Municipality) measures to promote safe and healthy school environments.
8. Incorporate in the Sustainable Urban Mobility Plan (SUMP) specific measures for limiting and calming traffic in school environments.
9. Promote a generalised change towards the "City 30" model to reduce the speed of traffic on all urban roads.

**Fourth. - School zoning:**

10. Prioritize the proximity to the school center as a basic criterion of the school area, for the benefit of children and the whole community, reversing the implementation of "single school zone" that so negatively influences the increase of daily motorized trips.

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**Fifth.** - To inform the "Mobility and Childhood Seminar" of the approval of this motion in the municipal plenary (contact us by filling out the contact form on the website: [www.entornoscolares.es](http://www.entornoscolares.es))

**PROMOTER ENTITIES**

1. ISGlobal - Instituto de Salud Global: <https://www.isglobal.org>
2. ConBici - Coordinadora en defensa de la Bici: <https://conbici.org>
3. CEAPA - Confederación Española de Asociaciones de Padres y Madres de Alumnado: <https://www.ceapa.es>
4. A Pie, Asociación de Viandantes: <http://www.asociacionapie.org>
5. Grupo "La Ciudad de los Niños", Acción Educativa: <http://accioneducativa-mrp.org>
6. Gea21-Grupo de Estudios y Alternativas: <https://www.gea21.com>
7. Asociación Española de Pediatría (AEP): <https://www.aeped.es>

**ENTITIES THAT SUPPORT**

1. Ciudades que Caminan: <https://ciudadesquecaminan.org>
2. Concello de Pontevedra: <http://www.pontevedra.gal>
3. Ecologistas en Acción: <https://www.ecologistasenaccion.org>
4. Foro Andando: <https://peatones-andando.blogspot.com>
5. Greenpeace España: <https://es.greenpeace.org/es/>
6. Teachers For Future Spain: <https://teachersforfuturespain.org>
7. Red de Ciudades por la Bicicleta: <https://www.ciudadesporlabicicleta.org>
8. Ciudades Amigas de la Infancia de UNICEF España: <https://ciudadesamigas.org>
9. Federación Iberoamericana de Urbanistas (FIU): <http://www.fiurb.org>
10. PostCarCity: <http://www.postcarcity.org>