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2 **Physical activity and the environment**

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4 *Evidence Reviews Appendix 5: Research Recommendations*

5 Research Recommendations

6 **Context**

7 Research Recommendations should address gaps in the evidence for the research questions which the guideline asked,
8 particularly those gaps which might have affected NICE’s recommendations. Research recommendations should be feasible and
9 well-defined.

10 Research recommendations consist of:

- 11 • A research question following the PICO format (including population, intervention, comparison, outcomes) as closely as
12 possible
- 13 • An explanation answering the question “Why is this important?”

14 To find out more about the purpose of research recommendations, visit NICE’s research recommendations [Process and Methods](#)
15 [Guide](#).

16 **Methods**

17 The committee put together a list of recommendations for research after they had heard all the evidence available to support this
18 guideline. This list was checked by the committee members for correctness. The committee were then sent the list and each
19 individual was asked to rank the five research recommendations that they considered to capture the most important gaps in the
20 evidence, from 1 to 5. These rankings were used to generate points for each recommendation, and the five recommendations with
21 the most points (i.e. were considered most important overall) were selected for inclusion in the guideline.

22 Research recommendations in full are contained within the guideline document. This Appendix document contains the PICO tables
23 for each of the five research recommendations, to guide future research.

24 **Public Transport Provision and Ticketing**

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Population	Whole population
Intervention	<p>Interventions to improve public transport, such as:</p> <ul style="list-style-type: none"> • Addition of stops or stations • Improved information about public transport services • Improved connectivity between public transport and public open space <p>Interventions to improve ticketing, such as:</p> <ul style="list-style-type: none"> • Changes to ages eligible for passes; • Improved ease of obtaining tickets; • Fare integration
Comparison	Matched control group
Outcomes	<p>Research should use an objective measure of physical activity where possible (even if increasing activity is not a focus of the intervention), and either conduct cost effectiveness analysis or include information to allow this to be conducted separately.</p> <p>Research should consider these measurements over time, to investigate whether any changes are sustained.</p>

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27 **Changes to Public Open Spaces**

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Population	Whole population
Intervention	<p>Interventions to improve public open space through:</p> <ul style="list-style-type: none"> • Interventions to improve perceptions of safety • Clear and accessible signage both to and within open spaces • Seating provision • Footpath design, surfacing, extensions • Accessible toilets • Car parking for blue badge holders • Access to open spaces by public transport • Interventions to increase acceptability and attractiveness to diverse ethnicities and ages
Comparison	Matched control group
Outcomes	<p>Research should use an objective measure of physical activity where possible (even if increasing activity is not a focus of the intervention), and either conduct cost effectiveness analysis or include information to allow this to be conducted separately.</p> <p>Research should consider these measurements over time, to investigate whether any changes are sustained.</p> <p>Qualitative research investigating perceptions of safety, acceptability, accessibility and attractiveness of public open spaces would be beneficial, particularly as part of a mixed methods study.</p>

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30 **People with Limited Mobility**

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<p>Population</p>	<p>People with limited mobility, for example:</p> <ul style="list-style-type: none"> • Parents with prams or buggies, and children • People with disabilities including sensory and learning disabilities • Older people • People using wheelchairs or other mobility aids • People living with dementia and their carers
<p>Intervention</p>	<p>Interventions to improve public transport through, for example:</p> <ul style="list-style-type: none"> • Interventions listed in PICO table for research recommendation 1 • Audio-visual announcements on public transport services and at stops or stations • Changes to pedestrian crossing design, for example length of time given for crossing <p>Interventions to improve publicly available open space through, for example:</p> <ul style="list-style-type: none"> • Interventions listed in PICO table for research recommendation 2 • Solutions to issues of ‘contested space’ to allow comfortable use by various groups including those with limited mobility
<p>Comparison</p>	<p>Matched control group</p>
<p>Outcomes</p>	<p>Research should use an objective measure of physical activity where possible (even if increasing activity is not a focus of the intervention), and either conduct cost effectiveness analysis or include information to allow this to be conducted separately.</p> <p>Research should consider these measurements over time, to investigate whether any changes are sustained.</p> <p>Qualitative research investigating perceptions of safety, acceptability and accessibility of changes to the environment would be beneficial, particularly as part of a mixed methods study.</p>

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33 **Public Open Spaces and Low-use Groups**

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Population	People with low levels of open space usage, for example: <ul style="list-style-type: none"> • Black and Minority Ethnic (BME) groups • Groups with low socioeconomic status, • Groups experiencing ‘other forms of disadvantage’, for example carers, people with severe mental health conditions etc.
Intervention	Interventions to improve use of open spaces by these groups, for example: <ul style="list-style-type: none"> • Interventions listed in PICO table for research recommendation 2
Comparison	Matched control group
Outcomes	Research should use an objective measure of physical activity where possible (even if increasing activity is not a focus of the intervention), and either conduct cost effectiveness analysis or include information to allow this to be conducted separately. Research should consider these measurements over time, to investigate whether any changes are sustained. Qualitative research investigating perceptions of safety, acceptability, accessibility and attractiveness of public open spaces would be beneficial, particularly as part of a mixed methods study.

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36 **Car Ownership and Use**

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Population	<p>Whole population Particular care needs to be taken to investigate effects in subgroups, to include:</p> <ul style="list-style-type: none"> • Both rural and urban settings • Areas with both high and low public transport coverage • A variety of low mobility groups • A variety of ethnicities • A variety of ages
Intervention	<p>Interventions which may reduce the ownership of / use of cars, whether or not this is an explicit intention of these interventions. For example:</p> <ul style="list-style-type: none"> • Parking reduction interventions • Temporary street closure events • Congestion charging • Speed reduction zones or altered speed limits
Comparison	<p>Matched control group</p>
Outcomes	<ul style="list-style-type: none"> • Change in car ownership • Change in car use • Change in public transport use or active travel • Research should use an objective measure of physical activity where possible (even if increasing activity is not a focus of the intervention), and either conduct cost effectiveness analysis or include information to allow this to be conducted separately. <p>Research should consider these measurements over time, to investigate whether any changes are sustained.</p>

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