

Supplementary Material: Translated Questionnaire

A complete translation of the questionnaire for the city of Leipzig is given on the following pages.
The different screens are marked by horizontal lines.

Welcome to our survey. We are very pleased that you are participating!

We will ask you some questions about the urban green in your neighborhood and your opinion about it. It will take about 20 minutes to answer the survey. The survey is being conducted by the Institute for Ecological Economy Research as part of a research project funded by the German Federal Ministry of Education and Research.

Your information will, of course, be treated with strict confidentiality. The data from this online survey will be used exclusively for research purposes and will only be evaluated in anonymized and summarized form. It is not possible to draw any conclusions about you or your household from the answers.

Thank you!

Please enter the postcode of your main place of residence.

Please mark your place of residence on the map. You can also mark a neighboring building, this way it is not possible to draw conclusions about your exact place of residence.

[interactive map displayed here]

Now please imagine the following situation: The city is considering measures to change the greening in Leipzig East.

The study area of Leipzig East - Lene-Voigt-Park is located approx. 1.5km east of the city centre and includes the district of Reudnitz-Thonberg in the area of Lene-Voigt-Park as well as the transition areas to the neighbouring districts of Neustadt-Neuschönefeld and Zentrum-Südost. The area is bounded to the west by Gutenbergplatz, Spohrstraße and Lange Straße, to the south by Liebigstraße, Pragerstraße and Viktoriastraße, to the east by Riebeckstraße and to the north by Breitestraße, Dresdner Straße and diagonally running Kreuzstraße. The central Lene-Voigt-Park and the Reudnitz Park define the public green space. In addition, the neighborhood is in the direct vicinity of Alter Johannisfriedhof, Friedenspark and several allotment gardens.

[map displayed here]

There are six possible measures that could change the greening in the policy area Leipzig East - Lene-Voigt-Park. **Which ones will be implemented is still open and also depends on the citizens' approval.** Some measures create additional greenery, some improve the type of maintenance. However, they lead to higher costs. The measures are described on the following pages.

City trees

In the policy area Leipzig East – Lene Voigt Park there are trees along streets, in green spaces, and in backyards and gardens. Trees make the cityscape greener and provide habitat and food for animals such as birds and insects. They can also reduce pollutants in the air. However, they require space that is no longer available for other uses such as parking spaces. They also need to be properly maintained.

There are currently 2,700 urban trees in the policy area Leipzig East – Lene Voigt Park. The number of urban trees along streets, in green spaces, backyards and gardens could be increased by new plantings. In contrast, the number of urban trees in the study area could also be reduced if inner courtyards are redensified or additional parking spaces are created, but also if there is a lack of maintenance and dry summers.

[pictures displayed here]

Which number of urban trees in the policy area Leipzig East – Lene Voigt Park would you find best?

- 2,200 city trees
- 2,700 city trees
- 3,200 city trees
- 3,700 city trees

Green Spaces

In the policy area Leipziger Osten - Lene Voigt Park there are many different green spaces such as parks, gardens, meadows, leafy backyards and playgrounds. These green spaces offer you a place for recreation, leisure and serve as a social meeting place. They green the cityscape. Green spaces can store rainwater and allow it to seep away. They can make hot days more pleasant because they evaporate water and bring cooler air into the policy area. They provide important habitats for animals and plants. However, they require maintenance and areas that are no longer available for other uses such as buildings or parking spaces.

There are currently 38 hectares of green spaces in the policy area Leipziger Osten - Lene Voigt Park. This is 32% of the total area of the policy area. Additional private and public green spaces could be created, for example by converting fallow land into green spaces, or by greening asphalted backyards. In contrast, some green spaces could also be reduced for the construction of new buildings or paved for heavy recreational use, i.e. asphalted or covered with a sports field-like surface.

[pictures displayed here]

How many green spaces in the policy area Leipzig East - Lene Voigt Park would you find best?

- 30 hectares (25% of the area)
- 38 hectares (32% of the area)
- 46 hectares (39% of the area)
- 54 hectares (46% of the area)

Use of the public green spaces

Public green spaces such as parks in the policy area Leipziger Osten - Lene Voigt Park can be designed, maintained and used in different ways:

Areas can be mown and fertilized frequently so that they can be used well as a **utility lawn** for sunbathing, picnics, games and sports.

Alternatively, areas can be turned into **near-natural green spaces** by mowing them no more than twice a year. This allows flowering herbs, wildflowers and other native plants to grow there. These meadows are very valuable for insects and birds and thus promote biodiversity. They also dry out less quickly in hot summers and therefore also cool down the policy area for longer. These areas are more suitable for walks and nature observation and less as a sunbathing area or for picnics, games and sports.

In the policy area Leipziger Osten - Lene Voigt Park, 90% of the green spaces are currently lawns and 10% are near-natural green spaces. This distribution could be changed in the policy area through a change in design and maintenance.

[pictures displayed here]

Which proportions of lawns and meadows in the policy area Leipziger Osten - Lene Voigt Park would you find best?

- 5% near-natural green spaces, 95% utility lawn
- 10% near-natural green spaces, 90% utility lawn
- 15% near-natural green spaces, 85% utility lawn
- 20% near-natural green spaces, 80% utility lawn

Appearance of parks and green spaces

In many parks and other green spaces, it is **standard** in the increasingly hot summers for lawns and meadows to dry out and turn brown in some places. Due to intensive leisure use, rubbish is often left lying around, which sometimes can only be removed after a few days.

Parks and green spaces could look **more maintained**. Lawns and meadows would be consistently green even in summer. For this, the areas would have to be irrigated as needed. This would increase their cooling effect, but consumes large amounts of water, which can contribute to water scarcity in summer. In such parks and green spaces, garbage would also be removed more frequently so that it always looks clean. However, this causes a lot of maintenance.

In the policy area Leipziger Osten - Lene Voigt Park, the appearance of most green spaces is standard.

[pictures displayed here]

Which appearance of the parks and green spaces in the policy area would you find best?

- Standard
- More Maintained

Please indicate the reasons for your choice.

Green roofs

Many house roofs in the policy area Leipziger Osten - Lene Voigt Park could be planted. Green roofs can store rainwater and cool the house and surroundings on hot days. They also provide a habitat for plants, birds and insects. However, the installation of green roofs is not possible on every house because of the statics and the roof pitch, and the installation is sometimes expensive.

In the policy area Leipziger Osten - Lene Voigt Park, 1% of the roof area is currently greened. With appropriate measures, additional roofs in the policy area could be greened.

[pictures displayed here]

Which proportion of green roofs in the policy area Leipziger Osten - Lene Voigt Park would you find best?

- 1% of the roof area
- 10% of the roof area
- 20% of the roof area

Green facades

The walls of houses in the policy area Leipziger Osten - Lene Voigt Park could be planted with climbing plants such as ivy, wild vine, honeysuckle, knotweed or blue vine. Such green facades can protect the facade from extreme weather and cool the house and surroundings on hot days. They also make the cityscape greener and provide a habitat and food for birds and insects. However, green facades require regular maintenance so that the plants can develop well without harming the building.

In the study area Leipziger Osten - Lene Voigt Park, 1 out of 100 facades are currently greened. Through appropriate measures, additional facades could be planted.

[pictures displayed here]

Which proportion of green facades in the study area Leipziger Osten - Lene Voigt Park would you find best?

- 1 out of 100 facades
- 25 out of 100 facades
- 50 out of 100 facades

Yearly payment for the measures

The implementation and maintenance of the measures described in the Leipzig study area incur costs that are largely financed by taxes. But now suppose that the costs exceeded the funds available for this purpose. In order to be able to implement the measures, the citizens would have to contribute to these additional costs - including you. For this purpose, in the following scenario, an yearly payment of between 6 and 120 euros is to be levied for the implementation and maintenance of the measures. If the measures were implemented, this cost would be paid by all citizens of legal age who live in the policy area or in the surrounding area. The City of Leipzig manages the funds and uses them exclusively for the expansion and additional maintenance of the green space in the study area.

On the following pages, we will show you various possibilities of how the green space in the policy area Leipziger Osten - Lene Voigt Park could be designed. Two possibilities are contrasted in each case. Imagine one of them is to be implemented. Which one will be implemented is still open and also depends on the approval of the citizens.

If you could decide: Which option should be implemented? You can also decide against both options to keep the current state. When making your choice, please also consider the costs you will incur and only select an option if you would be willing to bear the costs. You will make eight such decisions in succession.

Please choose now, how the green should be designed in the policy area Leipziger Osten - Lene Voigt Park:

	Option A	Option B	Current state
Green spaces	46 Hectares of green areas (39% of the policy area)	30 hectares of green areas (25% of the policy area)	38 hectares of green areas (32% of the policy area)
Use of the green spaces	15% near-natural green spaces 85% utility lawn	5% near-natural green spaces 95% utility lawn	10% near-natural green spaces 90% utility lawn
Appearance	More maintained	Standard	Standard
City trees	2,200 city trees	3,200 city trees	2,700 city trees
Green roofs	20% of the possible roof space	10% of the possible roof space	1% of the possible roof space
Green facades	25 out of 100 facades	50 out of 100 facades	1 out of 100 facades
Yearly Payment	60 Euro	10 Euro	No cost
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fig. 8 Example choice task. Respondents were presented eight sequential choice tasks.]

How certain were you about your decisions?

- very certain
- certain
- more likely certain
- more likely uncertain
- uncertain
- very uncertain
- Don't know

[Filter question for respondents who chose the current state in at least seven out of eight tasks] You mostly chose the current state. Which of the following reasons were responsible for this?

- I do not see to pay for it. Why: _____
- I don't have the financial resources.
- I don't care how the policy area is designed.
- I have no interest in urban greenery.
- I am satisfied with the current state of the urban green in the policy area.
- The options offered do not appeal to me.
- I think the decisions should be made by experts.
- I did not understand the task.

- Others: _____
- Don't know

To what extent do you think your answers will have an impact on the implementation of the measures in the policy area?

- I believe in it very much.
- I believe in it more.
- Neither.
- I rather don't believe in it.
- I don't believe in it at all.

To what extent do you think you will have to pay the above costs if the measures as described are implemented in the policy area?

- I believe in it very much.
- I believe in it more.
- Neither.
- I rather don't believe in it.
- I don't believe in it at all.

How probable do you think it is that the proposed measures can actually be implemented in the policy area?

- Green spaces (very probable, rather probable, neither, rather improbable, very improbable)
- Use of the green spaces (very probable, rather probable, neither, rather improbable, very improbable)
- Appearance (very probable, rather probable, neither, rather improbable, very improbable)
- City trees (very probable, rather probable, neither, rather improbable, very improbable)
- Green roofs (very probable, rather probable, neither, rather improbable, very improbable)
- Green facades (very probable, rather probable, neither, rather improbable, very improbable)

How important are the following measures to you personally in the Leipzig East - Lene Voigt Park policy area? If you want to know in more detail what we mean by the individual shapes, please hold the mouse pointer over them. A short info text will then appear.

- More green spaces
- More near-natural meadows
- More city trees
- Appearance
- More green facades
- More green roofs
- More green footpaths and cycle paths
- More greened backyards
- More greened front yards

How often have you used the following types of green space in your city in the last year?

- Parks (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Forest (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Playgrounds (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Green shores of rivers, canals, lakes (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Cemeteries (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Allotment gardens (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Community gardens (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Green city squares (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)
- Green backyards (several times a week, approx. once a week, 1-3 times a month, less than once a month, never, don't know)

On average, how many hours per week do you spend in total in all types of green spaces in your city?

___ hours / Don't know

Why do you visit green spaces in your city?

- to spend time with friends or family
- to go for a walk
- for sports or games
- to rest, relax, read
- to walk my dog
- to ride my bike
- to eat, drink, barbecue or picnic
- to enjoy nature or to observe plants and animals
- to learn about nature
- for the fresh air
- to cool down in the heat
- to garden
- to attend events
- to work or study
- other, namely: _____

How satisfied are you with your life at the moment, all things considered?

How satisfied are you with your health?

How important do you think the use of green space is to improving your...

...physical health?

... mental health?

How affected do you feel by heat in your neighborhood?

Do you use green spaces in your city more often or less often than usual on hot summer days (above 30° maximum temperatures)?

Which of the following answer choices best describes your apartment or house?

- Detached house
 - Terraced house or semi-detached house
 - Apartment in a multi-family house or apartment building
 - Other, namely: _____
 - Don't know
-

Which one(s) of the following do you have? [multiple answers possible]

- Balcony or terrace
 - garden
 - greened backyard
 - Allotment garden/shrub garden plot
 - None of them
-

How many square meters of living space does your apartment or house have?

Finally, we ask you to provide some information about yourself and your household. These help us to statistically evaluate the results of this survey according to certain characteristics (e.g. age groups). Your answers will not be evaluated in connection with your person.

1. Please indicate which gender you identify with.

- Male
- Female
- Diverse
- No specification

2. In which year were you born?
3. How many people live in your household all the time - children, adults and yourself included?
4. How many minors (under 18) live in your household all the time?
5. What is your highest educational attainment?
 - No school-leaving qualification (yet)
 - Lower secondary school graduates
 - Certificate of secondary education
 - High school diploma, vocational diploma
 - Vocational training, master craftsman
 - College or university degree
 - Not specified
6. Which of the following acquisition situations is most likely to apply to you currently?
 - Employed full-time or near full-time (at least 30 hours per week)
 - Part-time employed (at least 10 hours per week, less than 30 hours per week)
 - Pupil, student, trainee, federal volunteer or military service
 - Pensioner, retiree
 - Unemployed (looking for work)
 - Housewife/househusband, or on parental or caregiver leave
 - Permanently incapacitated
 - Others
 - Not specified
7. What is the total average monthly net income of your household? By this we mean the income of all the people in your household minus taxes and social security costs. If you live in a shared apartment, please report only your own income.
 - under EUR 1,000
 - EUR 1,000 to under EUR 2,000
 - EUR 2,000 to under EUR 3,000
 - EUR 3,000 to under EUR 4,000
 - EUR 4,000 to under EUR 5,000
 - EUR 5,000 and more
 - Not specified

Thank you for your participation!

You have completed the survey and can now close it.

For more information about the research project, please copy and paste the following link into a new window of your internet browser: https://www.ioew.de/projekt/stadtgruen_wertschaetzen_ii