



ClairCity: Citizen-led air pollution reduction in cities

D4.3 Delphi Workshops Complete – Last city

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Document Details

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Description	<p>This report presents the Delphi Round 3 workshop summaries for five remaining city/regions (i.e. Amsterdam, Sosnowiec, Ljubljana, Aveiro and Liguria). The report therefore complements D4.2 Delphi Workshops Complete – First City, which represented the completion of the Delphi Workshop in Bristol.</p> <p>These workshops were designed for citizen participants to (a) raise awareness about the health effects of air pollution and to (b) explore the policy options that arose through the earlier Delphi rounds to identify which policy measures citizens would find difficult to accommodate and how they may be facilitated.</p> <p>The results from the Delphi process have fed into the Game (Task 4.2) and will contribute to the Stakeholder Engagement Workshops to be held in each city/region over the next 12 months..The outputs from these activities will inform the Quantification WP5, Policy WP6 and Scenarios WP7.</p> <p>Participants in these workshops all signed consent forms that allow us to use for instance pictures in our wbesite, social media and deliverables such as this one.</p>

Version History

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V1.0	Jo Barnes	23/03/2018	First draft
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1 Introduction

1.1 Objective of this report

The activity belongs to the work package 4: **Citizens and Stakeholder Engagement**.

The primary objective is to engage citizens and key stakeholders across all of our partner cities and regions from Europe regions to give them the platform to generate their vision for a low carbon, clean air futures.

Through a rapid DELPHI-like approach (Task 4.1), the aim was to engage citizens and key city stakeholders to provide blue-sky thinking on what a low carbon-clean air future for their city looks like. This engagement process (survey and workshops) then explored the future options for their city development and used city stakeholders to create future scenario options to inform the Game (Task 4.2).

The results of the survey, existing tools and other creative engagement techniques will be utilised in a workshop to develop an open multi-stakeholder dialogue around the low carbon, clean air options and scenarios.

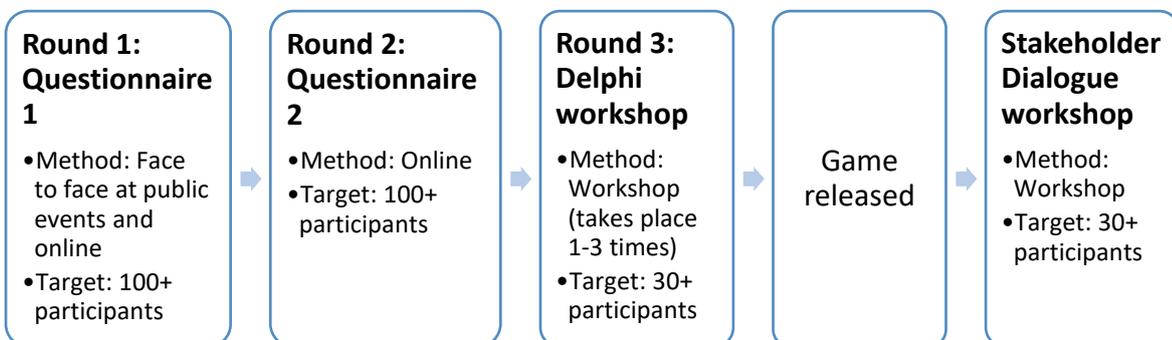
1.2 Information about the Delphi Round 1 and Round 2

The Citizen Delphi Engagement has three rounds:

- Round 1 - a broad-spectrum public engagement (including an online questionnaire)
- Round 2 - an online-only questionnaire and
- Round 3 - a Delphi Workshop

Outputs from the Delphi process will inform the Stakeholder Dialogue Workshops and the WP4.2 Game (Figure 1).

Figure 1-1: Citizen Delphi Engagement process



1.3 Delphi progress

The Delphi method (WP4.1) has engaged citizens and stakeholders through well-structured rounds of questionnaires and a workshop. Data has been collated through online surveys, face-to-face at events, through street interviews, and via dedicated workshops, giving citizens a platform to describe their personal future visions of their city. The process was started in Bristol and rolled out in the rest of the cities / regions (in this order: Amsterdam, Ljubljana, Sosnowiec, the Liguria Region, and the Aveiro Region). All cities and regions have now completed the Delphi process (Rounds 1-3) well within the M24 deadline. Appendix 1 details the Gantt chart of Delphi activities in each city.

Participant numbers in each Round for each city/region are presented in Table 1.

Table 1-1: Number of Delphi participants in each city/region

City/region	Round 1	Round 2	Round 3	Total
Bristol	500	230	59	789
Amsterdam	638	269	6	913
Sosnowiec	283	116	29	428
Ljubljana	198	72	3	273
Liguria	646	456	19	1121
Aveiro region	794	280	33	1107

1.4 ClairCity Delphi Workshop summaries

To demonstrate that the cities have completed the Delphi process, the following sections set out the Round 3 workshop reports produced by each city/region (excluding Bristol, which was included in the D4.2 report: Delphi Workshops Complete – First city). In some cities/regions more than one workshop was held to try to improve participant numbers and representativeness. The workshops were conducted by the city partner or the city buddy in the local language and the report summaries were translated to English by the workshop coordinators.

The format for the workshops was based on two activities, each with sub-activities:

- Activity 1 – Health and air pollution awareness

- 1a: “What causes the most deaths?”
- 1b: “How is air pollution bad for me?”
- Activity 2 – Policy measures
 - 2a: “What can be done?”
 - 2b: “How would these policy measures affect how you live your life?” (Matrix activity)
 - 2c: “Why would these policies affect how you live your life?” – Post-it note activity
 - 2d: “How could these policies be made easier for you?” – Post-it note activity

Details of the workshop activities are presented in the deliverable D4.1: Delphi Design and Pilot report.

Data for Activity 1 was derived from local or national statistics relevant to that city/region. The policy measures in Activity 2 were derived from the Delphi Round 2 responses and additional measures from other global examples.

2 Amsterdam

The Amsterdam Round 3 workshop was held on 1st November 2017 at the Public Health Service (GGD Amsterdam)¹. The workshop was organised and run by Trinomics and the Municipality of Amsterdam. The number of participants for this workshop was quite low (only 6), and may not be socially or demographically representative of the city. However, the participants were split into two tables to facilitate discussion. The following sections present the summaries of each of the activities by table.

Figure 2-1: Amsterdam Delphi Round 3 workshop



2.1 Table 1

Table 1, facilitated by Stephan Slingerland (Trinomics), had 3 participants: 2 female, 1 male, middle-aged, one lung-fund representative, and one citizen active in air quality for many years, including measuring air quality at home.

2.1.1 *Comments on Activity 1: Health and air pollution awareness*

2.1.1.1 *Activity 1a) What causes the most deaths?*

Group decision:

¹ <http://www.ggd.amsterdam.nl/>

Table 2-1: Amsterdam Delphi Round 3 workshop Table 1 Activity 1a

	1 (most deaths)	2	3	4	5 (least deaths)
Table 1 order	Air pollution / bad environment	Smoking	Unhealthy working conditions	Overweight	Lack of exercise
Actual order	Smoking	Air pollution / bad environment	Unhealthy working conditions	Lack of exercise	Overweight

Discussion:

--Observations:

- Very quick decision (1 minute) and consensus
- Doubts about position of working conditions (because not relevant for everybody)

2.1.1.2 Activity 1b) How is air pollution bad for me?

Group decision:

Table 2-2: Amsterdam Delphi Round 3 workshop Table 1 Activity 1b

DEFINITELY	LIKELY	NOT
luchtwegklachten	Huidziekten	Urinewegen
copd	Type 2 diabetes	
longkanker	Psychische stoornissen	
Hart- en vaatziekten		
Beroerte		

Dementie		
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Discussion:

- Lung system is first that is affected, very small particles enter into lungs
- Respiration is the basis of your existence

2.1.2 Comments on Activity 2

2.1.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

Discussion:

- Missing: green measures / planting trees / more parks / green roofs / no stones in gardens / green city gardens / banning inland navigation / limiting entrance of boats to the inner city / cleaner motors / no access motor bikes and scooters /
- Free public transport only creates more demand...
- More ferries are not needed, new cycling bridge will be constructed
- Rather fast cycling lanes than more lanes...
- Centre not accessible for cars creates difficulties for freight, elderly
- Older cars not allowed to enter due to taxation, otherwise inequality – only rich can afford
- Extra metro is a waste of time and money, only completion of ring Isolatorweg to Central Station
- Make categories: public transport, biking, accessibility of city, other
- There are many wood pellet heating in Amsterdam, but there are also (in Germany?) quality standards for them
- What is a 'smart traffic light'? Smart for whom?
- Norms and standards are necessary, but who is going to check?
- Green buses have already been introduced, or not?
- All proposed measures make life easier for the participants, only the metro is considered unnecessary and too expensive.

2.1.2.2 Activity 2b) How would these policy measures affect how you live your life?

Discussion:

- Participants do everything with bike and public transport, so all measures against cars are positive for them.
- Previous circular bus was removed, was a nice facility.
- Free public transport would be needed, would stimulate more participation.
- Access for electric cars would be still needed for occasional transport.
- Cargo-hubs would limit transport.
- Perhaps to combine with elderly / make them responsible for the hubs.
- Transport trams and boats (but do they work?)
- Would like to participate in measuring air quality and in policy making. Experience: if you are too much against, you are ignored / not taken seriously.

- Metro has too few stops / is not sufficiently accessible everywhere / construction costs too much.
- Easy measures cause high improvement of life quality.

2.1.2.3 Activity 2c) Why would these policies affect how you live your life?

2.1.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Amsterdam for Table 1.

Group decision on the most difficult three:

Table 2-3: Amsterdam Delphi Round 3 workshop Table 1 Activity 2d

1	Instead of metro there should be a more accessible public transport on the ground, with narrow grid
2	Not allowing older cars should be accompanied by better public transport and electrical car-to-go
3	Free public transport would remove hurdles to enter public transport

Discussion:

Top 3 measures per person:

- public transport free and more access points / less space for cars / no pellet heating
- more green, parks roofs, gardens / centre only for walking, cycling and electrical transport / public transport above the ground and more access points
- less cars / only electrical / green and rainproof

Financing measures

- stop metro, less bureaucracy, less costs for public health measures, taxation of tourists, taxation cars.

2.2 Table 2

Table 2, facilitated by Imke van Moorselaar (Municipality of Amsterdam) and Irati Artola (Trinomics), comprised 3 participants, 2 female, 1 male, all 50+ years. No children were mentioned. The male was active in the neighbourhood committee (Valkenburgerstraat), involved in law case against municipality to improve air quality. None of them had a car. Sustainability is an important topic to all of them.

2.2.1 Comments on Activity 1

2.2.1.1 Activity 1a) What causes the most deaths?

Group decision:

Table 2-4: Amsterdam Delphi Round 3 workshop Table 2 Activity 1a

1 (most deaths)	2	3	4	5 (least deaths)
Unhealthy environment	Smoking Overweight	Smoking Overweight	Inactivity	Unhealthy working conditions

Discussion:

- According to female participant 'stress' was missing in the list.
- They placed unhealthy environment on the first place. At the beginning doubting between this and smoking.
- It took a while for the group to reach consensus.

2.2.1.2 Activity 1b) How is air pollution bad for me?

Group decision:

Table 2-5: Amsterdam Delphi Round 3 workshop Table 2 Activity 1b

DEFINITELY	LIKELY	NOT
luchtwegklachten	Huidziekten	Type 2 diabetes
copd	Hart- en vaatziekten	Beroerte
longkanker	Urinewegen	Dementie
		Psychische stoornissen

Figure 2-2: Amsterdam Delphi Round 3 workshop – Activity 1b





Discussion:

- Longkanker (Lung cancer) was placed immediately in the category 'Definitely'. The male had lung cancer so he was sure about this one. There was also little discussion about COPD and respiratory diseases.
- All other diseases caused more discussions.
- One female told the group that she experienced a lot of health complaints due to the pollen of the elm tree (iep in Dutch).
- Discussion in the end focused on Dementia. Doubting if air pollution contributing to this one
- Doubts on whether air pollution contributes to the urinary canal
- Also it was mentioned that GP's have little knowledge on relation AQ and health.

2.2.2 Comments on Activity 2

2.2.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

Discussion:

In general participants thought these measures were easy to implement into their lives.

They had some extra measures or measures that they would make more stringent.

- They changed the measure 'charge polluting vehicles' into 'prohibit polluting vehicles'.
- 'Verbeter busdienst' (better buses service) this is too narrow --> They suggested to improve all public transport.
- Amsterdam has 'plusnetten' for cars and bikes. This policy concentrates bikes and cars on specific roads. The male proposed to get rid of these plusnetten and distribute cars/bikes all

over the city.

2.2.2.2 Activity 2c) Why would these policies affect how you live your life?

2.2.2.3 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Amsterdam for Table 2.

Discussion:

Almost all measures were easy to implement into their lives and would have positive effects.

'Ban wood stoves' caused some discussion. One female would miss the smell and the romantic feeling (although she knew it's bad for air quality). Everyone agreed these stoves should not be allowed in the city centre. They reached consensus by adding a policy that all wood stoves should be certified and 'clean'.

'Additional parking for bikes' was also slightly contested. One of the participants fully supported it because there are not enough parksites; the other does not cycle so that would have no effect. The third said that more parking for bike should not come at the expenses of taking up more public space.

'Smart traffic lights' really supported "provided that they really work = enhance the flow of traffic"

'Extra metro' was a measure that participant did not support. No more digging in the city. Outside the city borders an extra metro could be a possibility. Or expanding the Noord/Zuidlijn (current metro line) further to the North to satellite municipalities (Purmerend, Volendam)

The participants embraced the idea of free public transport. 'That would save me a lot of money'. One does not use it, so no effect for her.

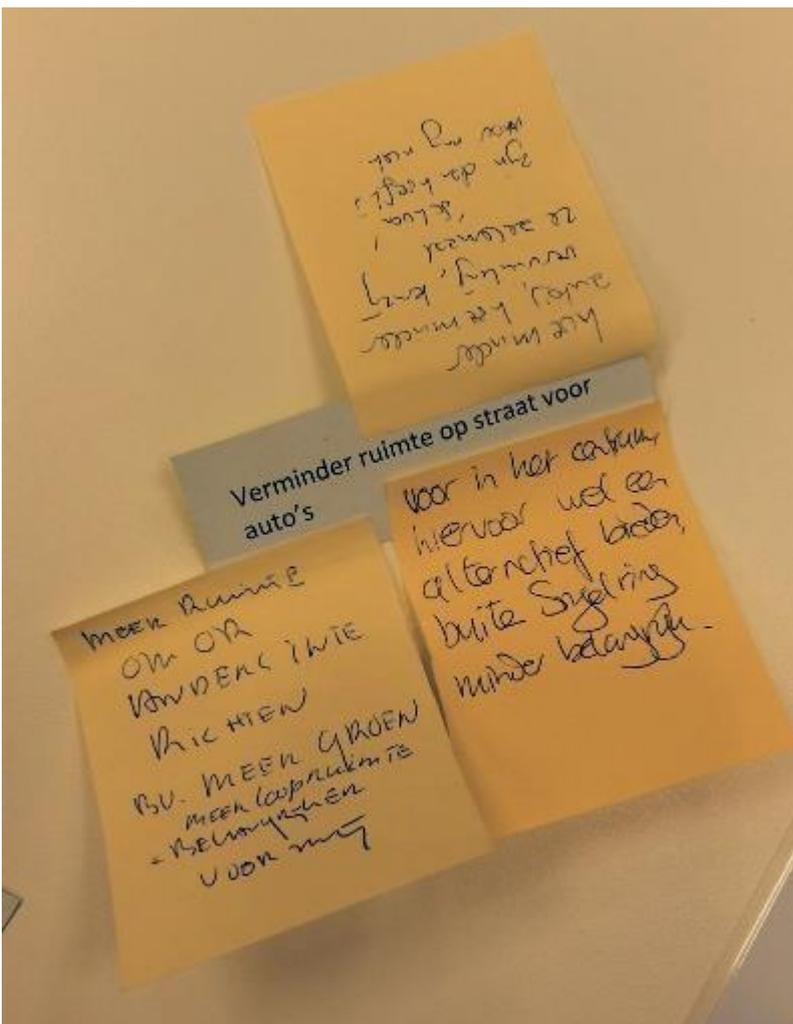
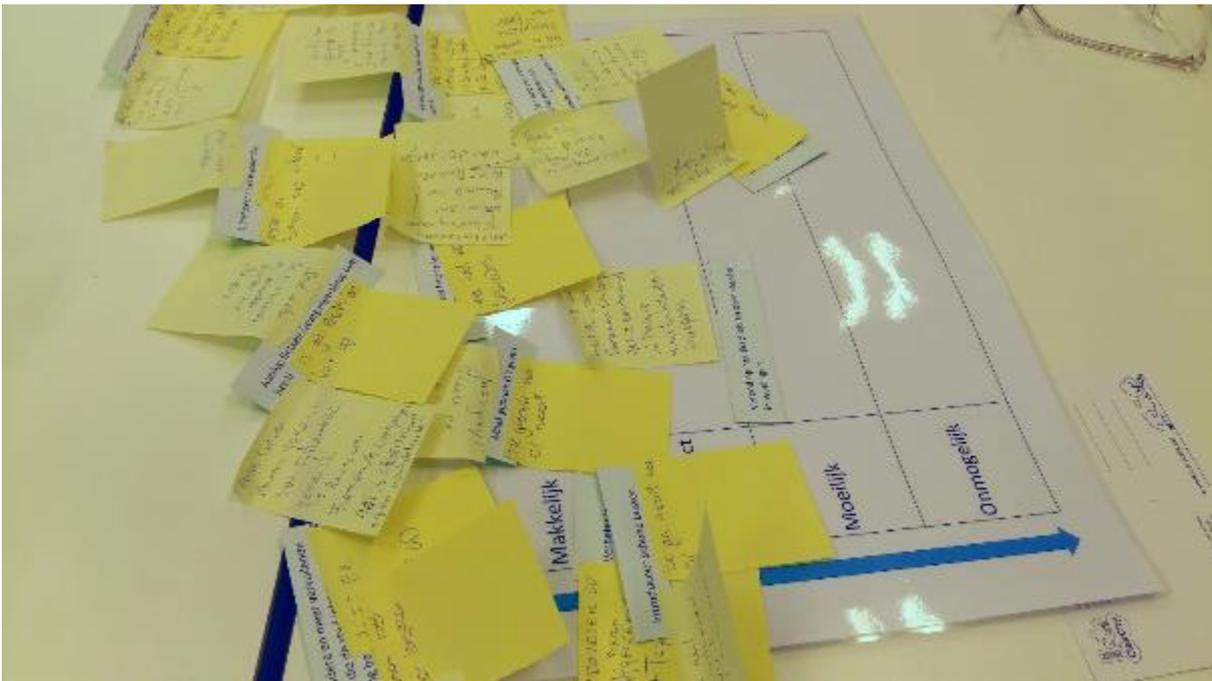
Increase bike lanes is a good idea. However if this means less space for pedestrians than this will have a negative influence on the male.

About the 'meer veerpoten' (more ferries), the group seemed to agree that currently there are too many people on each boat and that therefore more ferries would be needed. One table member said that it would be better that they do not increase the number of these but that they just make them bigger, and clean (One participant didn't know these run on diesel).

The group didn't seem to like the proposal of 100% electric cars or clean cars. They just felt these still take up space from (green) public space.

'Only cars of Dutch people are allowed': from a social point of view, the participants didn't find this one too easy to implement. If implemented there should be some alternative. Otherwise people might get isolated because visitors cannot visit anymore. They thought from a social perspective this was undesirable.

Figure 2-3: Amsterdam Delphi Round 3 workshop – Activity 2



2.2.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported for Amsterdam for Table 1.

Group decision on the most difficult three (although only 2 reported):

Table 2-6: Amsterdam Delphi Round 3 workshop Table 1 Activity 2d

1	Wood stoves. Not a ban but a policy that only certified wood stoves are allowed. And a subsidy scheme for those that need to replace.
2	Electric cars – Stimulate other ways of transport (electric buses for instance) and promote active ways of commuting (walk, bike)

Figure 2-4: Amsterdam Delphi Round 3 workshop – Activity 2 – presenting the results



3 Sosnowiec

The Sosnowiec Round 3 workshop was held at the City Hall on 18th January 2018, 17.00 - 19.00. The workshop was organised and run by the Municipality of Sosnowiec. There were 29 participants for this workshop split into five tables to facilitate discussion.

The workshop began with a short welcome introduction to the workshop and the ClairCity project. Participants were then given the participant information sheets, signed the consent form for participation in the workshop, and signed the attendance list. Between Activity 1 and 2 an expert presentation on the impact of air pollution on the health of residents was delivered by PhD hab. Danuta Mielżyńska from the Institute of Occupational Medicine and Environmental Health in Sosnowiec.

Following Activity 2 and the completion of the evaluation surveys, all participants were given gifts (professional anti-smog masks) and a winner of the prize draw was announced (prize: Monopoly game Sosnowiec). Participants were also invited to participate in subsequent events organized as part of the Claircity project.

The following sections present the summaries of each of the activities by table.

3.1 Table 1

Table 1, facilitated by Edyta Wykurz, had 6 participants (student, sales representative, teacher, employee of a housing cooperative, pensioner, private entrepreneur / councillor).

3.1.1 *Comments on Activity 1: Health and air pollution awareness*

3.1.1.1 *Activity 1a) What causes the most deaths?*

During Activity 1a, Table 1 quickly arranged the order of causes affecting deaths in Poland. The participants were unanimous. The joint work did not cause a lively discussion.

Group proposal:

1. Bad diet / obesity
2. Smoking
3. Air pollution
4. Road accidents
5. Alcohol consumption

The reasons indicated by the group were similar to the other tables. 4 out of 5 placed air pollution in 3rd place.

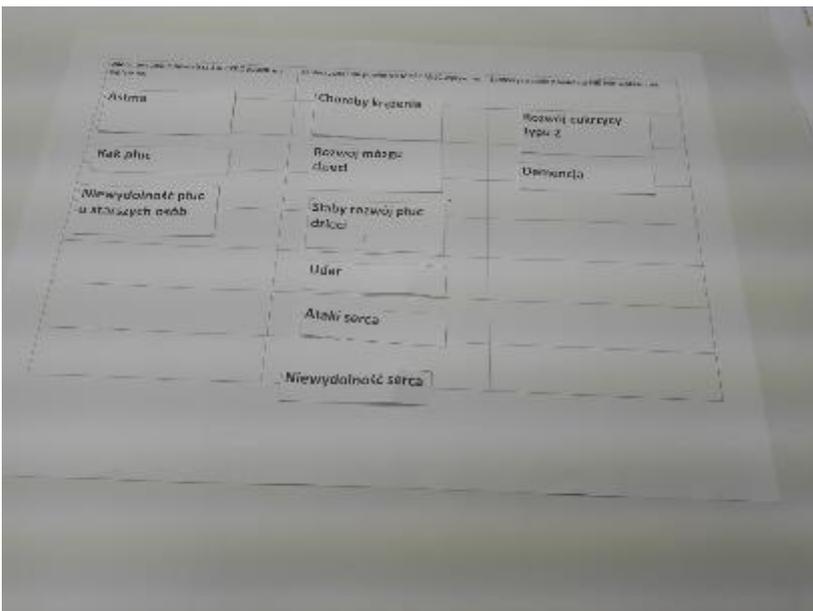
Figure 3-1: Sosnowiec Delphi Round 3 workshop Table 1 – Activity 1a



3.1.1.2 Activity 1b) How is air pollution bad for me?

In Activity 1b, Table 1 was consistent by including diseases related to the respiratory system (asthma, lung cancer, lung failure) as definitely related to air pollution. Diseases that have been indicated as having no relation to the condition of air are the development of type 2 diabetes and dementia. During the presentation of the correct results, participants expressed surprise and disbelief that these diseases can be caused by air pollution.

Figure 3-2: Sosnowiec Delphi Round 3 workshop Table 1 – Activity 1b



During the presentation from PhD hab. Mielżyńska everyone listened with interest to information about the latest results of Polish and world research on the topic of linking the health of residents

with environmental pollution. The biggest commotion was caused by data saying that, on average, Europeans live about 8 months shorter due to the state of air, but Poles 10 months, and the residents of our region, Upper Silesia, about 1 year.

3.1.2 *Comments on Activity 2*

3.1.2.1 *Activity 2a) What can be done? (overall discussion on policy measures)*

The second part of the workshop required a strong involvement of the moderator so that all participants could express their position. There was a tendency among participants (member of the City Council) to dominate the discussion and present in the table their own opinion, identified with the city's position, as the opinion of the whole group.

3.1.2.2 *Activity 2b) How would these policy measures affect how you live your life?*

As a result of the discussion as "impossible in my life", the group identified 2 solutions:

1. Liquidation (get rid of) of all car parks in the city
2. Introduction of a speed limit of 30 km/h throughout the city.

The liquidation of car parks has been unquestionably considered a bad solution that will make it difficult for residents to live in the city. The group expressed strong support for increasing the number of parking spaces. Almost all participants declared themselves as drivers who can hardly imagine performing their daily duties without the possibility of unlimited use of the car. A car is a communication tool, but also a synonym of freedom and convenience, the deprivation of which provokes strong opposition. Any restrictions on the use of the car could only be considered provided that transfer centres are created and public transport is improved.

The introduction of a speed limit of 30 km/h throughout the city was also strongly rejected, while the creation of a speed limit zone only in the centre was discussed. An example of the city of Katowice was given, in which such a zone has been introduced recently. At the time of its introduction, the residents protested that it would cause major inconvenience to drivers as the traffic jam would be awful. However, the congestion did not happen.

3.1.2.3 *Activity 2c) Why would these policies affect how you live your life?*

3.1.2.4 *Activity 2d) How could these policies be made easier for you?*

These activities were reported together for Sosnowiec for Table 1.

In Activities 2c and 2d, the participants on the yellow stick on notes explained why the policy measure was "impossible in their life" and on pink/blue ones, what would have to happen so that the introduction of such a solution would make their lives easier:

Liquidation of all car parks in the city:

Yellow notes:

- I have disabled people in my family and I have to commute by car to the centre where the offices are located.

Pink notes:

- The number of transfer centres in the city centre would have to be increased
- It would have to be possible to travel from the car park by another vehicle
- Free parking lots would have to be built outside the centre, from which the centre can be reached easily and cheaply
- In addition to the centre, multi-storey car parks would have to be built (at transfer centres) with simultaneous improvement of public transport

Introducing a speed limit of 30 km/h throughout the city.

Yellow notes:

- the introduction of a 30 km/h limit throughout the city will prevent you from navigating through it, causing the city to become completely congested.

Pink notes:

- Several bypasses and free public transport would have to be introduced
- Substitute communication, eg trams
- Free public transport

As a solution that “**will make my life more difficult**”, the group indicated only 1: high parking fees throughout the city.

During all conversations, the group expressed reluctance to pay any parking fees (most car parks in Sosnowiec are currently free) and solutions that would result in an increase in the cost of using a private car.

Yellow sticky notes:

- High parking fees in the centre will make my life more difficult because I will be forced to pay for public communication (public transport), which is not always comfortable, in order to avoid the car parks.
- High parking fees in the centre will make my life more difficult because I believe that for a certain group of cars with the best emission class, parking should be free and not an additional burden.

Pink notes:

- Underground parking spaces in off-centre areas, free public transport
- Wages increase
- Free public communication (public transport) for everyone

In the table of solutions that make life difficult, there are two separate opinions:

1. Prohibition of using coal as fuel (for other participants it will make life easier) - reason: with the current level of income, a large population will not change the way of heating homes.

2. Priority for pedestrians and cyclists over cars (for other participants will make life easier) - reason: fewer accidents

“**Without impact on my life**” the group indicated 1 solution: no entry to the city centre by private car (the centre is accessible only by public transport).

Yellow sticky notes:

- Despite leaving the car outside the city centre, we bear the costs of public transport and we depend on timetables
- Walking long distances is not a problem for me. I like to walk.
- I do not drive a car

Most of the solutions (10) the group indicated as “**making my life easier**”, 1 person added a separate sentence (high parking fees in the city centre). Two own ideas have also been added.

1. Co-financing for insulation of private buildings by the city (yellow note: Lower maintenance costs = lower heating costs = less pollution)

2. Increasing the number of private property controls in the field of using correct fuels to heat homes

3. Expansion of the heating and gas network (yellow note: it will give the opportunity to change old coal stoves for networkheating, which should be a cheaper source of heating)

(moderator comment: everyone agreed that this is the best measure to solve the problem of polluted air in the city).

4. Increasing the amount of co-financing by the city for residents exchanging old boilers for modern, ecological devices

(moderator's comment: the inhabitants supported such a solution, the councilor added: "if possible, the city budget").

5. Prohibition of using coal as heating fuel

(moderator remark: provided that other fuels will be co-financed, enforcing such a ban is currently unrealistic: if society could afford to use other fuels, this would make life easier for residents, but it requires huge financial expenses).

6. Preference for pedestrians and cyclists over cars

(moderator's remark: the participants did not support solutions that hinder the movement of cars.) They emphasized that the private car is very comfortable, it allows to travel door to door, which is fast and convenient).

7. Free public transport for all residents (yellow note: free communication can contribute to the elimination of cars from the city centre and financial savings for the citizen)

(moderator's remark: the participants were very enthusiastic about the proposal, it was suggested that the transport should be financed from taxes, which aroused opposition of a city council member who was not happy with the idea of free transport).

8. Establishment of a municipal bicycle rental and construction of new bicycle paths

(moderator comment: the group expressed strong support for the construction of bicycle rentals and bike paths) The main argument expressed by the participants was the fact that the majority of Sosnowiec residents live in blocks of flats and have limited space for storage. You do not need to store and service a rented bike.

The youngest participant of the workshop pointed out that each city has a separate bicycle smartphone application, which is discouraging. Another concern was the need to pay for renting a bike online. Logging in to the bank via free wi-fi is dangerous.

(These arguments were completely incomprehensible to older participants.)

9. Starting additional rail connections with neighboring cities, increasing the number of tram and bus connections (yellow note: it will facilitate moving smoothly, quickly and efficiently).

(moderator's comment: trains raised the strongest reaction. The railway is fast, convenient, very appealing, provided that with the development of railway connections there should be transfer centres, where it will be possibly to change the means of transport fast and easily).

10. High financial penalties for people heating houses with bad fuel/refuse

Moderator commentary: split views. Some participants claimed that the penalties should be high and ruthless, others that this is a half-way solution There should be a balance: the introduction of penalties should be concurrent with significant financial support for those who change the way the house is heated ecologically.

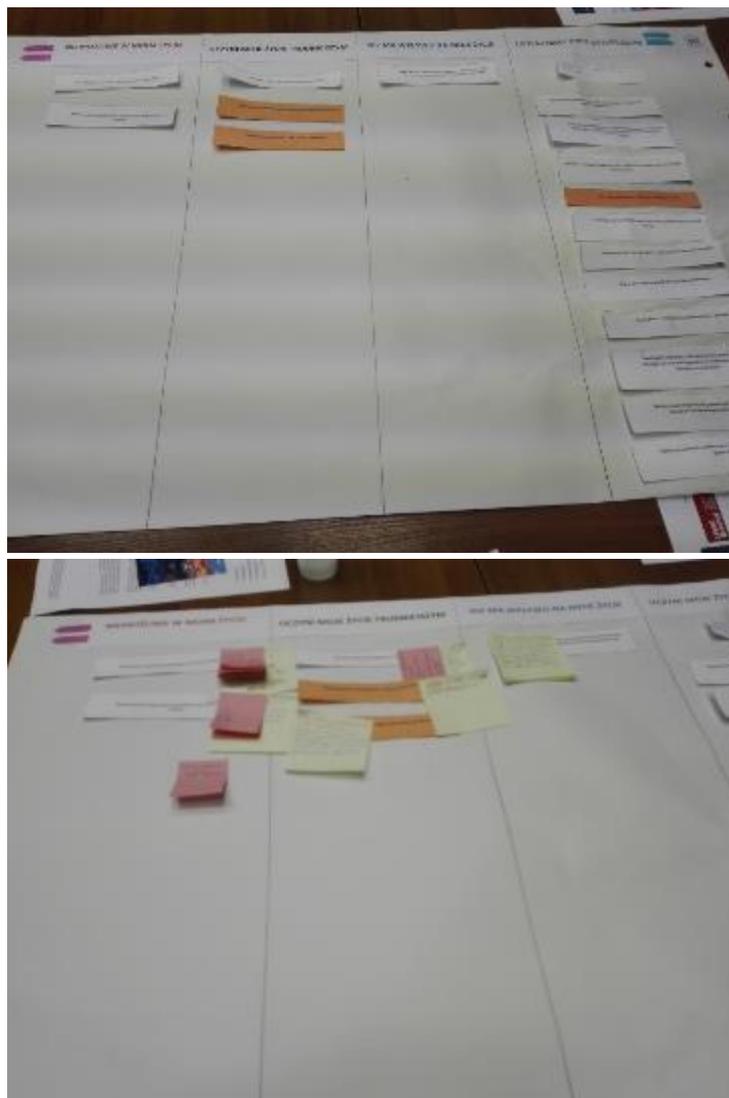
Dissenting opinion:

- High parking fees in the city centre (for the rest of people it was an "impossible" solution). Reason? Limiting the entry of cars to the centre will help the residents of the centre to get to their homes, and other drivers will be forced to choose ecological means of public transport.

Additional proposals:

1. Road repair in Sosnowiec (even roads would have an impact on air pollution)
2. Raising public awareness (at today's workshops I realized that more diseases are caused by air pollution than I thought).

Figure 3-3: Sosnowiec Delphi Round 3 workshop Table 1 – Activity 2



3.2 Table 2

Table 2, facilitated by Justyna Skowrońska, had 6 people (retired chemist - city councilor, high school student, retired health and safety inspector - local activist, employee of a housing cooperative - accountant, pensioner - vice-chairman of the Seniors' Council, pensioner - member of the Seniors' Council).

3.2.1 Comments on Activity 1: Health and air pollution awareness

3.2.1.1 Activity 1a) What causes the most deaths?

During Activity 1a the group argued about the causes of deaths in Poland. While the cause of "Diet, lack of exercise, cardiovascular disease" did not raise any doubts and was immediately put in the No. 1 position, the remaining reasons - especially tobacco and alcohol - became the reason for a lively discussion.

The group's proposal, which proved to be true:

1. Diet, no exercise, cardiovascular disease
2. Smoking
3. Air pollution
4. Alcohol consumption
5. Road accidents

The reasons indicated by the group were similar to the other tables. 4 out of 5 placed air pollution in 3rd place.

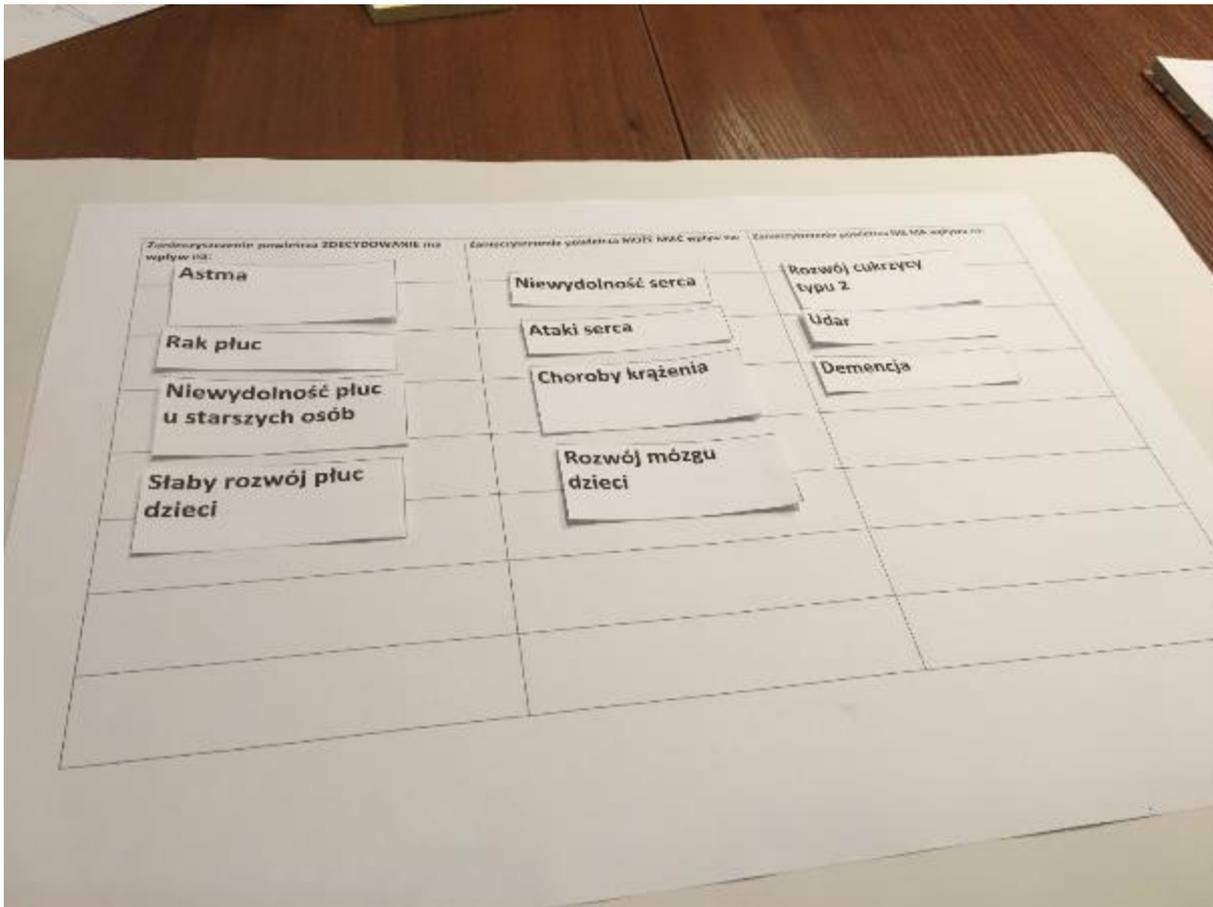
Figure 3-4: Sosnowiec Delphi Round 3 workshop Table 2 – Activity 1a



3.2.1.2 Activity 1b) How is air pollution bad for me?

In Activity 1b, the group was consistent by including diseases related to the respiratory system (asthma, lung cancer, lung failure in the elderly, poor development of children's lungs) as definitely related to air pollution. Diseases that may be associated with contaminated air include: heart failure, heart attacks, cardiovascular disease, children's brain development - although this last cause raised a lot of discussion as very doubtful because one of the participants insisted that children are sufficiently protected in mother's womb - also against the effects of contaminated air. Diseases that have been indicated as having no relation to the condition of air are the development of type 2 diabetes, dementia and stroke. During the presentation of the correct results, participants expressed surprise and disbelief that these diseases can be caused by air pollution.

Figure 3-5: Sosnowiec Delphi Round 3 workshop Table 2 – Activity 1b



3.2.2 Comments on Activity 2

3.2.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The second part of the workshop required a strong involvement of the moderator so that all participants could express their position. The most popular were measures that “will make my life easier” (12 out of 14). It was relatively easy for the group to recognize what is good for them, the group was very pro-ecological, wanting to really consider everything as a great solution.

3.2.2.2 Activity 2b) How would these policy measures affect how you live your life?

3.2.2.3 Activity 2c) Why would these policies affect how you live your life?

3.2.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Sosnowiec for Table 2.

Ultimately, nothing was considered "impossible in my life", and as "to make my life more difficult" participants chose only two measures:

- high parking fees in the city centre:

Yellow notes: too expensive for the residents

Pink notes: a different, easier and faster way to get to school / work than by a car

- introduction of a speed limit of 30 km/h throughout the city

Yellow notes: it will be almost impossible to move around the city efficiently

Pink notes:

- travel time by public transport would have to be reduced;
- speed limited, but only in the city centre, not throughout the city;
- perfectly developed network of trams and electric buses from all districts to the city centre.

In the table of solutions that make life difficult, one separate measure was added (the rest of the group considered this solution as the one that would make their lives easier):

- priority for pedestrians and cyclists over cars:

Yellow note: longer journey times and increased danger on the roads

Moderator's comment: a high school student who has just passed a driving license has expressed a separate opinion, for personal reasons - he does not feel confident in the role of a driver yet, and cyclists and pedestrians may pose a potential threat.

Pink notes:

- eliminating road traffic completely, including cars;
- pedestrian crossings and cyclists accurately marked and reasonably located.

One person added a separate sentence to "make my life easier": ban on using coal as fuel, considering it as "not affecting his life":

Yellow sticky note: I live in a block of flats, I do not use coal, it does not matter to me

Moderator's remark: member of the City Council stated that it did not matter to her whether coal as fuel would be banned because she lives in a block of flats, she has network heating and this problem does not affect her life and does not concern her.

Pink notes:

- high co-financing for other fuels;
- greater awareness of the harmful effects of coal burning;
- installing a network heating system in residential buildings at the cost of the city.

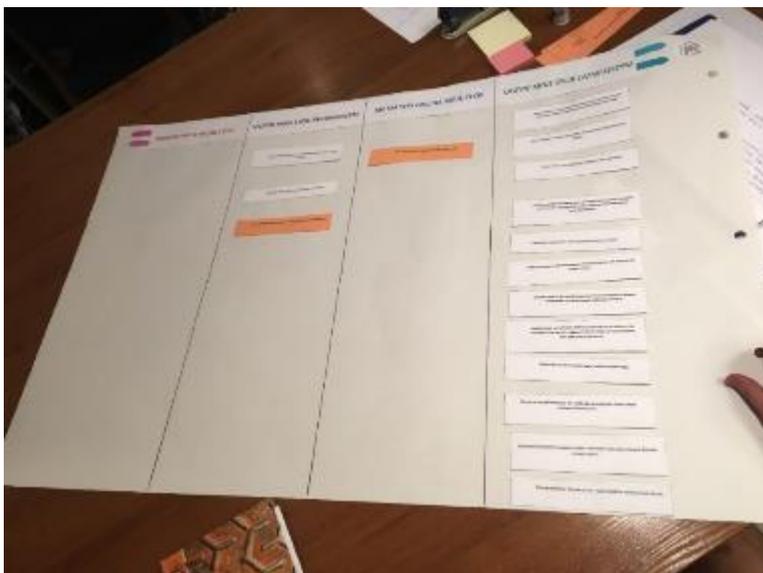
The group indicated the most solutions (12) as making life easier. None of them aroused stormy discussion and controversy, and the group even immediately made decisions and took the position. Each of them gave an explanation only on yellow notes (answer to the question "why?"):

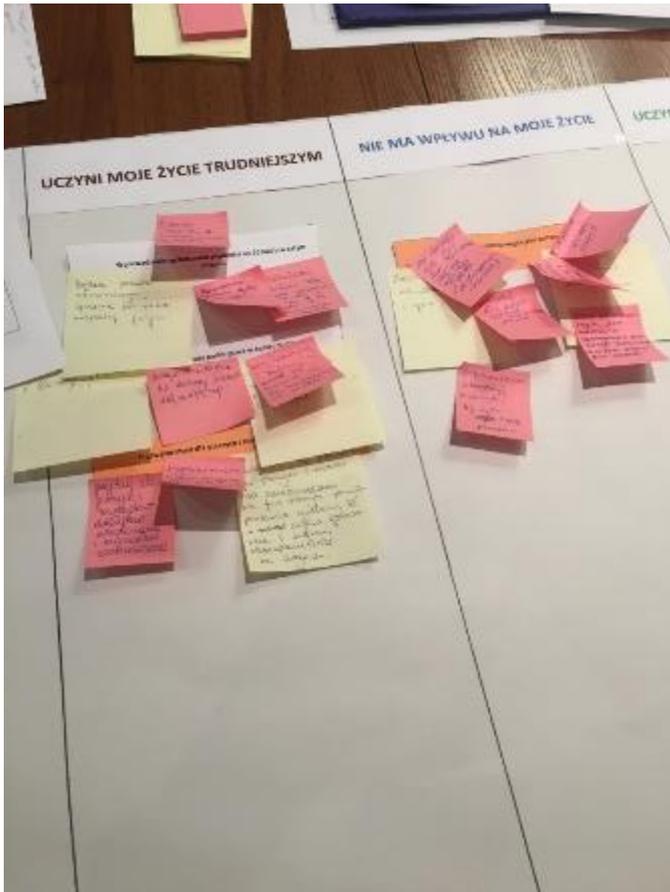
1. ban on using coal as heating fuel: air quality will improve; it will be better to breathe
2. priority for pedestrians and cyclists over cars: it will be easier to move around the city, and getting to the destination will become safer
3. liquidation of all car parks in the city centre: the amount of free space will increase; it will reduce the number of threats; air quality will improve

4. no entry to the city centre by private car (the centre is accessible only by public transport): getting around the centre will be easier and safer; air quality will improve
5. extension of the municipal heating and gas network: life will be easier - it will increase the comfort of residents, especially in winter; it is a pro-ecological solution
6. co-financing for insulation of private buildings by the city: lower consumption of bad fuel fuels - improvement of air quality; heating costs will be reduced; the buildings will look better
7. increasing the number of private property inspections for the use of correct fuel: it will improve waste segregation and prevent the burning of rubbish in household stoves; stop the burning of rubbish, which will affect air quality; encouragement for the use of ecological fuels
8. creation of an municipal bicycle rental and construction of new bicycle paths: will allow you to give up driving a car through the city; it will make it easier and faster to reach every destination without traffic jams
9. free public transport for all city residents: encouragement to use it and improve city mobility; it will facilitate access to the city centre from distant districts; I do not have a car - I am traveling by public transport and more
10. launch of additional rail connections with neighboring cities, increase in the number of tram and bus connections: it will facilitate travelling from city to city, and hence will reduce costs; will allow you to give up driving to work
11. increase in the city's co-financing for residents exchanging old boilers for modern, ecological devices: it would make my life easier (incomprehensible answer - the participant repeated the thesis, confirming that it would make her/his life easier without answering the question "why?")
12. high financial penalties for people heating houses with bad fuel / garbage: high fines for heating people makes life easier (unintelligible answer - participant repeated the thesis, confirming that it will make his life easier without answering the question "why?"); high fines will limit the burning in domestic ovens

No own ideas were added due to lack of time.

Figure 3-6: Sosnowiec Delphi Round 3 workshop Table 2 – Activity 2





3.3 Table 3

Table 3, facilitated by Ewa Karaban, had 6 participants (mechanic/ technician, high school student, senior specialist, construction engineer, teacher, chemist).

3.3.1 Comments on Activity 1: Health and air pollution awareness

3.3.1.1 Activity 1a) What causes the most deaths?

In Activity 1a, the group had no problem with the ordering of the causes affecting deaths in Poland. Only 2 reasons at the bottom of the list aroused discussion: alcohol consumption and accidents. Finally, the proposed order of all the causes turned out to be correct:

1. Bad diet / obesity
2. Smoking
3. Air pollution
4. Alcohol consumption
5. Road accidents

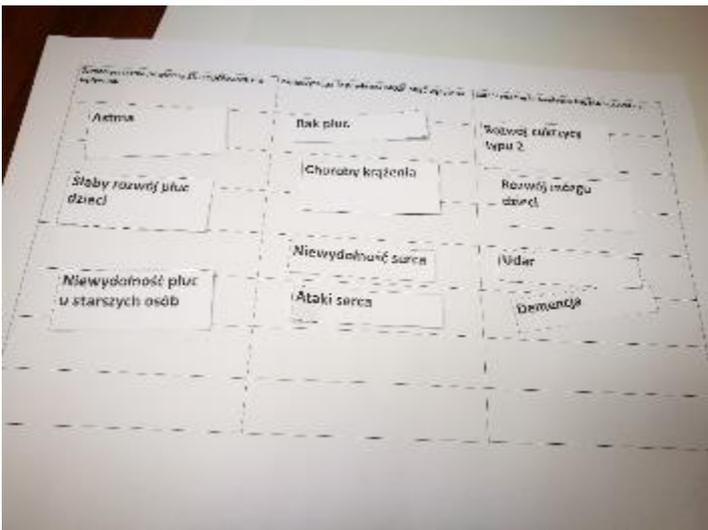
Figure 3-7: Sosnowiec Delphi Round 3 workshop Table 3 – Activity 1a



3.3.1.2 Activity 1b) How is air pollution bad for me?

In Activity 1b the group unquestionably decided that air pollution does not affect type 2 diabetes, brain development of children, stroke and dementia. In the first section (the strong influence of air pollution) participants put asthma, poor development of children's lungs and lung failure in older people. In the second column were the remaining diseases, with doubts raised by cardiovascular diseases, which the group associated with the individual lifestyle, specific human action and did not recognize them as an obvious consequence of air pollution.

Figure 3-8: Sosnowiec Delphi Round 3 workshop Table 3 – Activity 1b



During PhD hab. Mielżyńska's presentation everyone listened with interest to information about the latest results of Polish and world research on the topic of linking the health of residents with environmental pollution. The participants were surprised by the fact that all of the aforementioned diseases may be related to air pollution.

3.3.2 Comments on Activity 2

3.3.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

In the next task, participants analyzed proposals for actions to improve air quality. All proposed solutions proved to be applicable to participants.

3.3.2.2 Activity 2b) How would these policy measures affect how you live your life?

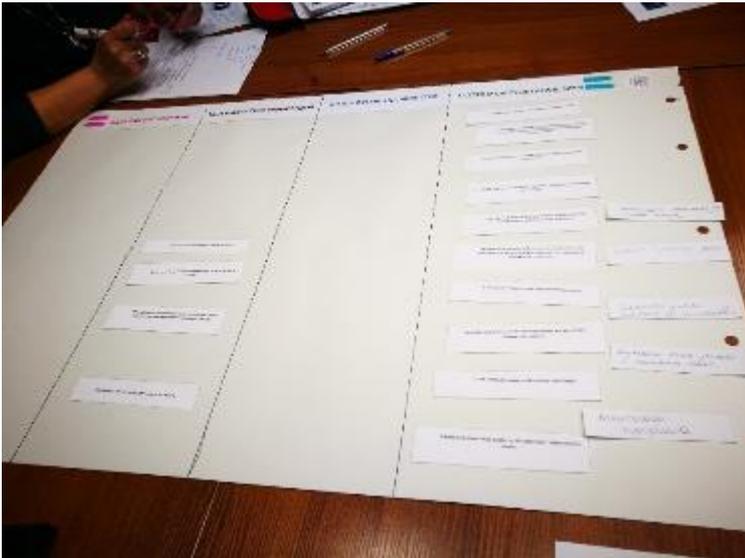
The vast majority of proposals (10 out of 14) would make life easier for them, while 4 solutions linked with transport aroused great controversy and were considered to make life difficult: the liquidation of car parks in the city centre, high parking fees in the city centre, speed restrictions up to 30km/h, no entry by private car to the centre (centre available only by public transport).

The group also added new ideas to reduce air pollution: hybrid communication, the Fuel Quality Act, the use of renewable energy sources, an increased number of parks and planting trees.

Participants justified their choice in the following way (comments written on yellow sticky notes):

- extension of the municipal heating and gas network - will reduce the odor nuisance (smoke)
- increasing the number of private property inspections in the field of using correct fuel fuels - it will improve the air quality and will lead to the search for alternative solutions that will be more beneficial for people and nature
- launch of additional rail connections with neighboring cities, increase in the number of tram and bus connections - a higher number of connections will result in more people stopping the use of cars, provided that the use of public transport will be cheaper
- banning the use of coal as fuel – one has to invent fuel that will not poison the air
- increase in co-financing by cities for residents exchanging old boilers for modern, eco-friendly devices - to show residents what fuel is the most ecological, improve air quality
- free public transport for all city residents - I commute to work by public transport; If public transport was free, I would exchange a car I drive every day for buses, trams or trains
- high fines for people heating houses with bad fuel / garbage - financial penalties would make residents aware that you cannot destroy air in this way
- creation of an urban bicycle rental and construction of new bicycle paths - creation of an city bike rental service in the summer season, I am for access to the centre (and not only) by bicycle paths

Figure 3-9: Sosnowiec Delphi Round 3 workshop Table 3 – Activity 2b



3.3.2.3 Activity 2c) Why would these policies affect how you live your life?

3.3.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Sosnowiec for Table 3.

During subsequent tasks, the participants on the yellow notes set out the reasons why they described the policy measure as making life difficult, and on the pink ones what would have to happen to make the solution easier for them to live:

Liquidation of all car parks in the city:

Yellow sticky notes:

- build a metro to every district

Pink notes:

- free public transport
- construction of one big, two-story car park

Introduction of a speed limit of 30 km/h throughout the city.

Yellow sticky notes:

- the speed limit would contribute to a greater vehicle emissions and would increase the time of arrival to the destination

Pink cards:

- increase of the number of cyclists and pedestrians
- subway

- increase of the number of road lanes

High parking fees in the city centre

Yellow sticky note:

- parking fee will increase the cost of my work

Pink note:

- - car parks on the outskirts

No entry by private car to the city centre (centre available only by public transport)

Yellow sticky notes:

- I work in the city centre, I go to the construction sites from the city centre

Pink notes:

- free public transport, large parking lots outside the centre, more public transport in the centre
- making public transport more cost-effective
- relocate offices and institutions from the city centre

Figure 3-10: Sosnowiec Delphi Round 3 workshop Table 3 – Activity 2b



3.4 Table 4

Table 4, facilitated by Joanna Grabarczyk, had 5 participants (teacher, cinematographer, pensioner/member of the city council, member of NGO, clerk).

3.4.1 *Comments on Activity 1: Health and air pollution awareness*

3.4.1.1 *Activity 1a) What causes the most deaths?*

During Activity 1a, the group was rather consistent about the cause of death in Poland. The topic of currently polluted air has been raised. The group indicated that it is much bigger than a dozen or so years ago.

Group proposal:

1. Smoking
2. Diet, no exercise, cardiovascular disease
3. Air pollution
4. Road accidents
5. Alcohol consumption

The reasons indicated by the group were similar to the other tables, placing air pollution in the third place.

Figure 3-11: Sosnowiec Delphi Round 3 workshop Table 4 – Activity 1a



3.4.1.2 Activity 1b) How is air pollution bad for me?

In Activity 1b, the group was consistent by including diseases related to the respiratory system (asthma, lung cancer, lung failure in the elderly, heart failure) as definitely associated with air pollution. Diseases that may be associated with contaminated air include: heart attacks, cardiovascular disease, brain development of children, stroke, poor lung development in children. Diseases that were indicated as having no relation to the condition of air are the development of type 2 diabetes, dementia. During the presentation of the correct results, the participants expressed astonishment and disbelief that these diseases can be caused by air pollution. During the discussion it was mentioned that all indicated diseases in connection with other factors such as bad diet or stress can be related to air pollution.

Figure 3-12: Sosnowiec Delphi Round 3 workshop Table 4 – Activity 1b

Zanieczyszczenie powietrza ZDCCYDOWANIE na wpływ na	Zanieczyszczenie powietrza NO2, MEK wpływ na	Zanieczyszczenie powietrza NOx wpływ na
Astma	Ataki serca	Rozwój cukrzycy typu 2
Rak płuc	Rozwój mózgu dzieci	Demencja
Niewydolność płuc u starszych osób	Choroby krążenia	
Niewydolność serca	Udar	
	Słaby rozwój płuc dzieci	

3.4.2 Comments on Activity 2

3.4.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The second part of the workshop required a strong involvement of the moderator so that all participants could express their position.

3.4.2.2 Activity 2b) How would these policy measures affect how you live your life?

The group suggested that each of them should discuss one by one and together take the position: "impossible in my life" - no policy measure has been placed as impossible, "will make my life more difficult" 3 policy measures, "does not affect my life" - three policy measures were put in, "it will make my life easier" - 11. Generally most policy measures were feasible for the group and would make their lives easier.

3.4.2.3 Activity 2c) Why would these policies affect how you live your life?

3.4.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Sosnowiec for Table 4.

Yellow sticky notes:

1. Getting rid of all car parks in the city centre;
 - it will make difficult to get to the centre (especially for the disabled)
2. Launch of municipal bicycle rentals and construction of bicycle paths;
 - I like riding a bike, it will make easier for me to move quickly from place to place
3. Extension of the heating network;
 - it will reduce the number of individual stoves, which will result in less air pollution.

4. No entry of cars to the city centre:

- no entry only for drivers from outside Sosnowiec

5. Ban for the use of coal:

- banning the use of coal as a fuel is crucial
- the ban will reduce pollution emissions

6. Financial penalties for people who burn garbage:

- better quality of inhaled air
- reduction of bad smell

7. Priority for cyclists:

- it will reduce air pollution but unfortunately at the expense of security.

8. Co-financing for insulation of private buildings:

- it will reduce heating costs
- improve air quality
- it will reduce the demand for energy resources

9. Free public transport (especially important during the heating period)

- in winter it is sometimes difficult to start the car's engine and to remove the snow from the car
- with free public transport, I will not use the car
- the number of people using private cars will be significantly reduced
- it will facilitate the commute from a city to city (within agglomeration)

10. High parking fees

- discourages residents from using private cars and enforces the use of public transport

11. Residents' idea - Adaptation of the trams to the needs of the disabled.

Blue sticky notes:

1. Getting rid of parking lots

- there are no paid parking lots in Sosnowiec
- launch of free public transport and transfer points
- parking lots for disabled people and suppliers

2. High fees

- launch of free public transport
- creating parking lots outside the city centre linked with the public transport network
- the longer you park, the higher the fee is

Orange policy measure (incompatibility in the group):

Yellow sticky notes:

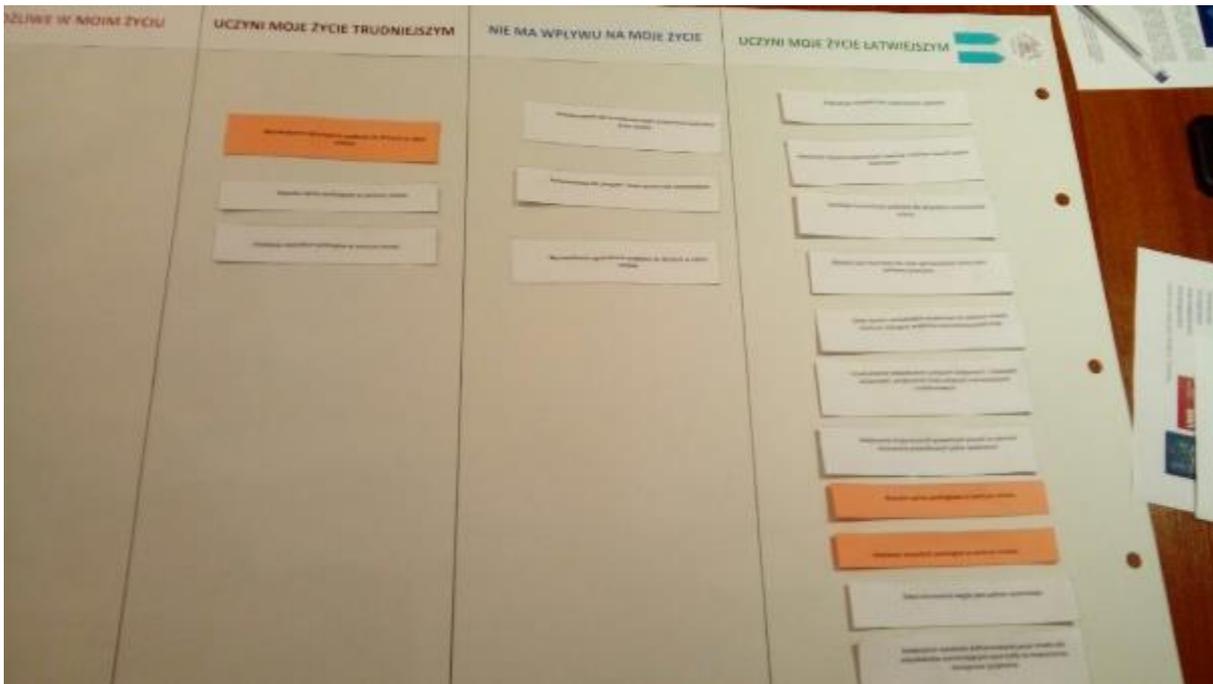
Speed reduction up to 30 km per hour

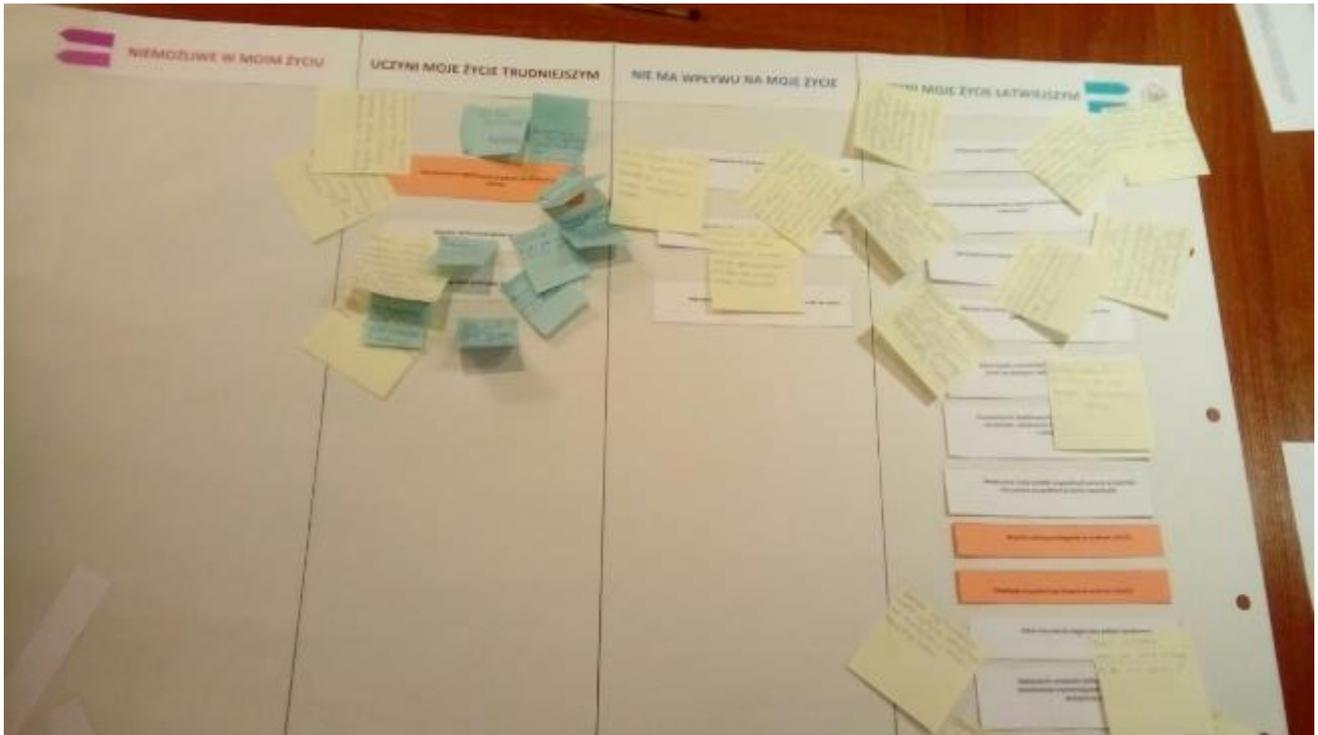
- improve functioning - reduce traffic jams
- less car exhaust
- increased safety on the road

Blue sticky notes:

- creating an alternative public transport
- introduction of command and prohibition signs

Figure 3-13: Sosnowiec Delphi Round 3 workshop Table 4 – Activity 2





3.5 Table 5

Table 5, facilitated by Agnieszka Szczerzyńska, had 7 participants (employee of an educational institution - teacher, office worker of a housing co-operative, pensioner, police officer, pensioner, pensioner - Councilor of the City Council, pensioner).

3.5.1 Comments on Activity 1: Health and air pollution awareness

3.5.1.1 Activity 1a) What causes the most deaths?

In the course of Activity 1a and the group indisputably pointed to smoking in 3rd place. Controversies were caused by the reasons for diet and air pollution. 6 out of the participants of the discussion indicated the diet in 1 place, only one participant was against it. In the end, the decision was made to keep the cause of 'diet' in the first position. There were also doubts about the ranking of accidents and alcohol on the 4th and 5th place. After the exchange of opinions, it was decided to place 'transport accidents' in the 4th position, 'alcohol' in the 5th position.

Group proposal:

1. Diet, no exercise, cardiovascular disease
2. Air pollution
3. Smoking
4. Road accidents
5. Alcohol consumption

Figure 3-14: Sosnowiec Delphi Round 3 workshop Table 5 – Activity 1a

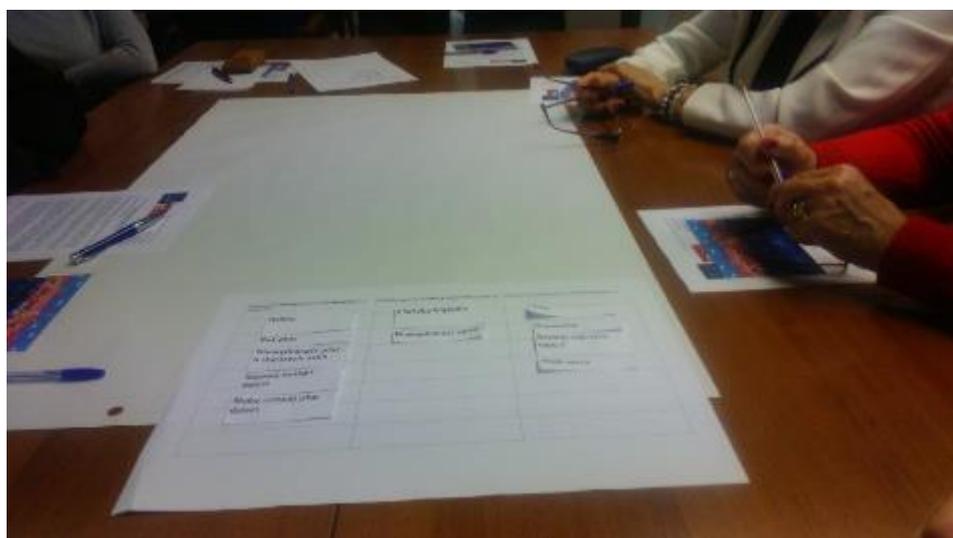


3.5.1.2 Activity 1b) How is air pollution bad for me?

In Activity 1b, the workshop participants were unanimous and placed diseases related to the respiratory system (asthma, lung cancer, lung failure in the elderly) as "definitely related to air pollution". In addition, the same group includes 'brain development of children' and 'poor development of children's lungs', justifying the choice that it is related to breathing contaminated air by a woman during pregnancy, which undoubtedly affects the fetus and subsequent development of the child. Diseases that may have an association with contaminated air include: cardiovascular diseases and heart failure. However, circulatory diseases have raised considerable doubts. It was considered whether to place the disease in the first or second column, but after reassessment and discussion it was decided to leave it in the second group. The last column "has no effect", like the first one, did not cause trouble for the people taking part in the meeting and eventually indicated as matching: stroke, dementia, development of type 2 diabetes and heart attacks. During the presentation of correct answers, the participants listened with interest. In addition, they were happy to deepen their knowledge in the subject.

Figure 3-15: Sosnowiec Delphi Round 3 workshop Table 5 – Activity 1b

Astma	Choroby krążenia	Udar
Rak płuc	Niewydolność serca	Demencja
Niewydolność płuc u starszych osób		Rozwój cukrzycy typu 2
Rozwój mózgu dzieci		Atak serca
Słaby rozwój płuc dzieci		



3.5.2 Comments on Activity 2

3.5.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

In the second part of the workshop, the moderator gave each participant two flashcards (white and pink) with theses, and offered to discuss and assign cards to the columns in the table, so as to involve everyone in the task.

3.5.2.2 Activity 2b) How would these policy measures affect how you live your life?

3.5.2.3 Activity 2c) Why would these policies affect how you live your life?

3.5.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Sosnowiec for Table 5.

The participants subsequently turned to the thesis forum and worked out a common position. As a result of conversations, they fit the theses to the following 3 columns:

IV “impossible in my life”

- Introducing a speed limit of 30 km/h throughout the city.

(justification: the restriction to 30 km/h throughout the city was considered a serious difficulty to traffic. The limit in the city centre zone was considered as possible to be implemented)

Yellow sticky notes:

"Speed limit would make it difficult to move around the city during rush hour" (2x)

"Speeding up to 30 km/h in the whole city will not improve the air situation. The traffic jams that will be created will make it difficult to travel on highways and this will result in more exhaust emissions"

Blue sticky notes:

"The introduction of speed limits can make sense if drivers are made aware of their driving culture and learn their driving culture."

- Launching additional rail connections with neighboring cities, increasing the number of tram and bus connections.

(justification: launching of additional bus connections was considered to be not eco -friendly)

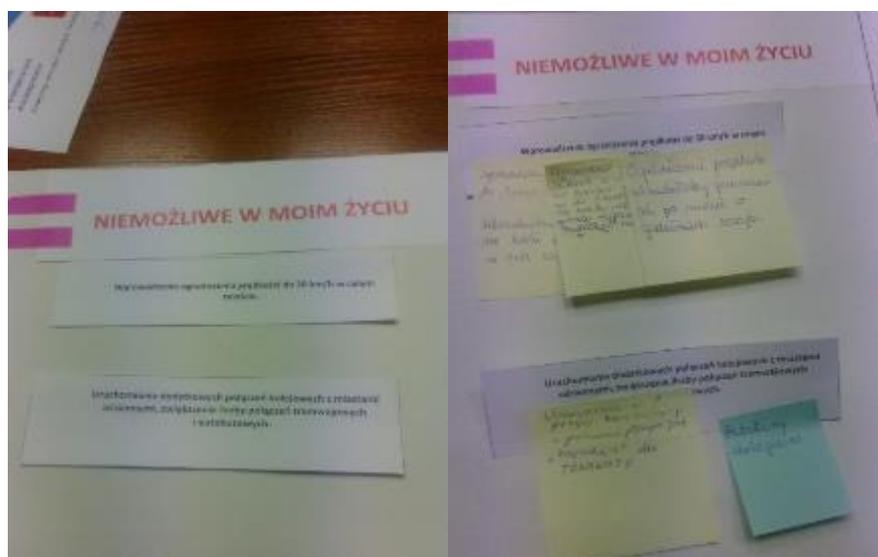
Yellow sticky notes:

"Simultaneously placing buses (for fuel) and trams in this column causes disadvantage of the latter"

Blue cards:

"Possible to introduce, provided that the buses will be eco-friendly"

Figure 3-16: Sosnowiec Delphi Round 3 workshop Table 5 – Activity 2



III “will make my life more difficult”

- Ban for using coal as heating fuel.

(justification: in the current financial situation of residents it is a serious difficulty.) It would be acceptable if it would be possible to make large subsidies to change the method of heating and to halve the prices for energy / gas)

- Preference for pedestrians and cyclists over cars.

(justification: participants agreed unanimously that it would cause a significant slowdown in traffic)

- Getting rid of all car parks in the city centre.

(justification: serious difficulty due to the fact that the centre is inhabited by a large number of people and many people work in the centre, sometimes in remote cities, where connections with public transport do not allow them to reach the workplace efficiently)

Blue notes:

"Under condition of expanding the tram network"

"If underground is built"

"If underground car parks are built"

- No entry by private car to the city centre (the centre is accessible only by public transport).

(justification: serious difficulty due to the fact that the centre is inhabited by a large number of people and many people work in the centre)

Yellow sticky notes:

"The entry of a private car into the centre is a serious obstacle for me for health reasons"

- High parking fees in the city centre.

(justification: serious difficulty, especially due to current earnings)

Yellow sticky notes:

"High parking fees are a big burden for me because of my low income"

"High parking fees will result in the depletion of my income and will create a threat that drivers will look for parking spaces in other places, eg in housing estates"

I “will make my life easier”

- Free public communication for all city residents.

Yellow sticky notes:

"Free public transport will allow you to save money in the home budget, because instead of spending it on fuel you will be able to get free to a chosen place using public transport"

"Free public transport will increase the number of residents using it, and this will make drivers of cars also often use public transport, which will result in reducing emissions to the environment."

"It will make my life easier, because I use public transport on a daily basis so I will save the money saved in this way for expenses related to my health"

- Increasing the amount of co-financing by the city for residents exchanging old boilers for modern, ecological devices
- High financial penalties for people heating houses with bad fuel / refuse.

Yellow sticky notes:

"Frequent inspections would force residents to heat their homes with the right fuel"

- Creating a city bike rental and building new bicycle paths.

Yellow sticky notes:

"Creating a bike rental would allow me to spend my free time and to take care of my physical health"

"A bicycle rental would make it easier for me to get around the city and make me exercise"

- Increasing the number of private property controls in the use of correct heating fuels.
- Co-financing for insulation of private buildings by the city.

Yellow sticky notes:

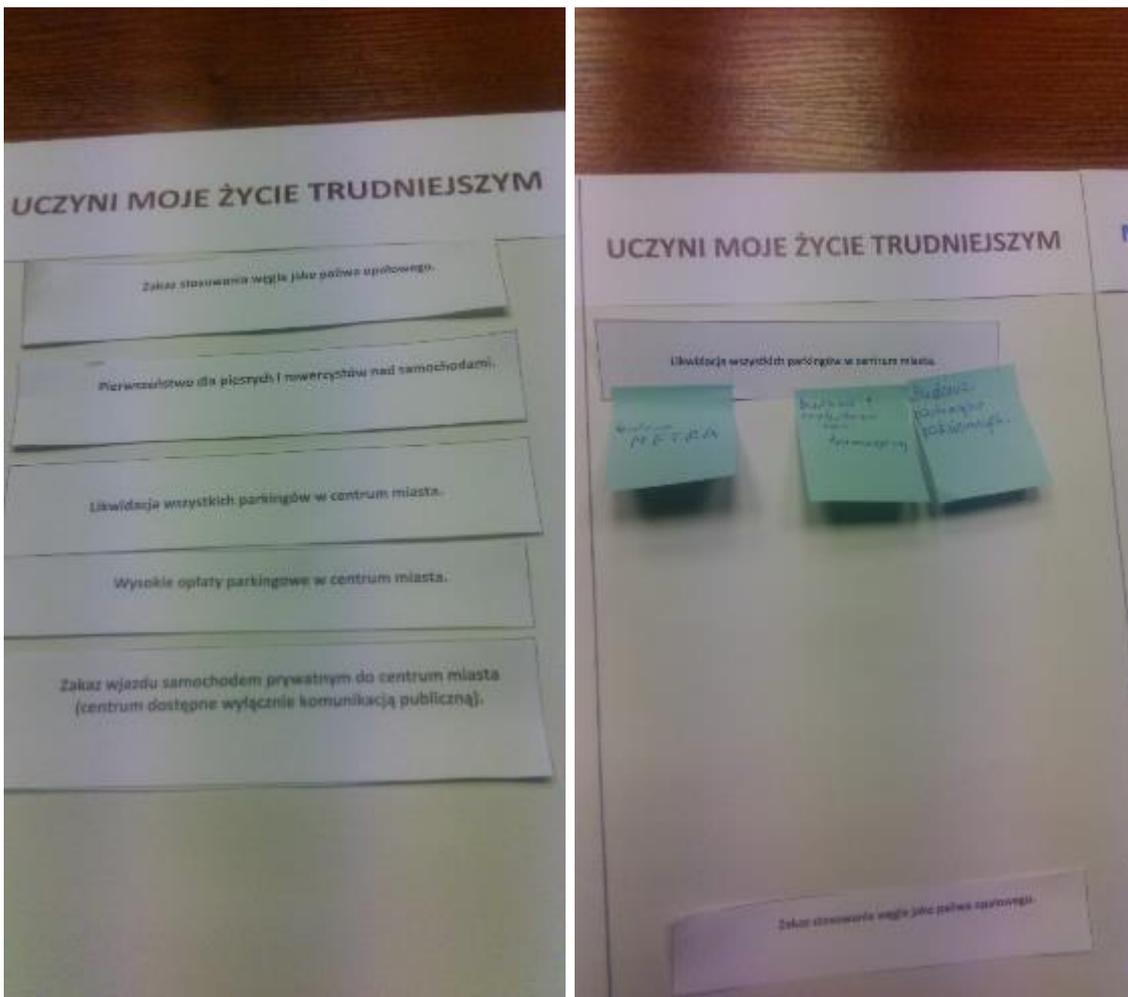
"Encourages residents to exchange heating sources"

- Expansion of the municipal heating and gas network.
- Launching additional rail connections with neighboring cities, increasing the number of tram and bus connections.

Yellow sticky notes:

"Increasing the frequency of connections will make life easier, if you miss one of the connections it will always be known that the waiting time for the next is short and the access will proceed in an efficient manner. Additional connections will make it possible to reach places currently unavailable in public transport, and this will have a direct impact on increasing the number of people using this type of transport. "

Figure 3-17: Sosnowiec Delphi Round 3 workshop Table 5 – Activity 2



Most policy measures were classified into the group "will make my life easier", where ultimately there were 8 measures, including 1 orange (separate opinion). Placement of orange 'was caused by doubts of participants. It was considered that the measure in not acceptable as one of the means of transport included were buses that were not ecofriendly according to the participant. Ultimately, the group did not qualify anything for the column "it does not affect my life".

Figure 3-18: Sosnowiec Delphi Round 3 workshop Table 5 – Activity 2



4 Ljubljana

The Ljubljana Round 3 workshop was held on 1st February 2018, at Četrtna skupnost Rudnik. The workshop was organised and run by the Municipality of Ljubljana and REC. There were only three participants for this workshop so all participants worked as a group.

The participants were introduced to the ClairCity project and general introduction to the Delphi workshop with a presentation. The participants then signed the list of participants, and filled in the Consent Forms. After the workshop participants completed the Participant evaluation questionnaires.

The following sections present the summaries of each of the activities by table.

4.1 Rudnik workshop

This workshop, facilitated by Sabina Popit (Municipality of Ljubljana) and Nadja Železnik (REC), had 3 participants, 1 female, 2 males, age from 30 up to 70+. The older male mentioned children and grandchildren and has been active in the neighborhood committee in the past. Only one has a car. Environmental protection is an important topic to all of them, they care for the development in future and they are interested how the ideas from the citizens are included in the related policy development. All of them also participated in the Survey (Round 2 of the WP).

4.1.1 Comments on Activity 1: Health and air pollution awareness

4.1.1.1 Activity 1a) What causes the most deaths?

There was no joint and common decision on the causes of the most deaths, the ranking was as follows (1 – most important, 5 - less important):

Cause\Participant	A	B	C	After presentation of arguments
Smoking	4	3	3	2
Overweight/obesity	3	1	4	4
Alcoholism	5	4	5	3
Road Traffic accidents	1	5	1	5
Air Pollution	2	2	2	1

Discussion:

- According to participants 'stress' was missing in the list.
- Some causes are linked, like alcoholism and road traffic accidents.

- At the beginning they overestimate the importance for deaths due to road traffic accidents, mainly as they are regularly reported in the media. They also agreed that the road traffic improved significantly with better road culture, cars, infrastructure.
- Air pollution was assessed by all participant as very important cause of deaths. They also recognized that the heating was in past dependent on the individual solutions, many times using the wood aa heat resource. Thus, bad air quality was also produced due to not having better available options in the city. The situation is now a bit better, but still many housing are not having access to the gas heating or heating plant.
- Smoking was assessed as being not so important cause of deaths, although it is statistically significant (2nd position)
- After presenting the real data, the group agreed to take over the presented arguments.

4.1.1.2 Activity 1b) How is air pollution bad for me?

A slightly amended version of the Activity 1b was conducted by the Ljubljana team. The air pollution in the city was discussed and was agreed by all members:

- In Ljubljana the air pollution is not the best (according to the measurements), but the long term tendency is good, so the air is improving due to restrictions of car uses in the centre and better heating infrastructure.
- Many areas could still be improved: like delivery of goods for shops, support of bicycling use (service Bicikel), public transportation (one ticket like Urbana for many transportation (bus, rail,)).
- The important factors for air pollutions are use of energy/heating and traffic.

Figure 4-1: Ljubljana Delphi Round 3 workshop Rudnik – Activity 1b



Figure 4-2: Ljubljana Delphi Round 3 workshop Rudnik – Activity 2a



4.1.2 Comments on Activity 2

4.1.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The session started with the introduction of policy measures in the city for improvement of air – reduction of pollution and emissions.

Discussion:

- There are some issues which are important for the improvement of the emissions in the city:
 - The prices of energy sources (like fuel prices, gas, oil,), influencing the use of cars, and heating approach in the housings,
 - The introduction of the parking fee and its regular control with high penalties, which support the use of public transportation,
 - Establishment of pedestrian zones in the city centre with support of electric transportation (“Kavalir”) for those who need such support, promotion of such use,
 - Improvement of the public transport (buses) with electronic traceability of the traffic and information on the real availability of buses (TELARGO),
 - Introduction of new stations for Bikel and promotion of its use,
 - Delivery of goods from shops based on the Internet purchase;
 - Establishment of better infrastructure for heating like gas distribution and heating plants,
 - Introduction of individual alternative systems, like heat pumps, and support for their construction,

- Energy efficiency implementation, like reduction of heat losses (subventions for new windows, new isolation of housings, ...),
- Inclusion of the possible improvement in educational system (from very early) and permanent dissemination for the adults.

Figure 4-3: Ljubljana Delphi Round 3 workshop Rudnik – Activity 2b



4.1.2.2 Activity 2b) How would these policy measures affect how you live your life?

4.1.2.3 Activity 2c) Why would these policies affect how you live your life?

These activities were reported together for Ljubljana for Table 1.

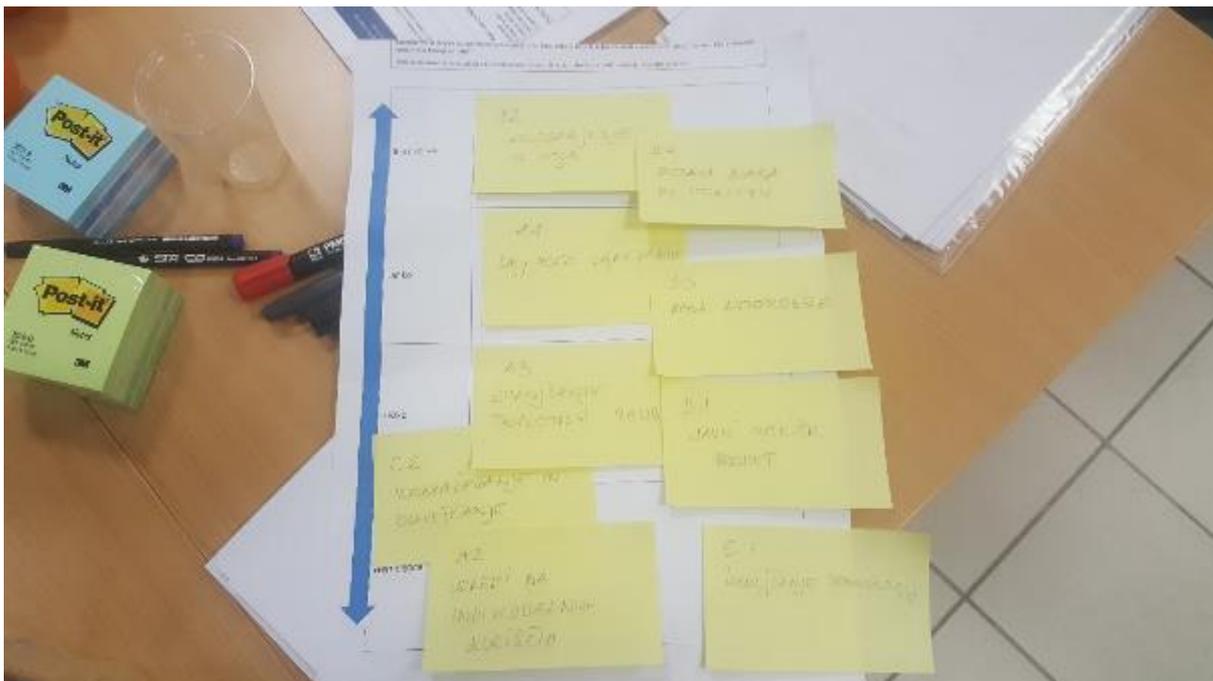
Discussion:

- In general participants thought these measures were possible to implement into their lives to certain extent.
- Some participants mentioned that there are also some limitations, like the investment costs for the improvement of isolation in the housings.
- Some policies are not controlled by the states and are dependent on the global market like the prices of energy (like fuel prices, gas, oils, ...).
- Sometimes it is difficult to use public transportation for elder population, alternative methods could be used (like minivans for more vulnerable population, or taxi services partially paid by the city).
- The “park and ride” concept is good, but should be improved with better, quicker and more reliable transportation connections with the city centre.
- There is a need to improve the rail system for the big population of those migrating on daily bases to Ljubljana (which is approx. 100,000 individuals per day).
- The rail system should be harmonized with public transportation system also with use of the one ticket – URBANA.

- The pedestrian zones could be enlarged, and the electric transportation (“Kavalir”) should connect also wider areas (up to Tivoli, to the Clinical centre, to the junction of Ljubljana and Grubarjev kanal).
- Promotion of the TELARGO service for better timing of the use of public transportation.
- Promotion of use of Bicikel service.
- Use of individual bicycles and improvement of infrastructure (bike lines) for the use of bicycles.
- Development of goods delivery to houses to reduce the transportation to the shopping centres.
- Support of the city for improvement of energy efficiency of housing (good loans, subventions for investments).
- Reduction of the bureaucracy processes for the investments in energy efficiency.
- Better promotion of available services of city for energy efficiency (performance of Energy bureau).

The discussion further emphasized that all the measures are feasible. But in the relation to the investments of citizens for energy efficiency there is a problem in society as less and less younger people have permanent jobs. Many of them still have temporary or precariat jobs and therefore they cannot invest in homes.

Figure 4-4: Ljubljana Delphi Round 3 workshop Rudnik – Activity 2c



4.1.2.4 Activity 2d) How could these policies be made easier for you?

The most discussion was devoted to the change of society – a big percentage of population now do not have permanent jobs, they work on temporary contracts or as precariat. That does affect their potential for obtaining loans and therefore also for investment in housing. In addition this sector of the population do not know over the longer period if they can spend larger amounts of money for such investments.

The city decision makers would need to organize and to better disseminate/present the available services in the city, improve the system for most vulnerable population, improve the daily migrations and transport of the commuters.

5 Liguria

The Liguria Round 3 workshop was held on 22nd February 2018, 15.00-18.00. The workshop was organised and run by the Municipality of Liguria and Techne. There were 19 participants for this workshop split into three tables to facilitate discussion.

The workshop began with a short welcome introduction to the workshop and the ClairCity project by Rita Vaccaro (Techne). Participants were then familiarised with the participants' information sheet, and signed the consent form and the attendance list. A short presentation of the ClairCity project and of the activities undertaken and planned was presented by Carlo Trozzi (Techne) followed by a presentation of the workshop activities by Carlotta Ghirardo Municipality of Liguria). Following the workshop, participants were invited to participate in future ClairCity events.

Figure 5-1: Liguria Delphi Round 3 workshop



The following sections present the summaries of each of the activities by table.

5.1 Table 1

Table 1, facilitated by Rita Vaccaro (Techne), had 7 participants: 4 women and 3 men (2 pensioners, 3 office workers, 1 teacher, 1 unemployed). Two were aged 37-50, three aged 51-65 and two aged >65. Four live in the centre, three in the suburbs. Four of them have a car, one has both a car and a scooter, one uses public transport and one travels on foot.

5.1.1 Comments on Activity 1: Health and air pollution awareness

5.1.1.1 Activity 1a) What causes the most deaths?

Decision:

1 (most deaths)	2	3	4	5 (least deaths)
Air Pollution	Smoke	Alcohol	Obesity	Road traffic accidents

Discussion:

All the participants placed the air pollution image on the first place. At the beginning they had doubt between this and smoking. In fact, the available numbers regarding the death causes from air pollution and smoke are close.

They were very curious to know information about statistical data on these death causes. Regarding the air pollution, the Liguria team presented the data of European Energy Agency for Italy, particularly high for PM_{2.5}, but it was reported that for Genoa the PM_{2.5} concentrations are not relevant because concentrations are under the legislation threshold, while the nitrogen oxides and ozone concentrations are very important.

5.1.1.2 Activity 1b) How is air pollution bad for me?

Regarding the list of the diseases, the Liguria team added some diseases to the list used in Bristol (from Lancet Commission Pollution & Health, published October 2017)

Decision:

DEFINITELY	LIKELY	NOT
Lung decline in older adults	Heart attacks	Attention deficit
Lung cancer	Heart failure	Stroke
Premature deaths	Brain development in children	Development of Type 2 diabetes

Bronco-Obstructive Chronic Pneumopathy	Arrhythmia	Dementia
Poor lung development in children	Hypertension	Low birth weight
Asthma		
Cardiovascular disease		

Discussion:

Some of them said that there is few information about these diseases.

The majority of the cards was placed in the column 'LIKELY'.

The group was convinced that the air pollution is not at all correlated with some diseases such as the low birth weight, stroke, development of Type 2 diabetes, dementia.

Figure 5-2: Liguria Delphi Round 3 workshop Table 1 – Activity 1b



5.1.2 Comments on Activity 2

5.1.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The participants reflected on the cards (blue colour) which represent what can be done to reduce Air Pollution and Carbon Emissions in Genoa.

Decision

The group decided to add 5 additional policy measures on the blank cards (white colour). They are the following:

- Increase highway barrier protection
- Move naval repairs
- Reorganize pedestrian islands
- Replace bus park
- Introduce electrification of the docks for cruise ships

Discussion

All the participants agreed in adding the above mentioned measures, including two measures for ships. Also, if the focus of ClariCity Project is on the activities influenced by the behaviour of the citizens (traffic and heating), they think that the pressure of the citizens to move the naval repairs from the city and to introduce the electrification of the docks from the cruise ships could be important for the air quality improvement and carbon footprint reduction in the city.

Figure 5-3: Liguria Delphi Round 3 workshop Table 1 – Activity 2a



5.1.2.2 Activity 2b) How would these policy measures affect how you live your life?

Decision

The majority of blue cards was positioned on the “easy” column:

- Pedestrianize the city centre
- Expand/improve underground metro
- Improve rail service
- Improve bus service
- Create segregated cycle lanes
- Introduce 30 kph speed limits
- Encourage working from home
- Improve pedestrian access
- Improve connections to suburbs & neighbouring areas
- Reprioritise road space for cyclists and pedestrians
- Introduce bike hire scheme
- Create spaces for bikes on public transport
- Ban all cars from the city centre
- Ban diesel/petrol vehicles from the city centre
- Incentivise bike purchase
- Incentivise electric vehicle purchase
- Incentivise less polluting heating systems
- Increase highway barrier protection
- Move naval repairs
- Reorganize pedestrian islands
- Replace bus park
- Introduce electrification of the docks for cruise ships

In the “difficult” column the following measures were positioned:

- Introduce motorway tolls
- Create more (free) car parks
- Get rid of the elevated highway

In the “no impact” column the following measures were positioned:

- Create spaces for bikes on public transport

In the “impossible” column the following measures were positioned:

- Introduce free buses
- Build more/widen existing roads

Discussion

The choice of inserting many policy measures in the “easy” column depend on their awareness that many measures are technically known and therefore the issue is political.

Figure 5-4: Liguria Delphi Round 3 workshop Table 1 – Activity 2b



5.1.2.3 Activity 2c) Why would these policies affect how you live your life?

Individually the citizens gave their own motivation of the most significant measures for them and wrote it on the yellow post-it notes.

The interpretation of the citizens is a general motivation is not referred for own life:

Reprioritize road space for cyclists and pedestrians

- It's necessary to have more accessibility for pedestrians, sidewalks larger, more time of traffic light for pedestrians, barriers should deny car parking

Incentivize electric vehicle purchase

- Because they don't pollute

Replace the bus park

- Too many old and polluted buses

- An old bus pollutes as 40 cars

Introduce the electrification of the docks for cruise ships

- The pollution of the ships depending on the number of the docks is very important
- It is necessary to reduce atmospheric and noise pollution

Reorganize the pedestrian islands

- There are pedestrian islands which should be open to buses to permit passengers exchange between eastwards/westwards buses lines

Expand/improve underground metro

- It is necessary to have more connections with suburbs

Build more/widen existing roads

- Impossible depending on the impossibility to demolish close buildings
- Impossible because it increases the use of cars

Introduce free buses

- Impossible because the measure removes value to the service and to the economic resources
- Impossible because the service would worsen

Get rid of the elevated highway

- Impossible because it would completely shut the city
- Impossible because the traffic would not be reduced and roads would congest

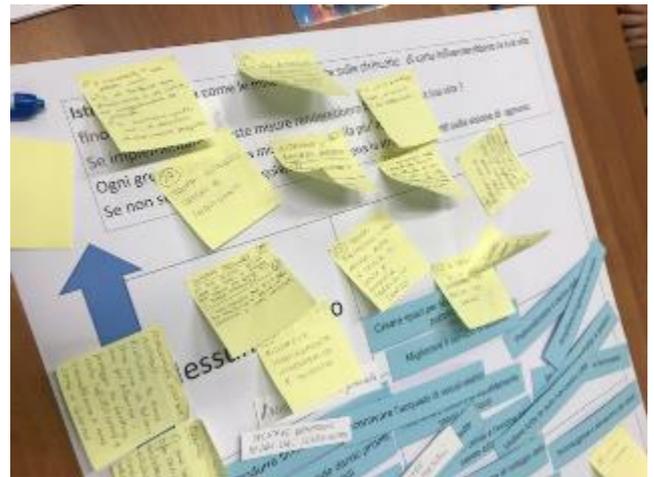
Improve bus service

- Important to move within the city and to avoid overcrowding. It's necessary to improve the maintenance of the buses
- Reorganize the disused lines to balance the passengers between the centrum line (much crowded) and the ring road to the sea

Create more (free) car parks

- Impossible because it incentives the use of the cars
- Impossible because too many parking attract many cars and increase the traffic
- It could be valid only near the hospitals and in the peripheral stations of the public transports

Figure 5-5: Liguria Delphi Round 3 workshop Table 1 – Activity 2a



5.1.2.4 Activity 2d) How could these policies be made easier for you?

Decision

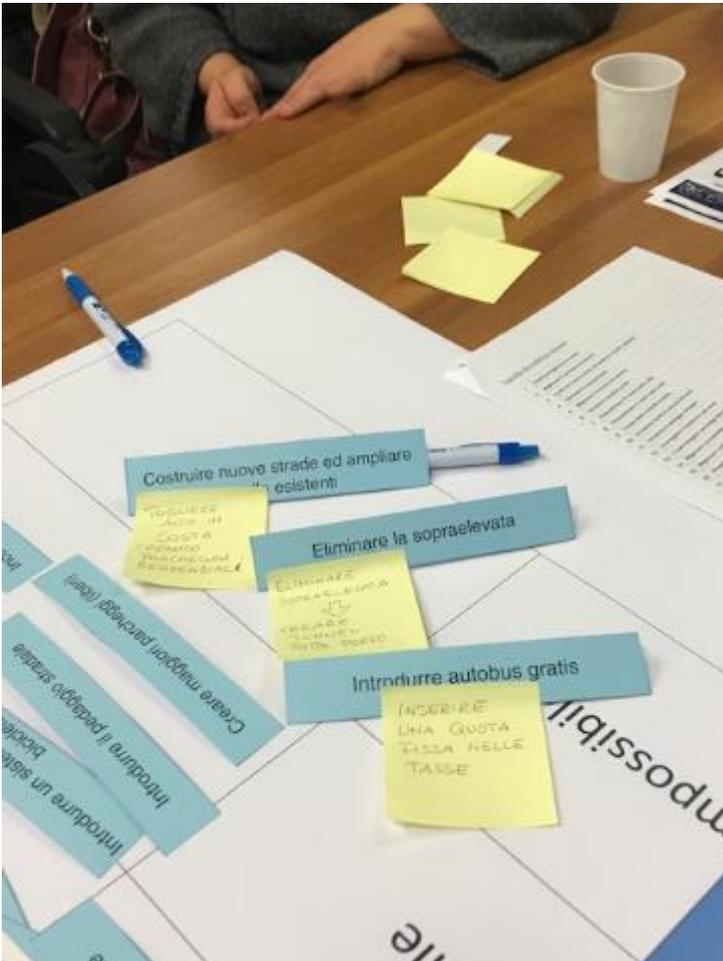
The group selected in the activity 2b three measures as “difficult”, but for this activity the participants agreed in selecting one “difficult” measure (Get rid of the elevated highway), two “impossible” measures and to define the actions which would need to be done to make them easy:

1 Introduce free buses	To introduce a fixed quote in the taxes
2 Get rid of the elevated highway	Create under-bridge tunnels
3 Build more/widen existing roads	Remove parked cars to create residential car park

Discussion

All the participants agreed in writing on a post-it note how that policy measure could be made easier for them.

Figure 5-6: Liguria Delphi Round 3 workshop Table 1 – Activity 2d



5.2 Table 2

Table 2, facilitated by Carlo Trozzi (Techne), had 6 participants: 3 women and 3 men (3 pensioner, 2 office workers, 1 student). The participants on this table were evenly distributed across all age categories from 16 to >65. Three live in the centre, two in the semi-centre and one in the suburbs. None of them have a car, one has a scooter, three use public transport, one uses a bicycle and one travels on foot.

Figure 5-7: Liguria Delphi Round 3 workshop Table 2



5.2.1 Comments on Activity 1: Health and air pollution awareness

5.2.1.1 Activity 1a) What causes the most deaths?

Decision

1 (most deaths)	1 (equal)	3	4	5 (least deaths)
Air Pollution	Smoking	Alcohol	Obesity	Road traffic accidents

Discussion

A first general discussion made it possible to identify the two main causes in smoking and atmospheric pollution. It was in any case highlighted by most of the participants as often the causes are many and can "darken" with each other or strengthen. An animated discussion followed among the table participants to decide the rank between these two main causes. At the end, the table was divided into two perfectly equal parts for which the first place was awarded to both causes. The table then discussed the other causes with some hesitation for the choice of the order. In conclusion there was a unanimous agreement on the order of the remaining three causes. The equal position of the first two cases was also confirmed by the data presented.

5.2.1.2 Activity 1b) How is air pollution bad for me?

Decision

DEFINITELY	LIKELY	NOT
Bronco-Obstructive Chronic Pneumopathy	Lung decline in older adults	Development of Type 2 diabetes
Lung cancer	Arrhythmia	Attention deficit

Premature deaths	Heart attacks	Heart failure
Asthma	Hypertension	
	Dementia	
	Brain development in children	
	Stroke	
	Low birth weight	
	Poor lung development in children	
	Cardiovascular disease	

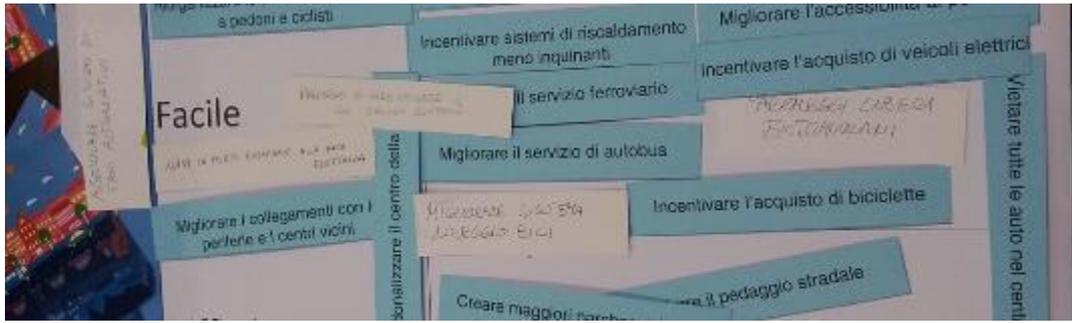
Figure 5-8: Liguria Delphi Round 3 workshop Table 2 – Activity 1b



Discussion

The discussion initially focused on the meaning of "definitely" and "likely" that was not immediately clear. The moderator specified that for "definitely related" it was intended that there is a certain and prevailing effect of atmospheric pollution, while for "likely" that there is sufficient evidence that the effect could be correlated. Also, in this case the table highlighted how the causes can have a combined effect. In general, few causes have been selected as completely related to air pollution, while many causes have been highlighted as possibly related.

There has been enough discussion on the correlation with the effects on the fetus and on the child and then deciding for a possible correlation. Quite certainly the absence of correlation was chosen for diabetes and attention deficit and, even if with less certainty, on heart failure. When the moderator showed the effects slide, no particular reactions occurred.



5.2.2.2 Activity 2b) How would these policy measures affect how you live your life?

Decision

The strips were placed in the grid, mainly indicating that the measures would simplify their life with some relevant exceptions.

The following measures make personal life easier:

- Expand/improve underground metro
- Improve rail service
- Improve bus service
- Introduce free buses
- Create segregated cycle lanes
- Improve pedestrian access
- Improve connections to suburbs & neighbouring areas
- Reprioritise road space for cyclists and pedestrians
- Incentivise bike purchase
- Incentivise electric vehicle purchase
- Incentivise less polluting heating systems

Together with the new measures introduced:

- Facilitate alternative taxi systems
- Install tram tracks
- Establish free suburban parking lots
- Improve and encourage car sharing (electric)
- Connect ships in port to the electricity grid
- Improve bike rental system
- Move the "movida" in the "foce" area to facilitate access and make a "forgotten" area more usable

The following measures were placed at the difficult box, indicating that they would make their life more difficult:

- Build more / widen existing roads
- Introduce motorway tolls
- Create more (free) car parks
- Ban diesel/petrol vehicles from the city centre

There was uncertainty between the two easy / difficult choices for the measures:

- Pedestrianize the city centre
- Ban all cars from the city centre

The following two measures have been considered with no impact since already implemented in the first case and in the second case already partially implemented (in relation to the train) or impossible to implement (in relation to buses):

- Introduce bike hire scheme
- Create spaces for bikes on public transport

Finally, the following measures were considered impossible:

- Get rid of the elevated highway
- Introduce 30 kph speed limits
- Encourage working from home

Discussion

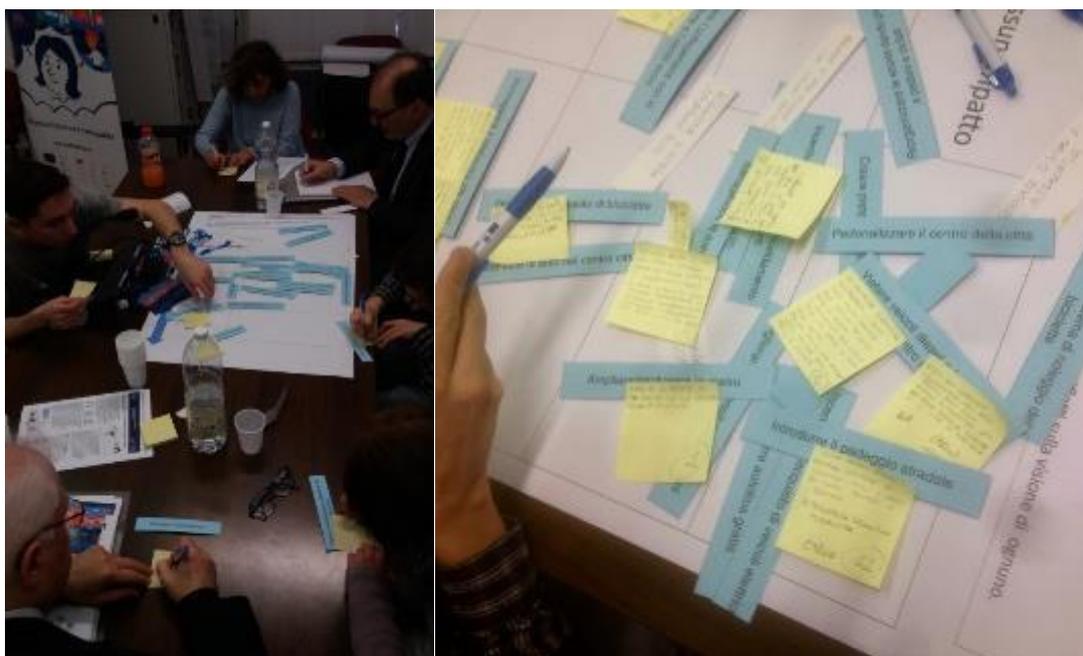
The discussion on some measures has shown a willingness to take more radical measures but some fear their impact on the lives of individuals.

5.2.2.3 Activity 2c) Why would these policies affect how you live your life?

Each participant wrote on a post-it the number of the measure indicated in the decoding sheet and the motivation of the impact of the measures (choosing the most impactful measures for the participant) and put the post-it in correspondence of the single measure.

In the general discussion the impact on the life of the different measures was highlighted even if in the written answers the participants generalized the answer giving the impression of an impersonal judgment.

Figure 5-10: Liguria Delphi Round 3 workshop Table 2 – Activity 2c



The result is as follows:

- Expand/improve underground metro

Increases the amount of transport with a punctual and fast service

- Build more / widen existing roads

If the offer of private transport increases, it does not automatically increase the fluency of traffic, indeed it is very often the opposite, so it is a hypothesis not to be taken into consideration

- Get rid of the elevated highway

It strongly blocks circulation (lifestyle); I also do not consider it a problem from the point of view of the landscape;

We still remember the chaos in the city traffic before the elevated (1965) was completed;

The alternative tunnel would further tighten the flexibility of traffic and increase pollution (in the tunnel and near the entrances).

It would change the characteristics of the city

- Improve bus service

Both in terms of the frequency of the service (especially in the evening) and the renewal of too old and highly polluting vehicles

- Introduce 30 kph speed limits

It is quite impossible to keep such a low speed limit especially on some main roads; it would slow down the path and create only inconveniences

It is already difficult to respect the current limit of 50 kph on some roads (eg Via Adamoli and Corso Europa)

- Encourage working from home

Prevents you from working in a social and productive manner; encourages a sedentary lifestyle

There is a need for sociality and diversification in human relations; technological mediation does not improve the quality of work or services

- Ban all cars from the city centre

It has a negative impact until there is total coverage of the city by public transport

- Ban diesel/petrol vehicles from the city centre

The scientific evidence confirms the health damages deriving from the emissions of diesel and petrol vehicles

Improve the quality of life and reduces the cost of healthcare

Better lifestyles also mean using less means of transport

- Install tram tracks

To put rails in the traffic from a punctual, ecological and efficient service with an improvement of the quality of life on the model of many European examples, e.g. Nice.

5.2.2.4 Activity 2d) How could these policies be made easier for you?

The following two measures were selected and the associated actions were proposed:

Introduce motorway tolls	Quick entry control should be introduced, for example, tarified on telepass
Ban diesel/petrol vehicles from the city centre	To compensate for the elimination of the private vehicle from the roads it would be essential to have frequent public transport and on all the time slots

Discussion

All the participants agreed in writing on a post-it note how that policy measure could be made easier for them. Only two measures were selected.

5.3 Table 3

Table 3, facilitated by Enzo Piscitello (Techne), had 6 participants: 4 women and 2 men (5 retired, 1 employed). One of the participants on this table were aged 37-50, two were 51-65 and three were >65. All live near the centre, two in the semi-centre and one in the suburbs. Two of them own a car, one owns a scooter and a car and the others preferred walking and sometimes use public transport.

Figure 5-11: Liguria Delphi Round 3 workshop Table 3



5.3.1 Comments on Activity 1: Health and air pollution awareness

5.3.1.1 Activity 1a) What causes the most deaths?

Decision

1 (most deaths)	2	3	4	5 (least deaths)
Smoking	Alcohol consumption	Road accidents	Air pollution	Overweight

Discussion

All the participants placed the image representing “tobacco smoke” at first place. They also agreed to consider obesity as the last cause of death but, for other positions, their perception of the problem was different and therefore they had to discuss about the order to be given to alcohol, air pollution and traffic accidents.

All of them were surprised to discover the data about air pollution from European Energy Agency for Italy, presented by the Liguria team.

Figure 5-12: Liguria Delphi Round 3 workshop Table 3 – Activity 2a



5.3.1.2 Activity 1b) How is air pollution bad for me?

Taking note of the real situation related to air pollution, they tried to understand how to correlate the various diseases and/or disorders to air pollution.

Decision

DEFINITELY	LIKELY	NOT
Asthma	Low birth weight	Dementia
Heart attacks	Pneumopathy	Hypertension
Cardiovascular disease	Lung decline in older adults	Brain development in children
Bronco-Obstructive Chronic	Poor lung development in children	Development of Type 2 diabetes
Premature deaths	Heart failure	Attention deficit
	Lung cancer	
	Stroke	

Discussion:

The group was convinced that air pollution is not at all correlated with some diseases such as Dementia, Brain development in children or Development of Type 2 diabetes but, they were also convinced, sometime wrongly, that there is little information about the real correlation.

A member of the group, chairman of a district committee that "monitors" the air pollution caused by the passenger ships passing through the port of Genoa, explained to the other members of the group how to be more informed about the aspects related to pollution and health.

Figure 5-13: Liguria Delphi Round 3 workshop Table 3 – Activity 2b

COMPLETAMENTO esercizio 4.	FRANCOESCRIZIONE esercizio 5.	INIZIATIVA/INTERVENTO esercizio 6.
Area	Area per il lavoro	Area
Area	Area	Area
Area con attività	Area con attività	Area con attività
Area con attività	Area con attività	Area con attività
Area con attività	Area con attività	Area con attività
	Area con attività	



5.3.2 Comments on Activity 2

5.3.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The participants reflected on the cards (blue colour) which represent what can be done to reduce Air Pollution and Carbon Emissions in Genoa.

Decision

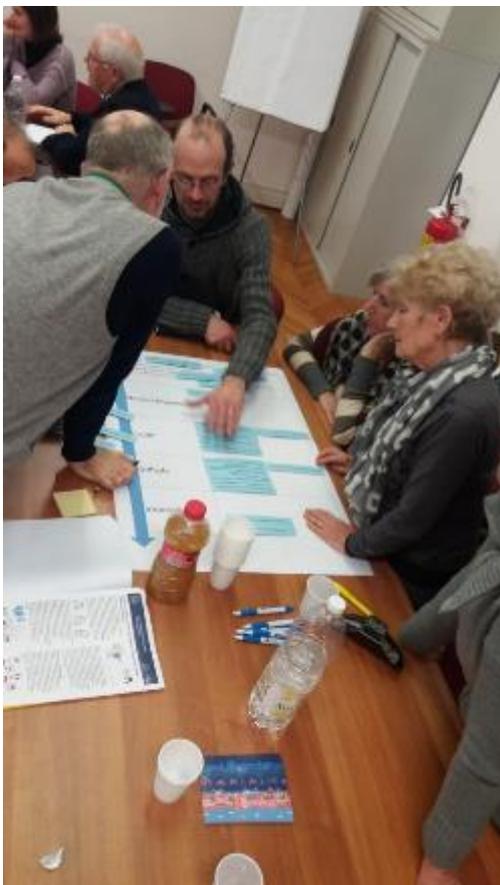
The group decided to add 3 additional policy measures on the blank cards (white colour):

- increase the incentives already present for the purchase of electric vehicles and thermal insulation systems;
- emission reduction systems caused by the port;
- renew / replace obsolete buses.

Discussion:

The discussion on the various measures presented, immediately focused on several positions: what would be possible to achieve, what would be difficult to achieve due to geographical and/or financial problems and what for them was impossible for ethical problems.

Figure 5-14: Liguria Delphi Round 3 workshop Table 3 – Activity 2a



5.3.2.2 Activity 2b) How would these policy measures affect how you live your life?

Decision

In the “no impact” column were positioned the following measures:

- Incentivise bike purchase;
- Create segregated cycle lanes;
- Introduce bike hire scheme;
- Create spaces for bikes on public transport;
- Encourage working from home.

The major part of blue cards were positioned on the “easy” column:

- Improve connections to suburbs & neighbouring areas;
- Expand/improve underground metro;
- Improve rail service;
- Renew / replace obsolete buses;
- Emission reduction systems caused by the port;
- Increase the incentives already present for the purchase of electric vehicles and thermal insulation systems;
- Create more (free) car parks;
- Improve pedestrian access;
- Improve bus service;
- Introduce free buses;
- Build more/widen existing roads;
- Incentivise electric vehicle purchase.

In the “difficult” column were positioned the following measures:

- Incentivise less polluting heating systems;
- Ban diesel/petrol vehicles from the city centre;
- Ban all cars from the city centre;
- Introduce 30 kph speed limits;
- Reprioritise road space for cyclists and pedestrians;
- Pedestrianize the city centre.

In the “impossible” column were positioned the following measures:

- Introduce motorway tolls;
- Get rid of the elevated highway.

Figure 5-15: Liguria Delphi Round 3 workshop Table 3 – Activity 2b



Discussion:

The group, discussing the various measures, first addressed the conversation in a more general context regarding the application of the available measures; subsequently the various members tried to express their opinion.

This has greatly influenced the subdivision of the various measures as they reflect the following scheme:

- no impact is equivalent to saying that the adoption of such measures does not involve me in any way;
- easy is to say that if you apply such measures I would simplify my life;
- difficult as saying that "I would accept unwillingly" the application of such measures because it would force me to do something directly;
- impossible would be to say unacceptable.

5.3.2.3 Activity 2c) *Why would these policies affect how you live your life?*

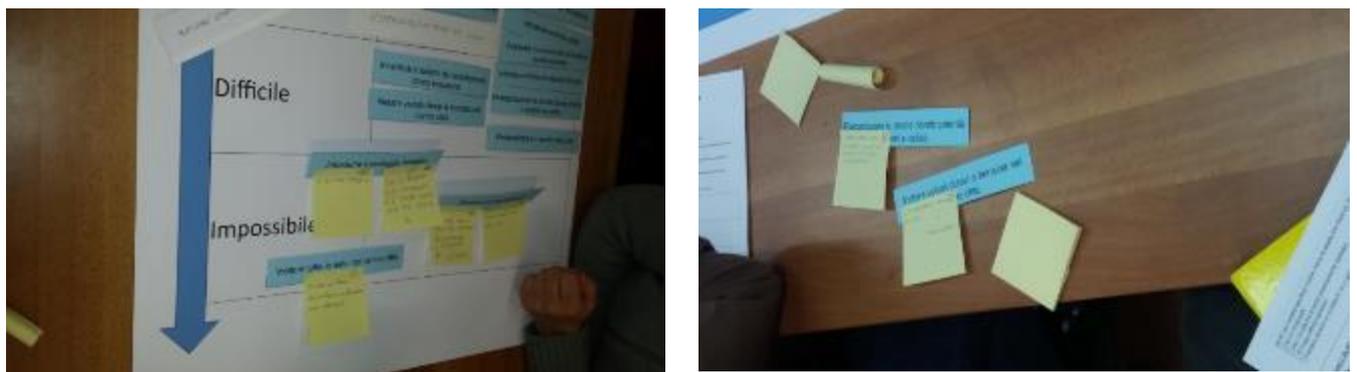
Even if the exercise is individual, very often the members of the group express their motivations verbally to discuss it with others, reporting only some of the motivations on post-its.

Their interpretation of the exercise is a mix between the general ones, those expressly personal and those of refusal of the proposed measure:

- Introduce motorway tolls:
 - I feel a bit 'owner of the roads I use because of the taxes that paid to the city;
 - it's already expensive to park.
- Ban all cars from the city centre:
 - public service, in particular the underground, not very efficient;
 - I often move with the car and go downtown to meet friends and spend some time; for me it would be a big problem.
- Get rid of the elevated highway:
 - I often move with the car from the east to the west;
 - it would create great atmospheric pollution in the city centre.
- Pedestrianize the city centre:
 - I go downtown with the car for work;
- Introduce 30 kph speed limits:
 - I'm an excellent driver and I also think I pollute more 'going so' slowly;

- Emission reduction systems caused by the port:
 - it is necessary to reduce air pollution especially because cruise ships, still in port, require a large amount of energy and for this reason keep large diesel engines on.
- Introduce free buses:
 - I do not agree, it is right to pay the ticket, in fact there should be more checks. It is up to the transport company to pollute less.
- increase the incentives already present for the purchase of electric vehicles and thermal insulation systems
 - there are incentives to renovate the boiler at home or to change the car, but these incentives are often not enough
- renew/replace obsolete buses:
 - scraps often circulate as public transport which emit a definitely polluting black smoke

Figure 5-16: Liguria Delphi Round 3 workshop Table 3 – Activity 2c



5.3.2.4 Activity 2d) How could these policies be made easier for you?

Decision

From Activity 2b the group selected the following three measures:

“Difficult” measures	How they could be made easier
1. Ban all cars from the city centre	time slots: introduce ban hours
2. Reprioritise road space for cyclists and pedestrians	create suitable cycle paths and scan unruly cyclists
3. Pedestrianize the city centre	install belt mats and escalators for those who have difficulty 'in walking for a long time



6 Aveiro

Aveiro region held two Round 3 workshops: one in Estarreja on 20th February 2018, and one in Ílhavo on 24th February 2018. The workshop was organised and run by the Municipality of Aveiro and the University of Aveiro. There were 12 participants in Estarreja and 21 participants in Ílhavo. Both workshops were split into four tables (yellow, pink, green and orange) to facilitate discussion. The following sections present the summaries of each of the activities by event and by table.

Figure 6-1: Aveiro Delphi Round 3 workshop Estarreja



6.1 Estarreja Yellow Table

This table was facilitated by Vera Rodrigues (University of Aveiro) and had 3 participants.

6.1.1 *Comments on Activity 1: Health and air pollution awareness*

6.1.1.1 *Activity 1a) What causes the most deaths?*

Regarding air pollution, the participants consider that the hardest task is how to link the methodology to quantify the number of deaths directly with exposure to air pollutants. Although participants are aware that in summer months the air pollution and the illness

conditions linked with are more critical mainly due to forest fires. There were some doubts regarding the alcohol-related disease and the obesity. Participants agreed that in the next decade obesity will be one of the main causes of death in Portugal, more relevant than nowadays.

Final answer:

- 1- Smoking
- 2- Alcohol-related disease
- 3- Obesity
- 4- Road traffic accidents
- 5- Air pollution

One of the oldest participants had some difficulties to believe that air pollution is the second cause of death in Portugal.

6.1.1.2 Activity 1b) How is air pollution bad for me?

Air pollution affects more the vulnerable groups (e.g. children and elderly people).

“Poderá estar” (MAY be linked to) has raised some doubts/ language issues (was more understood that it could have other causes). “Está” (DEFINITELY linked to) was more associated with the fact that air pollution may not be the cause, but may “intensify” the disease. Some temptation to put “lung cancer” in the second column (i.e. air pollution may be linked to). The group agreed that Type 2 diabetes is not linked to air pollution.

Two main issues/ doubts:

- Between “está” and “poderá estar”
- How air pollution causes diabetes (i.e. the biological mechanism)

Figure 6-2: Estarreja Yellow – Activity 1b



Table 6-1: Estarreja Yellow Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease	X		
Heart attacks		X	

Heart failure	X		
Stroke		X	
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X
Brain development in children	X		
Dementia		X	

6.1.2 Comments on Activity 2

The results of this activity are presented in Table 6-2.

Table 6-2: Estarreja Yellow Table Activity 2

Measures	Yellow table - Estarreja		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy		
Improve rail network	Easy		
Create an over/underground metro	Easy		
Improve road safety	Easy		

Make the city more accessible	Easy		
Improve the road network	Easy		
Improve urban planning to reduce reliance on private cars	Easy		
Improve connections to suburbs & neighbouring areas	Easy		
Create more parks and green spaces	Easy		
Create more (free) car parks	Easy		
Reduce the number of car parks	Difficult	extended car parks promote more traffic in the city center	create car parks on the outskirts of the city, with connections to the center by public transport
Improve enforcement of parking restrictions	Difficult	I need parking lots when I'm with people with reduced mobility and when I get home with lots of grocery shopping bags; without parking, you can not move	create car parks on the outskirts of the city, with connections to the center by public transport
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy	improve the articulation of cycle paths in the center of the city	create more cycle paths in the city center; create free bicycle parking (city hall)

Reprioritise road space for cyclists and pedestrians	Easy		
Introduce bike hire scheme	Easy		
Ban cars from the city centre	Difficult	There is no alternative; it is difficult to accept for people with poor mobility	to provide the citizens with non-polluting vehicles, guaranteeing accessibility, but without polluting; (city hall and change of mentalities in the citizens)
Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	No impact	I do not use	
Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people			

with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			
the existing car parks should become free of charge			

6.1.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

- To ban vehicles (in general – all private cars) in the urban areas/ city centres – it would be easier to ban the petrol and diesel vehicles.
- All the mentioned measures has pro and cons.
- Theoretically, all the measures are very interesting and important, although some practical difficulties arise when we think in day-to-day life activities.
- Several measures are much more valid if put together, not individually.
- A distinct measure was referred – to improve the schedule of the available trains.
- The “impact” word was understood as being positive or negative.
- This impact may be greater in some municipalities than in other.

6.1.2.2 Activity 2b) How would these policy measures affect how you live your life?

See Table 6-2.

6.1.2.3 Activity 2c) Why would these policies affect how you live your life?

- The group has assessed these measures thinking individually; if the idea was to think for the whole community the position of some measures would be distinct, (e.g. the improvement of ‘transportes fluviais’ is a measure without impact for the participants as individuals, since they are not users. Although they are aware, that it is a relevant service for some members of the community).

- Big idea: Cheapest parking systems in the city centre promote the increase of car users.
- Cycle lanes and paths in Aveiro Region are much more focus on touristic usage, and not so much as a mobility scheme to citizens' daily life.
- The participants strongly encourage the improvement of cycle lanes as well as all the associated infrastructures (e.g. parking for bikes).
- An overall idea: there are some relevant studies assessing the mobility schemes in Aveiro Region, but without consequences, (these studies stay only in the papers, e.g. PIMTRA).
- There is a critical need for inter-mobility (some users of the train arrive to Estarreja and then there is no continuity of public transport to the city centre, neither to the companies of the Complexo Químico – who should be responsible for that – mayors and CIRA.
- On contrary, companies are paying a Transport “subsidy” for employees using the car.

6.1.2.4 Activity 2d) How could these policies be made easier for you?

See Table 6-2.

Figure 6-3: Estarreja Yellow – Activity 1d



6.2 Estarreja Pink Table

6.2.1 Comments on Activity 1: Health and air pollution awareness

6.2.1.1 Activity 1a) What causes the most deaths?

- 1 Road-traffic accidents
- 2 Obesity

- 3 Smoking
- 4 Air pollution
- 5 Alcohol-related disease

- all agree that road accidents come first;
- for the second place there are doubts between obesity and air pollution;
- atmospheric pollution was the most difficult.

6.2.1.2 Activity 1b) How is air pollution bad for me?

Table 6-3: Estarreja Pink Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease	X		
Heart attacks		X	
Heart failure		X	
Stroke		X	
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X

Brain development in children		X	
Dementia			X

- it is difficult to choose between “MAY be linked to” and “DEFINITELY linked to”;
- all agree that type 2 diabetes is not linked.

6.2.2 Comments on Activity 2

The results of this activity are presented in Table 6-4.

Table 6-4: Estarreja Pink Table Activity 2

Measures	Pink table - Estarreja		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	No impact	I do not use the bus	
Improve rail network	Easy		
Create an over/underground metro	Easy		
Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Easy		

Improve urban planning to reduce reliance on private cars	Easy		
Improve connections to suburbs & neighbouring areas	No impact	The current connections to suburbs are enough for my daily trips	
Create more parks and green spaces	Easy		
Create more (free) car parks	No impact		
Reduce the number of car parks	Difficult	If they are parking lots. Not the parking at the door of the house. / Despite improving air quality, this measure would affect the quality of life of the citizen.	/ Provide parking outside the city. Improve the public transport network in Aveiro. Improve the network of cycle paths, increasing safety for cyclists and the number of bicycle parking lots.
Improve enforcement of parking restrictions	Difficult	Despite improving air quality, this measure would affect the quality of life of the citizen. / Change in the people's thoughts.	/ Change mindsets based on the exchange of experiences with the citizens of cities where this measure has already been implemented (involving entities linked to urban and local administration and management).
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy		

Reprioritise road space for cyclists and pedestrians	Easy		
Introduce bike hire scheme	No impact/ Easy	No impact: There's already a bike hire scheme in Aveiro. Increase the perimeter of circulation would bring some impact.	
Ban cars from the city centre	Easy/ Difficult	Difficult: I am very dependent on the car for commuting within the city. / Prohibiting traffic in the city center is conditioned by the road network of each city.	Create a better and efficient public transport system./ Implementation and dynamization by municipalities of a restricted set of electric cars or equivalent for collective or individual use.
Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	No impact	I do not use the river transport. / The impact would be in travels for leisure. No impact in the daily routine.	
Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people			

with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			
the existing car parks should become free of charge			

6.2.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

See Table 6-4.

6.2.2.2 Activity 2b) How would these policy measures affect how you live your life?

- almost all measures are easy to accept;
- some are without impact because people are not dependent on these services;
- 3 measures were associated with different impacts;
- the activity was all developed based on personal opinions.

6.2.2.3 Activity 2c) Why would these policies affect how you live your life?

- measures can not be implemented alone; each measure is dependent on other measures.

6.2.2.4 Activity 2d) How could these policies be made easier for you?

- many measures, to be accepted by society, imply a change of mentalities.

Note:

- participants consider activities 1a and 1b more difficult;
- activities 2b, 2c and 2d are easier because they only depend on the opinion of each.

Figure 6-4: Estarreja Pink – Activity 2b



6.3 Estarreja Green Table

6.3.1 Comments on Activity 1: Health and air pollution awareness

6.3.1.1 Activity 1a) What causes the most deaths?

Final answer:

- 1- Air pollution
- 2- Smoking
- 3- Road traffic accidents
- 4- Obesity
- 5- Alcohol-related disease

- Alcohol-related disease was excluded – causing fewer deaths compared to the other causes – with consensus
- Question raised – Obesity may cause diabetes and strokes?

6.3.1.2 Activity 1b) How is air pollution bad for me?

Table 6-5: Estarreja Green Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	x		
Asthma	x		
Cardiovascular disease	x		
Heart attacks		x	
Heart failure		x	
Stroke		x	
Lung cancer	x		
Lung decline in older adults	x		
Development of Type 2 diabetes			x
Brain development in children		x	

Dementia			x
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- Air pollution is definitely linked to dementia and development of Type 2 diabetes.
- There was some discussion concerning the impact of air pollution on children health. Someone had studied the topic at school.
- A participant has a child with asthma and were forced to move from Estarreja, to another house. Nowadays, the kid has almost no attacks.

6.3.2 Comments on Activity 2

The results of this activity are presented in Table 6-6.

Table 6-6: Estarreja Green Table Activity 2

Measures	Green table - Estarreja		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy		
Improve rail network	Easy		
Create an over/underground metro	Easy		
Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Easy		
Improve urban planning to reduce reliance on private cars	Easy		
Improve connections to suburbs & neighbouring areas	Easy		
Create more parks and green spaces	Easy		

Create more (free) car parks	Easy		
Reduce the number of car parks	Difficult	It is not easy to access a location and not have anywhere to park the car. / The measures are easier to accept if there is good coverage of the public transport network for people with good and low mobility. / Reduce the number of parking lots at specific locations.	
Improve enforcement of parking restrictions	Easy / Difficult	Difficult: It is not easy to access a location and not have anywhere to park the car. / The measures are easier to accept if there is good coverage of the public transport network for people with good and low mobility. / Improve the public transport network and the bicycle network. Include in the center of the city structures and electrical systems that facilitate transport and cover the time required to carry out the tasks in the city center. / Currently, there are few parkings lots.	
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy		

Reprioritise road space for cyclists and pedestrians	Easy		
Introduce bike hire scheme	Easy		
Ban cars from the city centre	Impossible	It hinders access for people with reduced mobility. / It makes it difficult for people to perform the tasks that are needed on a day-to-day basis as well as for the elderly and people with reduced mobility.	Prohibit the movement of vehicles in the city center on specific days, such as on market days or holidays. / The circulation of vehicles in the center of the city may be limited but in places (downtown) that have diverse stores and services necessary for the daily life relatively next to each other. This ensures that everyone has access to the services and that there are conditions for the citizens to walk in the streets. (To be applied by Local Government - Municipalities) / This measure could be peaceful if there were good and adequate public transport that allowed access to the different places of the city. (To be applied by the State - Municipalities) / Define days to restrict the access of vehicles to the city center, especially when holding weekly events that mobilize large numbers of people.
Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	No impact	I do not use.	

Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.	Easy		
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			
the existing car parks should become free of charge			

6.3.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

6.3.2.2 Activity 2b) How would these policy measures affect how you live your life?

6.3.2.3 Activity 2c) Why would these policies affect how you live your life?

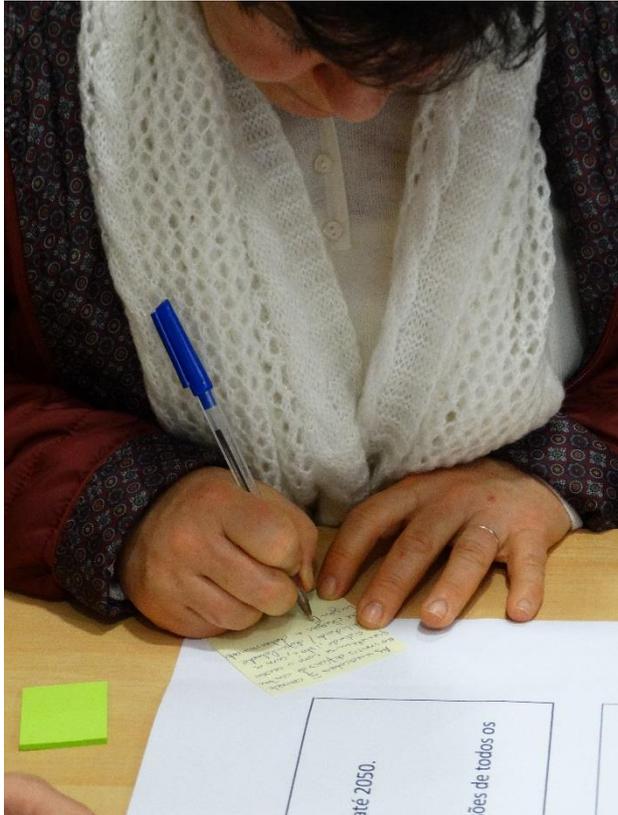
6.3.2.4 Activity 2d) How could these policies be made easier for you?

These activities were reported together for Estarreja Green Table.

New measures proposed:

- Car parks for citizens with reduced mobility is essential
- A good network of public transport helps to avoid the use of private car
- The role of the car driver and the pedestrians is critical
- It is important to have a good network between each municipality (currently, there is only a few examples)

Figure 6-5: Estarreja Green – Activity 2d



6.4 Estarreja Orange Table

6.4.1 Comments on Activity 1: Health and air pollution awareness

6.4.1.1 Activity 1a) What causes the most deaths?

Final answer:

- 1 – Air pollution
- 2 – Smoking (it is linked with direct exposure)
- 3 – Alcohol-related diseases
- 4 – Obesity
- 5 – Road traffic accidents

There was some discussion/ doubts concerning the ranking of air pollution and smoking, but the majority has chosen air pollution as the main cause of death in Portugal.

6.4.1.2 Activity 1b) How is air pollution bad for me?

Table 6-7: Estarreja Orange Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease		X	
Heart attacks		X	
Heart failure		X	
Stroke			X
Lung cancer	X		
Lung decline in older adults		X	
Development of Type 2 diabetes			X
Brain development in children		X	
Dementia			X

- Air pollution is definitely linked to: asthma, poor lung development in children, lung cancer.
- Air pollution may be linked to: lung decline in older adults, heart failure, cardiovascular disease, heart attacks, brain development in children
- Air pollution is not currently linked to: development of Type 2 diabetes, dementia, stroke
- The group had difficulties to understand the relationship between cause and effects. The overall idea is that the activity is more oriented towards people with medical knowledge.

6.4.2 Comments on Activity 2

The results of this activity are presented in Table 6-8.

Table 6-8: Estarreja Orange Table Activity 2

Measures	Orange table - Estarreja		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy		
Improve rail network	Easy		
Create an over/underground metro	Difficult	the characteristics of the region do not justify; difficult to predict the cost-effectiveness; depends on the layout and the urban and environmental impacts;	
Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Easy		
Improve urban planning to reduce reliance on private cars	Easy		
Improve connections to suburbs & neighbouring areas	Easy		
Create more parks and green spaces	Easy		
Create more (free) car parks	Easy		

Reduce the number of car parks	Difficult	reduction of an acquired right; parking is already difficult to find	to create vertical parking spaces with automatic storage and that is economically accessible (national system)
Improve enforcement of parking restrictions	Difficult	reduction of an acquired right; parking is already difficult to find	create alternatives (buses, bicycles, pedestrian access, etc.) (city hall and citizens)
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy		
Reprioritise road space for cyclists and pedestrians	Difficult	conflict between priorities; restrictions and priorities already exist; the changes are very frequent and may cause accidents due to lack of knowledge of them	changes to the rules followed by information campaigns (central and local administration and schools); distinguish their routes in order to avoid conflicts (national road system)
Introduce bike hire scheme	Easy		
Ban cars from the city centre	Difficult	difficult access to places where the car is needed; if this also involves buses, how do I get there?	create integrated system between peripheral car parks and public transport to the city center (public transport system and city hall)
Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	Easy		
Incentivise electric vehicles	Easy		
	-	-	-

Suggested measures	-	-	-
Improve mobility for all people (elderly, people with reduced mobility, etc ...)	Easy		
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			
the existing car parks should become free of charge			

6.4.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The answer represents the overall conclusion of the group, although some lack of consensus, considering the personal opinion of each participant.

- Every measure trying to definitely ban something will be difficult to accept.
- Maybe some of these measures would not have big impact in the Aveiro Region

Proposal of new measures:

- To improve the quality of pedestrian lanes
- To improve the access and mobility to persons with reduced mobility
- Participants have identified the absence of policy and decision makers in the workshop.

- The group have done the activity thinking in a community way, looking for the region, and not individually.

6.4.2.2 Activity 2b) How would these policy measures affect how you live your life?

6.4.2.3 Activity 2c) Why would these policies affect how you live your life?

These activities were reported together for Estarreja Orange Table.

See Table 6-8.

6.4.2.4 Activity 2d) How could these policies be made easier for you?

To ban all car parks - alternatives:

- Vertical parking
- Automatic parking systems
- Easy access systems

Who would need to do it? Municipalities or private companies

- Car parking in the suburban areas followed by public transport (with high quality) to the city centre.
- Definition of cycle lanes (regulating and educating for the relationship between pedestrians and cycle users)
- Education and dissemination of the road traffic rules
- Separate roads for the heavy vehicles

6.5 Ílhavo Yellow Table

6.5.1 Comments on Activity 1: Health and air pollution awareness

6.5.1.1 Activity 1a) What causes the most deaths?

Final answer:

1 – Smoking

2 – Obesity

3 – Air Pollution

4 – Alcohol-related disease

5 – Road-traffic accidents

- The group agreed that 90% of deaths are caused by cardiovascular diseases and cancer
- There was a lack of consensus between smoking and obesity
- The group agreed that air pollution is the only cause for what we do not have control

6.5.1.2 Activity 1b) How is air pollution bad for me?

Table 6-9: Ílhavo Yellow Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease		X	
Heart attacks			X
Heart failure		X	
Stroke		X	
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X
Brain development in children		X	
Dementia		X	

The group had some doubts regarding the cardio-related diseases.

6.5.2 Comments on Activity 2

The results of this activity are presented in Table 6-10.

Table 6-10: Ílhavo Yellow Table Activity 2

Measures	Yellow table - Ílhavo		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy	Decrease the number of private cars in circulation.	System of urban buses running on carousel (not in 30min-30min as it currently exists) to reach any part of the city - Local Government (CIRA + Municipalities). Create specific bus lanes.
Improve rail network	No impact		
Create an over/underground metro	Easy	So people could give up the car. With a high frequency of schedules for the subway would be easy to travel. / The circulation in the city center would be easier, avoiding the use of other vehicles.	The metro should pass through the main points of interest in terms of commerce and services. Road traffic should be banned. - The City Hall, in partnership with the University, mainly with courses related to this area.
Improve road safety	No impact / Easy	There is not enough incentive to stop using individual transportation. / There is no safety for cycling. More bike paths are needed. / Decrease the number of private cars in circulation.	
Make the city more accessible	No impact		
Improve the road network	Easy	There is no safety for cycling. More bike paths are needed.	

Improve urban planning to reduce reliance on private cars	Easy	There is no safety for cycling. More bike paths are needed.	
Improve connections to suburbs & neighbouring areas	No impact		
Create more parks and green spaces	Easy		Parks for bicycles in central spaces of the neighborhoods and with video surveillance (to avoid thefts) - City Hall
Create more (free) car parks	No impact		
Reduce the number of car parks	Easy	Prevent cars from circulating in city centers. / Decrease the number of private cars in circulation.	
Improve enforcement of parking restrictions	Easy		
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy	There is no safety for cycling. More bike paths are needed.	Creation of cycle paths that connect specific and important routes.
Reprioritise road space for cyclists and pedestrians	No impact / Easy	No impact: There is not enough incentive to stop using individual transportation. / Easy: There is no safety for cycling. More bike paths are needed. / I do not feel safe while biking.	
Introduce bike hire scheme	No impact		
Ban cars from the city centre	Difficult	Access to commerce in the city and many other activities would be difficult. / Reduce	The local government, CIRA and public transport enterprises should create a good bus network and

		pollution of vehicles in cities so we can have cleaner cities. / There are currently no viable alternatives.	provide free or low-cost parking alternatives.
Ban Heavy Goods Vehicles from the city centre	No impact		
Improve access to river transport	No impact		
Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			

the existing car parks should become free of charge			
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6.5.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

The way we organize and plan cities is bad. The public transport network and services in the overall European cities is much better compared with Aveiro Region. So, we should get inspiration from other European countries.

Without impact – 9 measures

Easy – 12 measures

Difficult – 1 measure (To ban the cars from the city center)

Impossible – no measures

New measures proposed:

- To create low cost car parks in the suburban area
- To create bike parks, with surveillance, to prevent bike theft.

The group thought as individuals, as citizens on a daily basis.

6.5.2.2 Activity 2b) How would these policy measures affect how you live your life?

6.5.2.3 Activity 2c) Why would these policies affect how you live your life?

These activities were reported together for Ílhavo Yellow Table.

See Table 6-10.

1. There is a lack of safety (this reason is the same in every answer)
2. The cycle users felt unsafe using the road lanes, and then they use the pedestrian lanes, causing some conflict.

6.5.2.4 Activity 2d) How could these policies be made easier for you?

To provide information to citizens about the schedule and waiting time of the public transports.

To increase the cycle lanes to reduce the dependence of the private car.

To create lanes only for bus.

To implement a metro/ tram – allows to save money comparing with other mobility schemes.

To develop the project, using the partnership between the University and other Intermunicipal communities, increasing the points of interest within the city centres.

6.6 Ílhavo Pink Table

This table was facilitated by Vera Rodrigues (University of Aveiro) and had 5 participants.

6.6.1 *Comments on Activity 1: Health and air pollution awareness*

6.6.1.1 *Activity 1a) What causes the most deaths?*

Final answer:

1- Road traffic accidents

2- Smoking

3- Obesity

4- Alcohol-related disease

5- Air pollution

There was a lack of consensus:

- One of the participants considered that air pollution should be at least at the 3rd place.
- Some doubts between smoking, alcohol and obesity.
- Only 3 participants agreed with the 2nd and 3rd place.

Figure 6-6: Ílhavo Pink – Activity 1a



6.6.1.2 Activity 1b) How is air pollution bad for me?

Table 6-11: Ílhavo Pink Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease		X	
Heart attacks		X	
Heart failure		X	

Stroke			X
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X
Brain development in children		X	
Dementia		X	

6.6.2 Comments on Activity 2

The results of this activity are presented in Table 6-12.

Table 6-12: Ílhavo Pink Table Activity 2

Measures	Pink table - Ílhavo		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy	There isn't a good public transport network, I would prefer to use public transports	improve the public transport network - to be done by city halls or CIRA; creation of car parks in the suburbs through joint effort of political forces and residents commission
Improve rail network	No impact	The existing network of trains already have enough quality	
Create an over/underground metro	Easy	The creation of a subway allows to reduce the number of cars on the roads	the creation of a subway has to be carried out by CIRA and combined with other measures (eg. diminution or prohibition of vehicles in the city center)

Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Easy		
Improve urban planning to reduce reliance on private cars	Easy / No impact	a good public transport system helps to avoid using the private car; a good urban planning is fundamental to reduce dependence of individual transports	
Improve connections to suburbs & neighbouring areas	Easy	improve the quality of life in my leisure time	
Create more parks and green spaces	Easy		
Create more (free) car parks	Easy		
Reduce the number of car parks	Impossible / Difficult	There is a lack of parking lots, especially in residential areas; convenience; due to the excessive use of private vehicles, this measure would be impossible to accept; the use of public services requires the existence of parks near	create a large parking lot and increase the public transport network to the center - to be done by the mayor and transport companies; create a public transport network of small capacity (electric minibuses), with strategic circulation by the city and with great frequency - to be done by the city hall and public companies; creation of parking lots in the suburbs - to be done by central and local government
Improve enforcement of parking restrictions	Difficult / Easy	Only through the increase of restrictions on parking it will be	

		possible to equate other measures	
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy		
Reprioritise road space for cyclists and pedestrians	No impact / Easy		
Introduce bike hire scheme	No impact	Resistance to the use of bicycles due to the cultural point of views	be free; no traffic
Ban cars from the city centre	Difficult		charges for citizens - to be done by central and local government
Ban Heavy Goods Vehicles from the city centre	Easy	pay to use the public network; convenience	
Improve access to river transport	No impact / Easy	I do not use; improve the quality of life in my leisure time	
Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility			

or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility	Easy		
the existing car parks should become free of charge	Easy		

6.6.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

- There was a significant overall lack of consensus.
- Some participants agreed with the construction of more parking places. The parking places already available should be free, mainly nearby the public services, like hospitals, and so on.
- The participants have identified some conflicts between the car users, the bike users and the pedestrians.

6.6.2.2 Activity 2b) How would these policy measures affect how you live your life?

6.6.2.3 Activity 2c) Why would these policies affect how you live your life?

These activities were reported together for Ílhavo Pink Table.

- The group has assessed these measures thinking individually; if the idea was to think about all the community some measures would be placed distinctly.
- Some participants consider that the cross-river transports are very relevant, even if they do not use it in a daily basis.

6.6.2.4 Activity 2d) How could these policies be made easier for you?

See Table 6-12.

6.7 Ílhavo Green Table

6.7.1 Comments on Activity 1: Health and air pollution awareness

6.7.1.1 Activity 1a) What causes the most deaths?

Final answer:

- 1 Obesity
- 2 Road-traffic accidents
- 3 Smoking
- 4 Alcohol-related disease
- 5 Air pollution

- participants were divided between obesity and road accidents as to first place;
- atmospheric pollution was the most difficult;
- all consider that air pollution in Portugal is not the main cause of death, but also agree that if they are in a workshop on air pollution, it must be more important than they think.

6.7.1.2 Activity 1b) How is air pollution bad for me?

Table 6-13: Ílhavo Green Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
Poor lung development in children	X		
Asthma	X		
Cardiovascular disease		X	
Heart attacks		X	
Heart failure		X	
Stroke		X	
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X
Brain development in children		X	
Dementia			X

- it is difficult to choose between “MAY be linked to” and “DEFINITELY linked to”;
- the link between diseases and air pollution is not easy;
- if tobacco can cause heart attacks, then they think that air pollution can also cause them;
- if clean air helps to improve organ development, air pollution must affect its development;
- all agree that type 2 diabetes and dementia are not linked to air pollution.

6.7.2 Comments on Activity 2

The results of this activity are presented in Table 6-14.

Table 6-14: Ílhavo Green Table Activity 2

Measures	Green table - Ílhavo		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy		
Improve rail network	Easy		
Create an over/underground metro	Easy		
Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Difficult	the road network is good, and does not require improvements	
Improve urban planning to reduce reliance on private cars	Easy		
Improve connections to suburbs & neighbouring areas	Difficult	the connections are good, and do not require improvements	

Create more parks and green spaces	Easy		
Create more (free) car parks	Difficult	more parking leads to more traffic	create car parks on the outskirts of the city and create alternatives for internal circulation (city hall + transport system)
Reduce the number of car parks	Difficult	There are no alternatives	create car parks on the outskirts of the city and create alternatives for internal circulation (city hall + transport system)
Improve enforcement of parking restrictions	Easy		
Improve pedestrian access & safety	Easy		
Create more cycle paths/infrastructure	Easy		
Reprioritise road space for cyclists and pedestrians	Easy		
Introduce bike hire scheme	Difficult	I have my own bike	a bicycle sharing system would be more feasible (city hall)
Ban cars from the city centre	Difficult	There are no alternatives	Create viable alternatives (city hall)

Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	Easy		
Incentivise electric vehicles	Easy		
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region			
diversify the charging network of electric vehicle			
improve the accesses for people with reduced mobility			
the existing car parks should become free of charge			

6.7.2.1 Activity 2a) What can be done? (overall discussion on policy measures)

6.7.2.2 Activity 2b) How would these policy measures affect how you live your life?

These activities were reported together for Ílhavo Green Table.

- almost all measures are easy to accept;
- nothing is impossible, however difficult it may be;
- nothing is without impact, however small it may be, it always has some impact;
- it is difficult to think of as an individual citizen; it is easier to think of it as part of a society that wants to improve its city/region.

6.7.2.3 Activity 2c) Why would these policies affect how you live your life?

- measures can not be implemented alone;
- each measure is dependent on other measures.

6.7.2.4 Activity 2d) How could these policies be made easier for you?

- all measures were consensual;
- some of the new measures are only parts of various measures.

6.8 Ílhavo Orange Table

6.8.1 Comments on Activity 1: Health and air pollution awareness

6.8.1.1 Activity 1a) What causes the most deaths?

Final answer:

- 1 Obesity
- 2 Tobacco
- 3 Air Pollution
- 4 Alcohol
- 5 Accidents

Obesity and tobacco were discussed for the first cause of mortality. Air pollution was considered as the second cause by one member of the group. At the end of the list were accidents and also alcohol.

6.8.1.2 Activity 1b) How is air pollution bad for me?

Table 6-15: Ílhavo Orange Table Activity 1b

	Air Pollution DEFINITELY linked to:	Air Pollution MAY be linked to:	Air Pollution NOT currently linked to:
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Poor lung development in children	X		
Asthma	X		
Cardiovascular disease	X		
Heart attacks		X	
Heart failure		X	
Stroke		X	
Lung cancer	X		
Lung decline in older adults	X		
Development of Type 2 diabetes			X
Brain development in children	X		
Dementia		X	

Some discussion on thrombosis and heart attack, dementia and diabetes, regarding their potential relation to air pollution.

6.8.2 Comments on Activity 2

The results of this activity are presented in Table 6-14.

Table 6-16: Ílhavo Orange Table Activity 2

Measures	Orange table - Ílhavo		
	Activity 2b	Activity 2c	Activity 2d
Improve bus service	Easy	I'm interest in using the bus service; to move to work I have to use a car as there are few buses	

Improve rail network	No impact	encourage the use of public transports; increase the connections in the region and between neighboring regions; more clean mobility	
Create an over/underground metro	Easy	would not use the private vehicle; improvement of air quality; better mobility for the elderly population; less dependency on private transport; another option for the daily journeys	creation of municipal structures for the implementation of the surface subway; take advantage of the existing lines between the city of Aveiro and the commercial port and extend it to the beach - to be done by the mayor and CIRA; Create agreements with the main employers of the region (industrial zones, state services, universities, ...) to share the costs of installing the subway, privileging access to these areas; Redefine roads and establish complementarities with car and bicycle circulation
Improve road safety	Easy		
Make the city more accessible	Easy		
Improve the road network	Easy		
Improve urban planning to reduce reliance on private cars	No impact	it would bring more dynamism to the whole territory	
Improve connections to suburbs & neighbouring areas	No impact	increase the links between regions	
Create more parks and green spaces	Easy	because I love walking and doing sports and I like doing	create green and recreational areas in the city; create furniture for picnics (wooden

		it in green spaces; more nature in the city; more mental and physical health; more use of nature; better leisure spaces; improvement of air quality in cities	tables and benches); more usufruct of the city; creation of vertical gardens and social spaces; urban gardens; bring fruit trees and herbs to the center of the city (edible forests); swings for adults
Create more (free) car parks	Easy		create free car parks on the suburbs of the city. Also creating a public transport network that connects the suburbs with the center of the city
Reduce the number of car parks	Difficult		
Improve enforcement of parking restrictions	Difficult		
Improve pedestrian access & safety	Easy	it will reduce the number of pedestrian that are run over	extend the pedestrian rides to allow a safer movement for people and bicycles
Create more cycle paths/infrastructure	Easy	bicycle use; change of mobility habits; greater safety in the use of bicycles; encouraging the use of bicycles instead of cars; improvement of bicycle safety	
Reprioritise road space for cyclists and pedestrians	Difficult	greater comfort and safety in the use of the bicycle	
Introduce bike hire scheme	Easy	reduce the noise in the city	build a portuguese factories for the production of battery that could work on various brands of electric bicycles
Ban cars from the city centre	Difficult		implement a public transport network capable of responding to the necessity of accessing the city center

Ban Heavy Goods Vehicles from the city centre	Easy		
Improve access to river transport	Easy		clearing the navigation channels that are clogged (dredging) - to be done by Portuguese Environment Agency; Create river transport network
Incentivise electric vehicles	Easy	reduction of atmospheric and noise pollution; more road safety	
Suggested measures			
Improve mobility for all people (elderly, people with reduced mobility, etc ...)			
Improve the quality of the sidewalks (pedestrian mobility)			
Improved rides and access so that people with reduced mobility or baby carriages can move freely.			
create a car sharing network in the Aveiro region	Easy	decrease atmospheric pollution	
diversify the charging network of electric vehicle	Easy		
improve the accesses for people with reduced mobility			

the existing car parks should become free of charge			
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6.8.2.1 Activity 2a) *What can be done? (overall discussion on policy measures)*

6.8.2.2 Activity 2b) *How would these policy measures affect how you live your life?*

6.8.2.3 Activity 2c) *Why would these policies affect how you live your life?*

6.8.2.4 Activity 2d) *How could these policies be made easier for you?*

These activities were reported together for Ílhavo Orange Table.

Most people did this activity thinking as a general citizen, and not considering only their individual feelings. They consider as part of the society and are concerned about the others' interests and problems.

The measure "improving urban planning" was the most difficult to get consensus in the group.

The measure of "banning the traffic in city centre" was considered as difficult to accept. However, the first idea in the group was that it would be impossible to accept, but then they build up their ideas and changed minds.

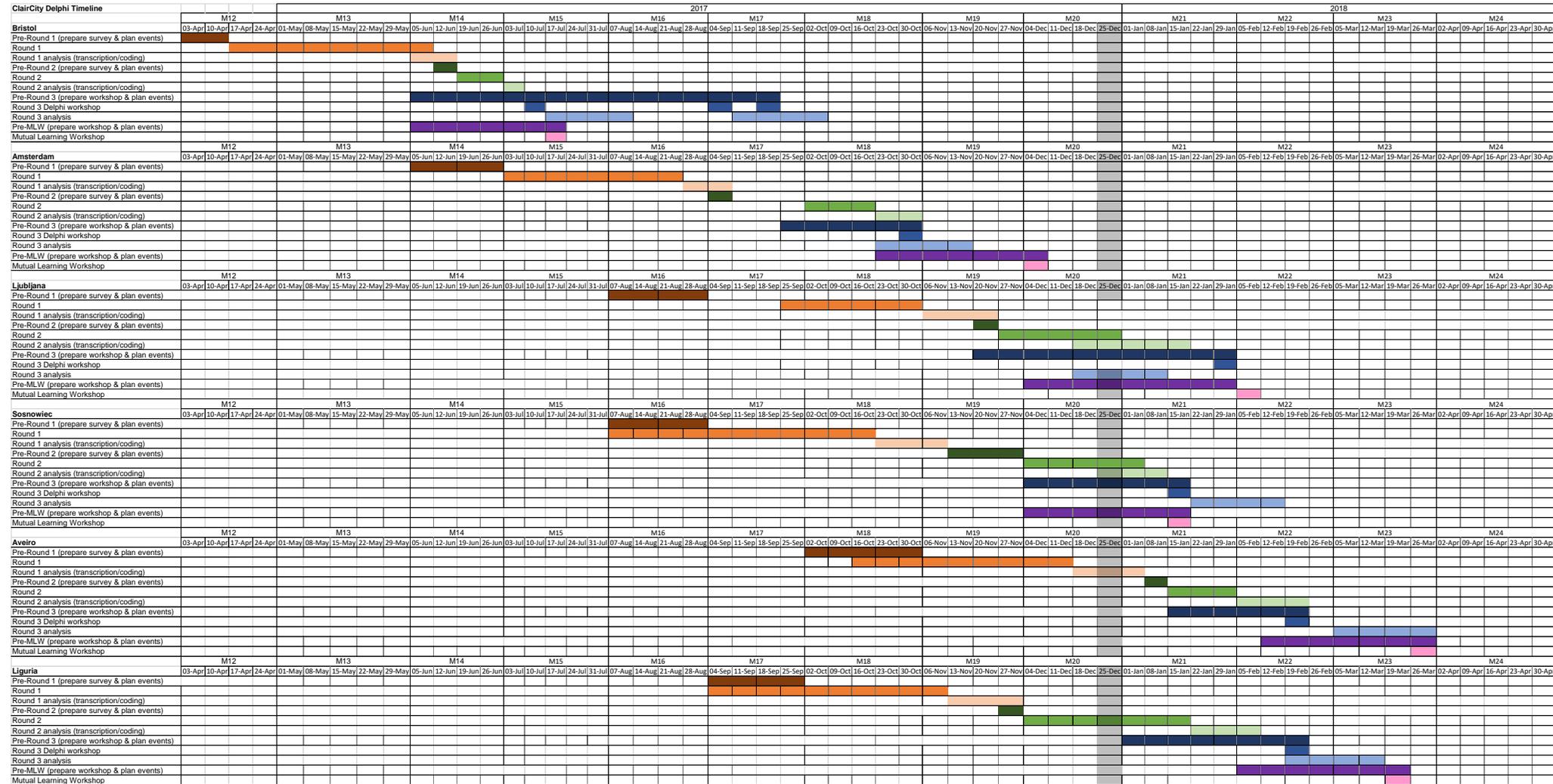
One person of the group only came to the workshop to stress the importance of the metro/tram in the region.

7 Conclusions

All city/regions have completed the Delphi process through to their Round 3 workshop. The evidence of each city/region's Delphi Round 3 workshops are presented in this report. The analysis and results of the Delphi process will be reported in the next Delphi deliverable (D4.4 Pilot Cities DELPHI Evaluation) due by October 2018.

The list of participants is not presented in this report but it is included in the individual city/region report (April 2018)

8 Appendix 1: Delphi Gantt chart



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