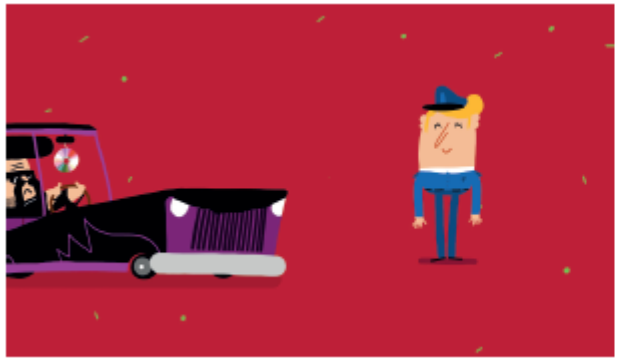
traject mobility management

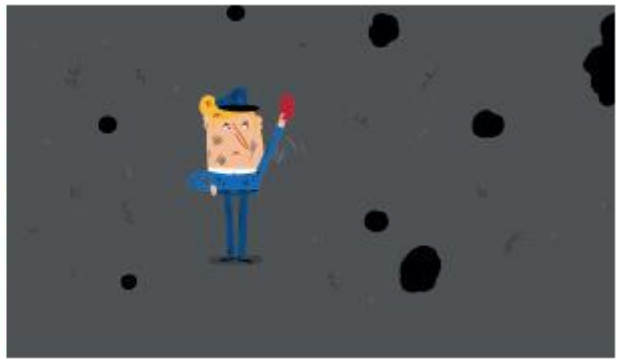
TRANSPORT & MOBILITY LEUVEN

bruxelles environnement .brussels

LOW EMISSION ZONE

.brussels





Brussels Low Emission Zone

1. LEZ background + Research goals
   → Sarah Hollander (regional agency for the environment)

2. Research approach + Lessons from other Cities and Stakeholder input
   → Jonathan Haynes (Traject mobility management)

3. Households and Enterprises affected + Potential compensation measures
   → Sebastian Vanderlinden (Transport & Mobility Leuven)

4. LEZ implementation in practice
   → Sarah Hollander (regional agency for the environment)

1.1 LEZ background (1/3)

- Like many other cities… Brussels does not comply with the air quality standards (NO_2)
- Thus, **improving air quality is considered a priority** by citizens and policymakers
- **2016 decision** of the Regional Government to implement a LEZ
    - as part of long term plan on air, climate and energy
    - after a study conducted in 2011 had confirmed the merits in terms of air quality
- Brussels LEZ general principles:
    - most polluting vehicles prohibited from accessing **the entire region** (161 km^2)
    - **cars, vans, buses and coaches affected** → trucs (+3,5t are exempt: km charge)
    - **gradual implementation as of 2018**

1.1 LEZ background (2/3)

DIESEL	2018	2019	2020	2021	2022	2023	2024	2025
EURO 6 / VI	Access	Access	Access	Access	Access	Access	Access	Access
EURO 5 / V	Access	Access	Access	Access	Access	Access	Access	Access with paid-for pass*
EURO 4 / IV	Access	Access	Access	Access	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*
EURO 3 / III	Access	Access	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*
EURO 2 / II	Access	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*
EURO 1 / I	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*
No EURO standard	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*

1.1 LEZ background (3/3)

PETROL/LPG/CNG	2018	2019	2020	2021	2022	2023	2024	2025
EURO 6 / VI	Access	Access	Access	Access	Access	Access	Access	Access
EURO 5 / V	Access	Access	Access	Access	Access	Access	Access	Access
EURO 4 / IV	Access	Access	Access	Access	Access	Access	Access	Access
EURO 3 / III	Access	Access	Access	Access	Access	Access	Access	Access
EURO 2 / II	Access	Access	Access	Access	Access	Access	Access	Access with paid-for pass*
EURO 1 / I	Access	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*
No EURO stantard	Access	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*	Access with paid-for pass*

1.2 Research goals

- **Propose accompanying measures to support the behaviour change and mitigate negative effects**

- **Identify the persons and businesses most affected by LEZ implementation**
    - socio-economic characteristics
    - mobility habits
    - vulnerability to LEZ

2.1 Research approach

- **Learn from LEZ experiences in selected other cities**

  → a thorough look at Antwerp, Rotterdam, Berlin, Paris

- **Gather input from stakeholders**

  → focus groups with participants representing citizens, companies, local governments, transport operator, sector organisations, etc.

- **Identify socio-economic and mobility profiles** of people and businesses affected

  → via literature review + own surveys

- **Propose accompanying measures** based on all the above

2.2 Lessons from selected other cities and stakeholder input (1/3)

- LEZs differ from one city to the other…
  - **vehicles affected**: all in Paris ↔ only cars and trucks in Rotterdam
  - **area**: whole city in Paris ↔ only city centre in Antwerp
  - **time**: Monday-Friday 8am-8pm in Paris ↔ 24/7 in Berlin
  - **exemptions**: permanent for market vendors in Paris, temporary for companies facing bankruptcy in Berlin and Rotterdam, day-passes available for purchase everywhere except Paris, etc.
  - **accompanying measures**: various 'modal shift' incentives in Paris, scrappage subsidy in Rotterdam, 'park+ride' options in Antwerp, etc.

2.2 Lessons from selected other cities and stakeholder input (2/3)

- Proposed exemptions for Brussels – taking into account stakeholder input
    - **permanent for 'vehicles serving as shops'** (commercial old-timers, food-trucks, market vendors…)

      rationale: replacement is often prohibitively expensive and amount of kilometres driven is limited
    - **temporary for public transport company** and certain private coach operators

      rationale: STIB unable to replace vehicles in time / reducing offer would push people into private cars
    - to be considered: **temporary for financially-challenged households and companies**

      rationale: cost (reduced mobility / bankruptcy) > benefit (cleaner air)

      BUT arbitrariness + admin burden
    - **day passes available for purchase,** albeit only a certain amount per vehicle per year

      rationale: option to cater for occasional visitors (hospital appointments, tourist visits…)

2.2 Lessons from selected other cities and stakeholder input (3/3)

- Proposed additional measures for Brussels
  - **allow a transition period** before enforcing the LEZ via fines
  - **ensure unrestricted access to the 'park+rides' facilities** near the region's borders:
  - **set up 'mobility points'** where people can find assistance
  - promote the 'modal shift' by continuing to **improve public transportation as well as infrastructure for pedestrians and cyclists**
  - **reform car registration and road taxes** to incentivize 'green' choices

3.1 Households affected – socio-economic profile (1/5)

		# of Brussels households	monthly net revenue					
			< 1.000€	> 1.000€ < 1.500€	> 1.500€ < 2.000€	> 2.000€ < 3.000€	> 3.000€ < 5.000€	> 5.000€
		2103 = 100%	16.1%	28.1%	18.3%	17.1%	13.8%	6.6%
# of cars in household	0	850 = 100%	30.4%	36.9%	17.3%	10.0%	3.5%	1.9%
	1	1045 = 100%	7.5%	25.5%	21.5%	22.7%	17.1%	5.7%
	→ which is old	93 = 100%	21.5%	29.0%	22.6%	16.1%	9.7%	1.1%
	2 of meer	208 = 100%	1.0%	5.3%	6.3%	18.3%	38.9%	30.3%
	→ of which at least 1 is old	25 = 100%	0.0%	16.0%	4.0%	20.0%	32.0%	28.0%

- source: Beldam survey (2010)

- Conclusions
  - lower income groups are overrepresented among households without cars and with only one old car
  - higher income groups are overrepresented among households with more than one car

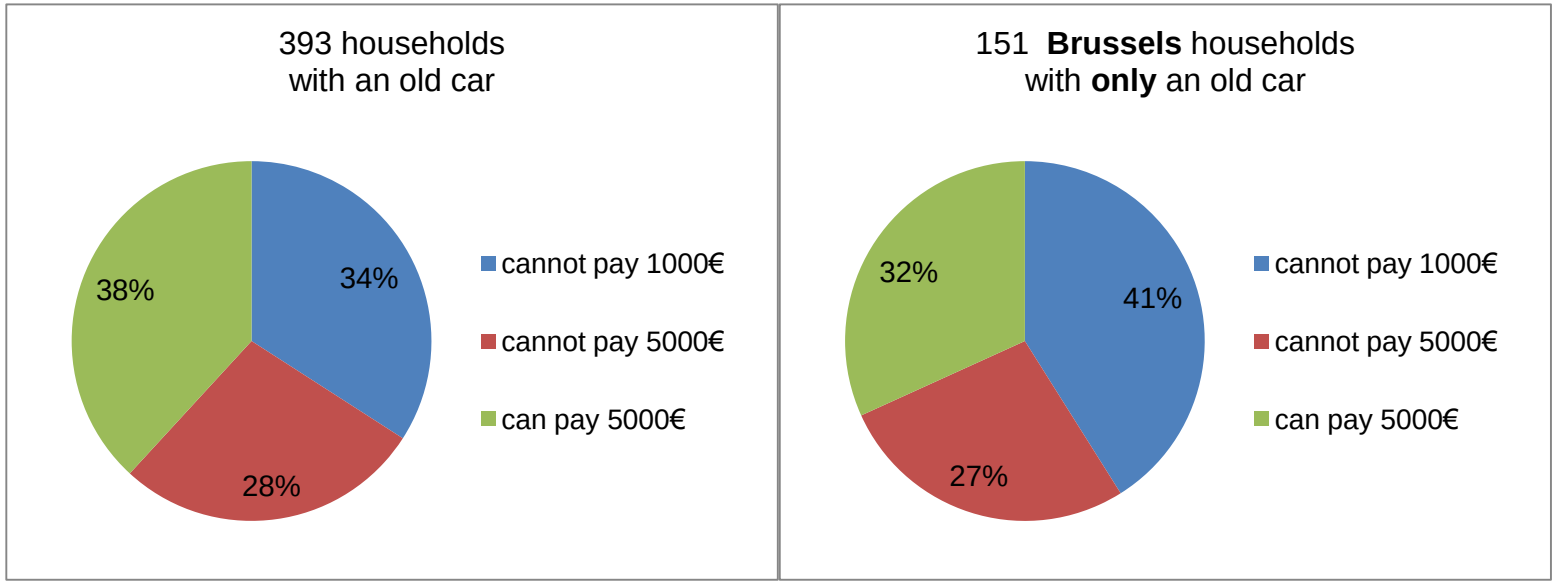
3.1 Households affected – socio-economic profile (2/5)

			monthly net revenue					
			< 1.000€	> 1.000€ < 1.500€	> 1.500€ < 2.000€	> 2.000€ < 3.000€	> 3.000€ < 5.000€	> 5.000€
# of Brussels households		2103 = 100%	338 = 100%	591 = 100%	385 = 100%	360 = 100%	290 = 100%	139 = 100%
# of cars in household	0	40.4%	76.3%	53.1%	38.2%	23.6%	10.3%	11.5%
	1	49.7%	23.1%	45.0%	58.4%	65.8%	61.7%	43.2%
	→ which is old	4.4%	5.9%	4.6%	5.5%	4.2%	3.1%	0.7%
	2 of meer	9.9%	0.6%	1.9%	3.4%	10.6%	27.9%	45.3%
	→ of which at least 1 is old	1.2%	0.0%	0.7%	0.3%	1.4%	2.8%	5.0%

- source: Beldam survey (2010)

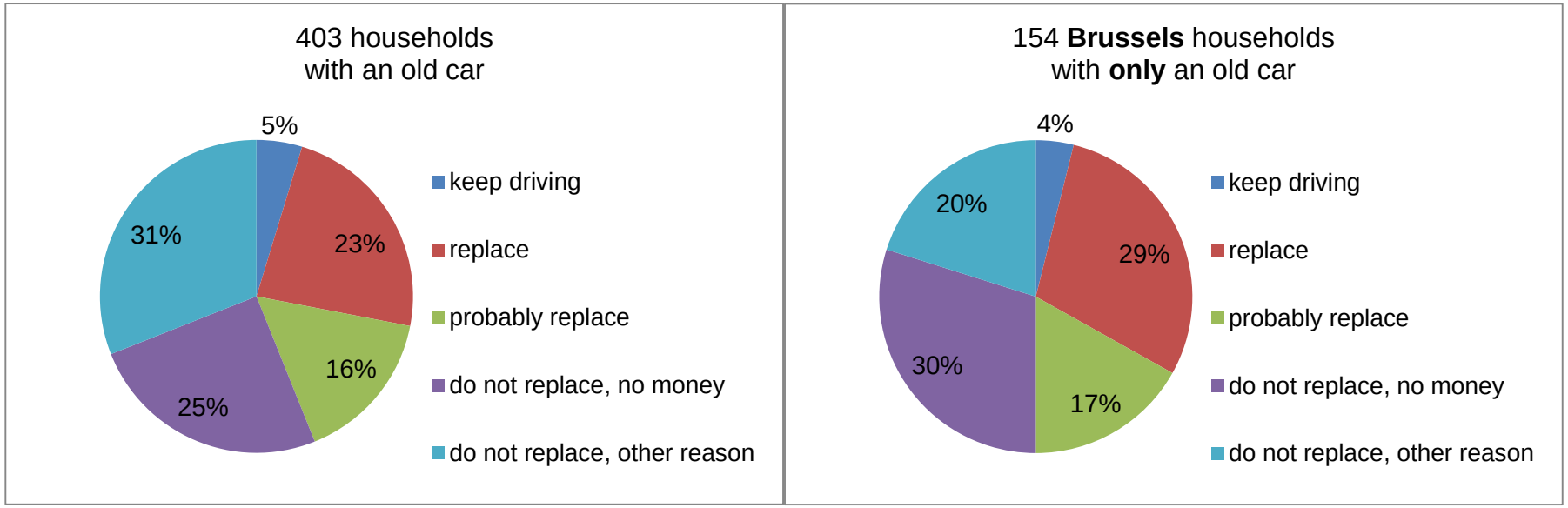
- Conclusions
  - a significant share of Brussels households – especially of low income households – has no car
  - of the low income households that do own a car, relatively many have an old one

3.1 Households affected – socio-economic profile (3/5)



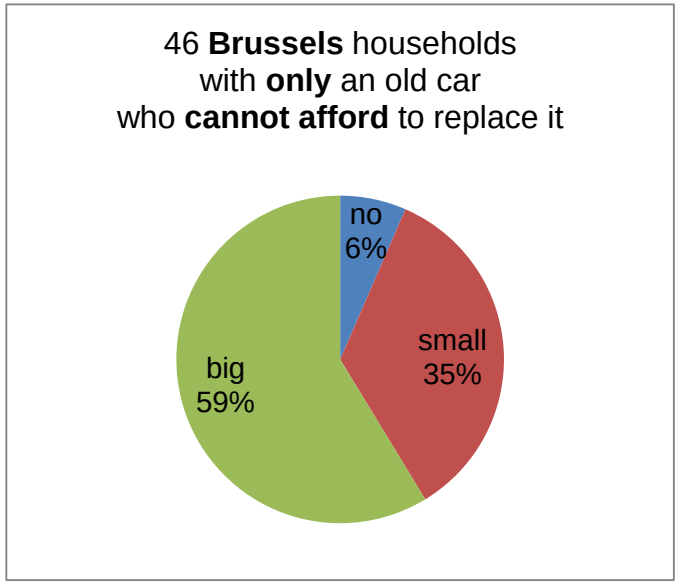
- Ability to cope with an unforeseen necessary expenditure
  - source: own survey (2017)

3.1 Households affected – socio-economic profile (4/5)



- Reaction to LEZ prohibition of the old car
  - source: own survey (2017)
- Conclusion
  - confirmation that (Brussels) households with only one car that is old are on average more vulnerable

3.1 Households affected – socio-economic profile (5/5)



- Mobility impact on most vulnerable affected group
  - source: own survey (2017)
- Conclusion
  - for some, implementation of LEZ could indeed lead to mobility deprivation

3.2 Households affected – potential financial 'compensation'

	'modal shift' subsidy	scrappage compensation
conditions	- hand in licence plate - do not register a new car for a period of at least one year	- hand in licence plate - have old car scrapped
available to	all Brussels households	Brussels households affected by LEZ and with a low income
form	cash or restricted 'mobility budget'	cash
amount	€ 750 proposed - aligned with Brussels'AIR subsidy	€ 2000 proposed - aligned with Rotterdam
BUT... estimated cost 2018-20	€ 15.5 million for those affected by LEZ + cost for households not affected + administrative cost	€ 12.4 million + administrative cost
goal?	- primarily green measure: to incentivize people to give up their car in favour of alternatives	- primarily social measure: as assistance to low income households that lose a car and risk mobility deprivation as a result

3.3 Enterprises affected – profile (1/3)

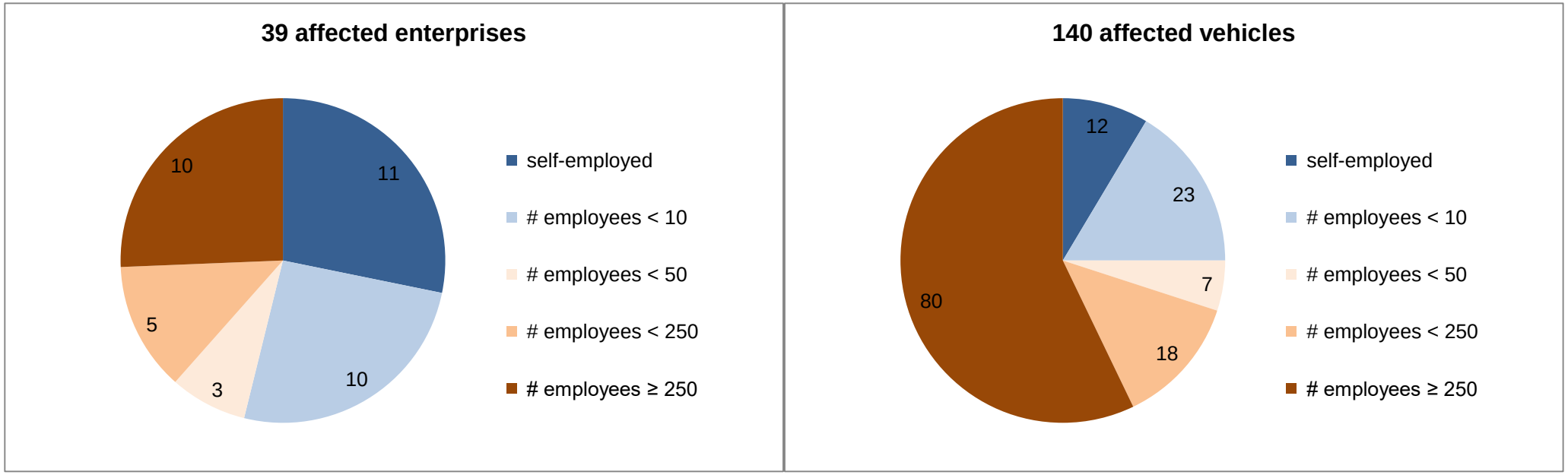
- Case studies in London and Paris + Brussels stakeholder consultation

  indicate that generally speaking **of the companies affected by a LEZ**

  the following types are **most vulnerable**:

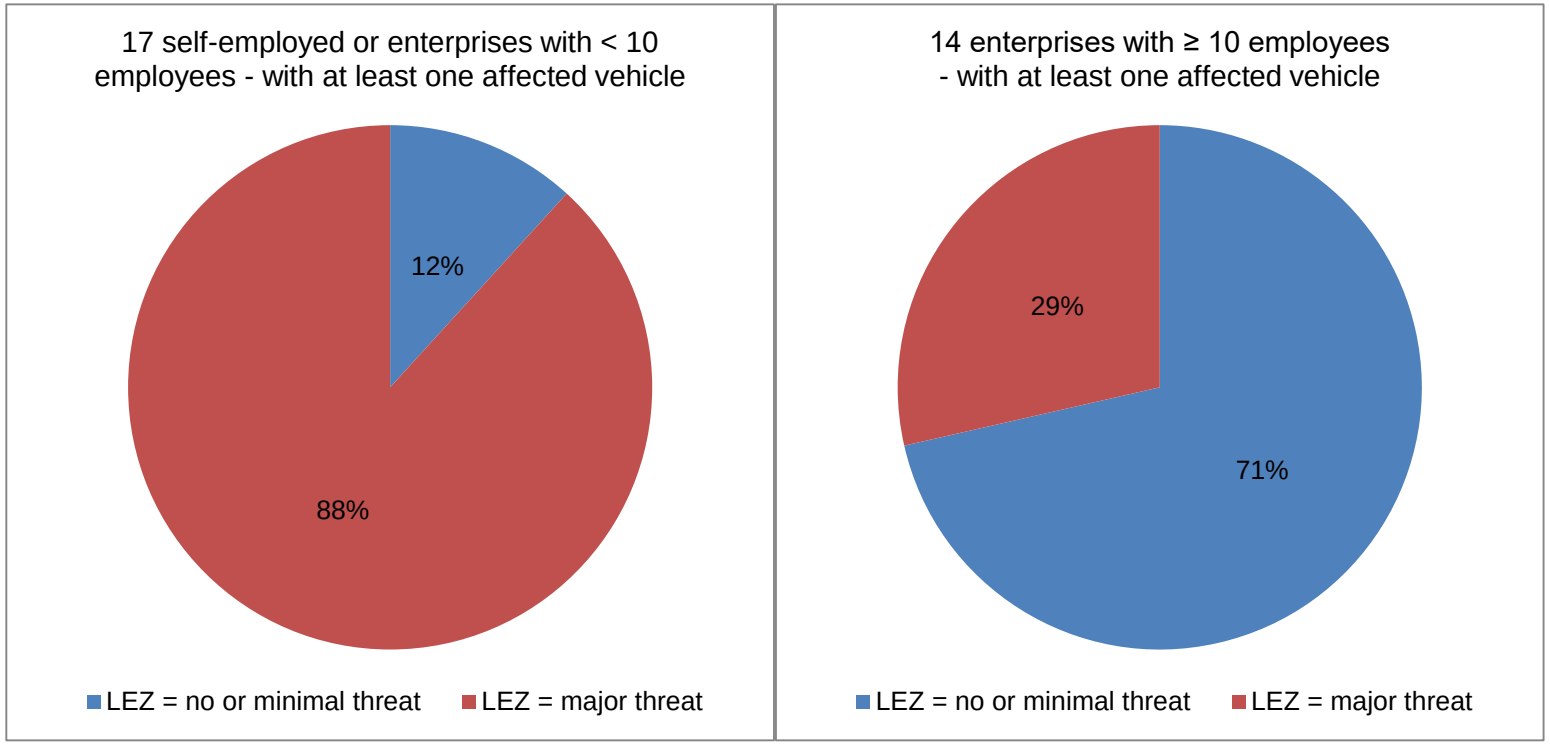
  - the self-employed + **micro- and very small enterprises**
  - …and more in general, enterprises that do not have a large fleet of vehicles but are dependent on it
  - **enterprises in the construction sector**
  - …and more in general, enterprises active in sectors with very small margins of profit

3.3 Enterprises affected – profile (2/3)



- Enterprises with vehicle types affected by the LEZ in the 2018-2020 time horizon
  - note: limited number of respondents (168) – so only indicative results
  - source: own survey (2017)

3.3 Enterprises affected – profile (3/3)



- source: own survey (2017)

- Conclusion
  - confirmation that the self-employed + micro- and very small enterprises are most vulnerable

3.4 Companies affected – potential financial 'compensation'

	vehicle replacement subsidy	scrappage compensation
conditions	- remove old vehicle from traffic - buy a 'green' LEZ-compatible vehicle	- remove old vehicle from traffic - have old vehicle scrapped
available to	affected self-employed and enterprises with < 10 employees	affected self-employed and enterprises with < 10 employees
form	discount upon 'green' purchase	cash
amount	€ 7500 proposed - to be significant vis-à-vis total cost	€ 3000 proposed - to convince at least some
BUT... estimated cost 2018-20	€ 15.5 million for those affected by LEZ + administrative cost	€ 12.4 million + administrative cost
goal?	- primarily green measure: to promote spread of 'green' vehicles	- primarily social measure: to ensure that no individual enterprises stays empty-handed

4.1 Implementation of the Brussels LEZ in practice

Decisions based on the conclusions of the study:

- Extra exemptions:
  - day pass (35€ - max 8 / year)
  - adapted vehicles for markets (food trucks)
  - commercial old-timers if it is the business concept
- 4 P+R parkings accessible
- Subsidies
  - Reform of the "Bruxell'AIR" modal shift subsidy into a (more flexible) mobility package, including car sharing, bike sharing, public transport or bike
  - Introduction of a Vehicle replacement subsidy for small companies
- Study to implement a Mobility Point

4.2 Information

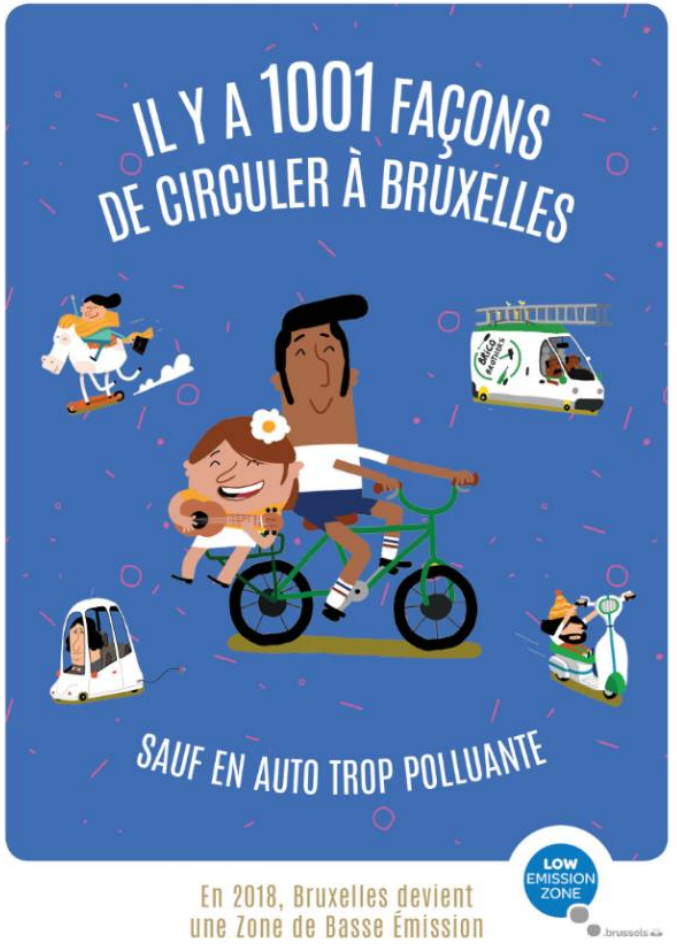
- Campaign

  "1001 ways to come to Brussels… except by to pollutant car"

- Site www.lez.brussels and Call Center
- Information at technical control

  "your car can enter the LEZ until…"

- Transition period until October 2018: only warnings



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