



LIMPEZA URBANA

Parceria para Cidades
+ Inteligentes e Sustentáveis

IV ENCONTRO NACIONAL LIMPEZA URBANA

Roadmap para Cidades Competitivas e Atrativas

3 e 4 novembro 2022

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www.associacaolimpezaurbana.org





Litter surveys in Sweden

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- A. The Keep Sweden Tidy Foundation surveys (since 2007)**
- B. Swedish EPA first litter survey (2020)**
- C. Swedish EPA upcoming surveys (from 2023)**



A. The Keep Sweden Tidy Foundation surveys (since 2007)



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Keep Sweden Tidy

- Private Foundation
- Non-profit organization
- “Promotes recycling and combats litter through public awareness campaigns and environmental education”
- Litter surveys since 2007
- Mostly communes that order help conduction surveys
- <https://hsr.se/>



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Litter surveys in different areas

- City center (pavements/pedestrian streets)
- Parks, squares, beaches, other open areas
- Running water
- Other special surveys

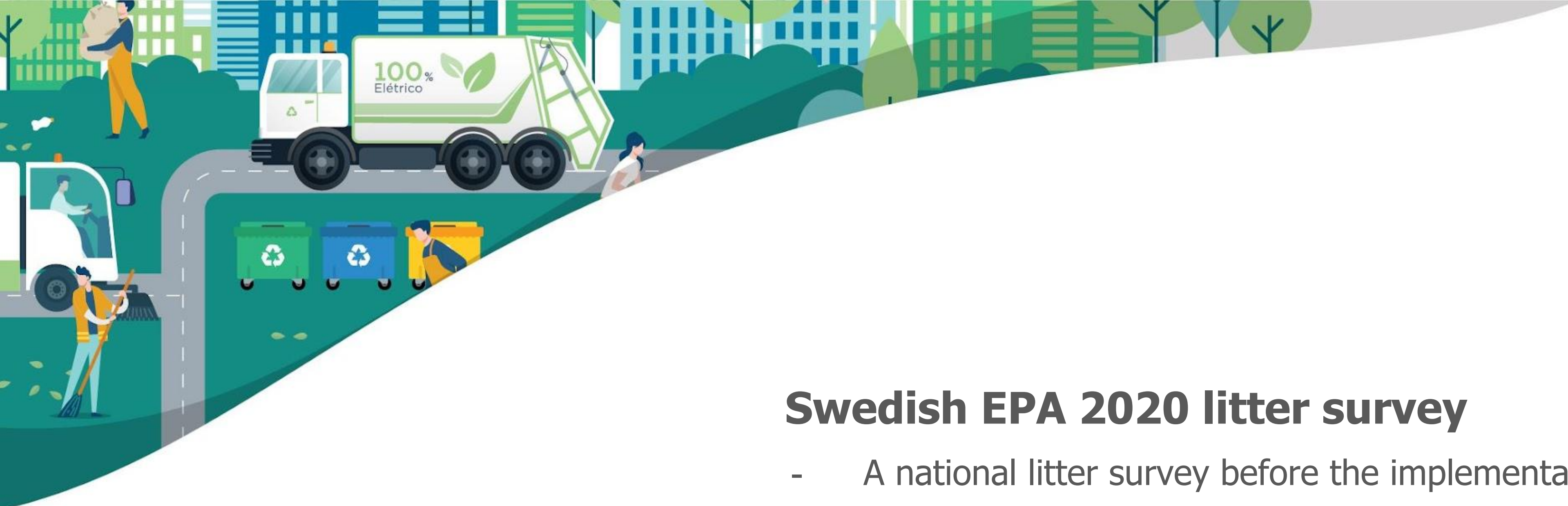


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B. Swedish EPA first litter survey (2020)



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Swedish EPA 2020 litter survey

- A national litter survey before the implementation of the SUP-directive
- Determine proportions of litter made up of certain types of products
- Areas where the communes has the cleaning responsibility
- Two types of surveys
 - Cities and urban areas
 - Tourist areas and valuable nature





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Cities and urban areas

75 (out of 290) communes was randomly selected.

In each selected commune:

- Central city/location was identified
- Area then defined in the central part of every city (GIS)
- Layer was put on in from Swedish "National Road Database"
- Measurement points was put on every 5 meters
- In every city 105-315 points was randomly selected (depending on size)
- On every point litter was measured

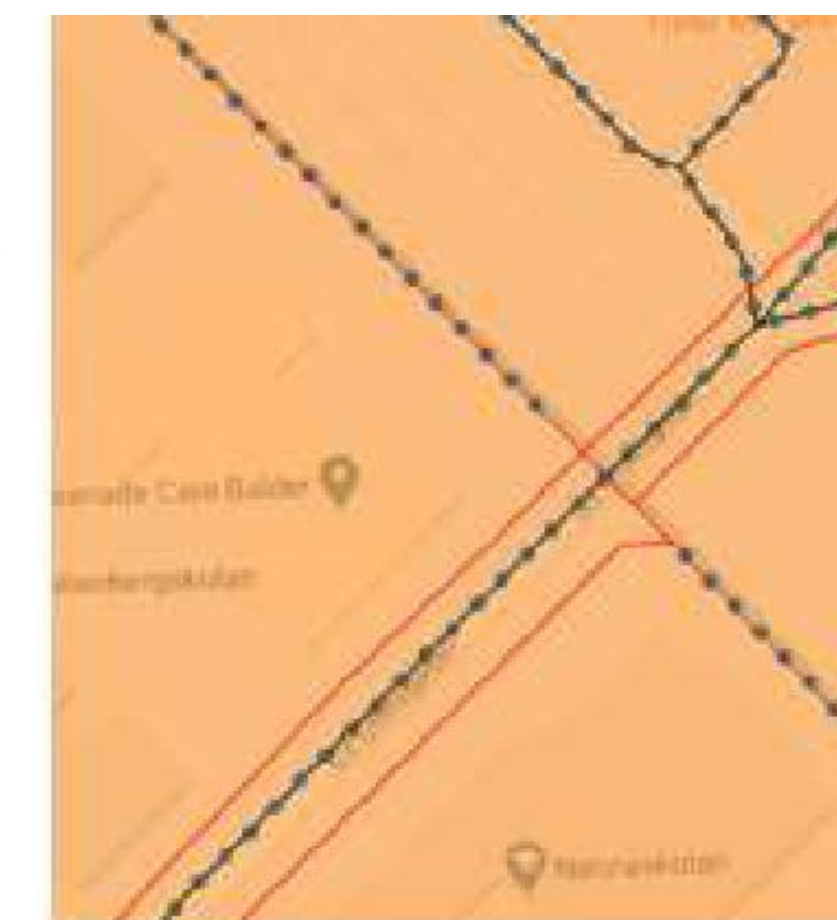
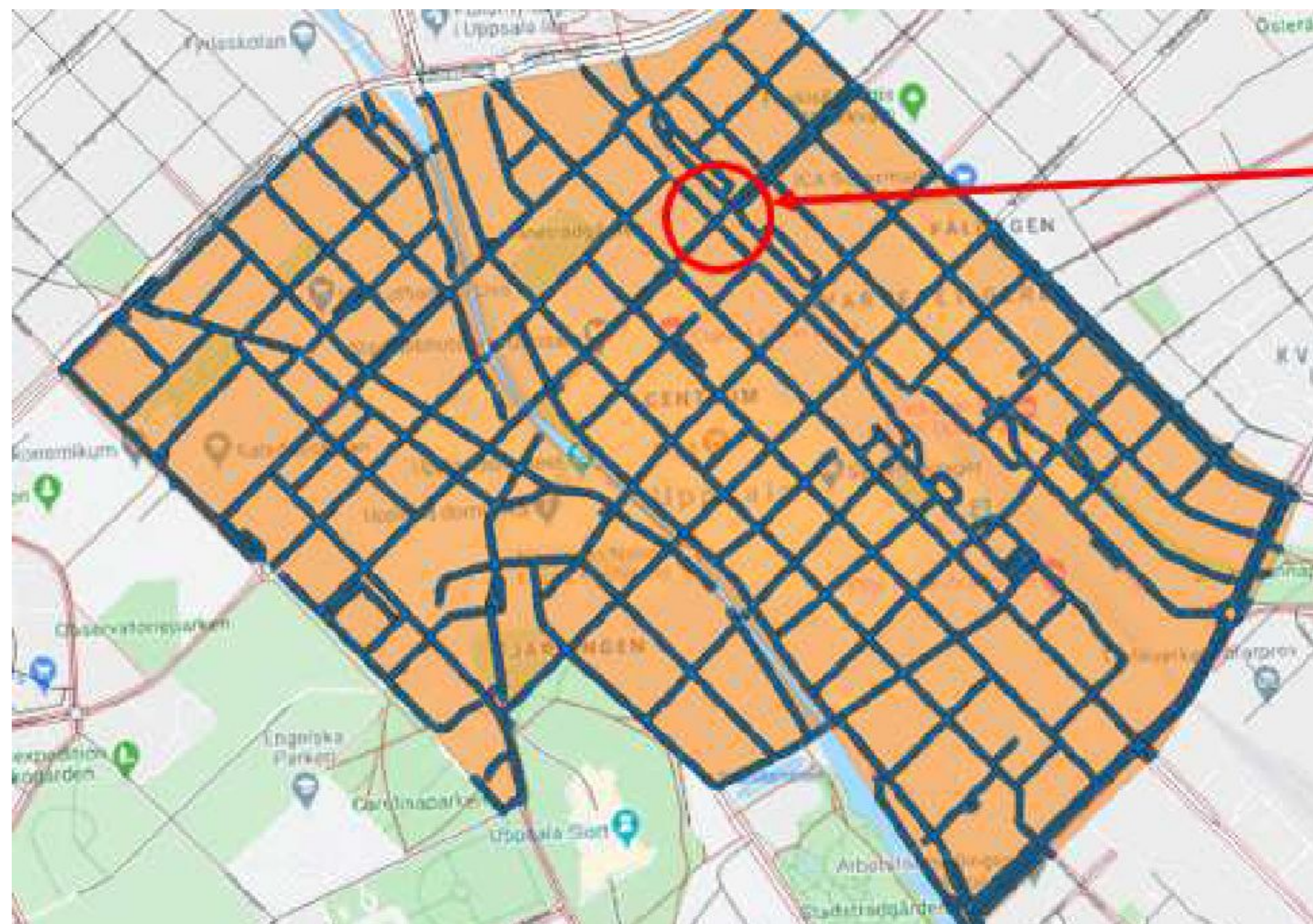


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Determine area and points

Example - Uppsala

- Line objects (GIS) mostly regular roads
- Often thousands of points in a city



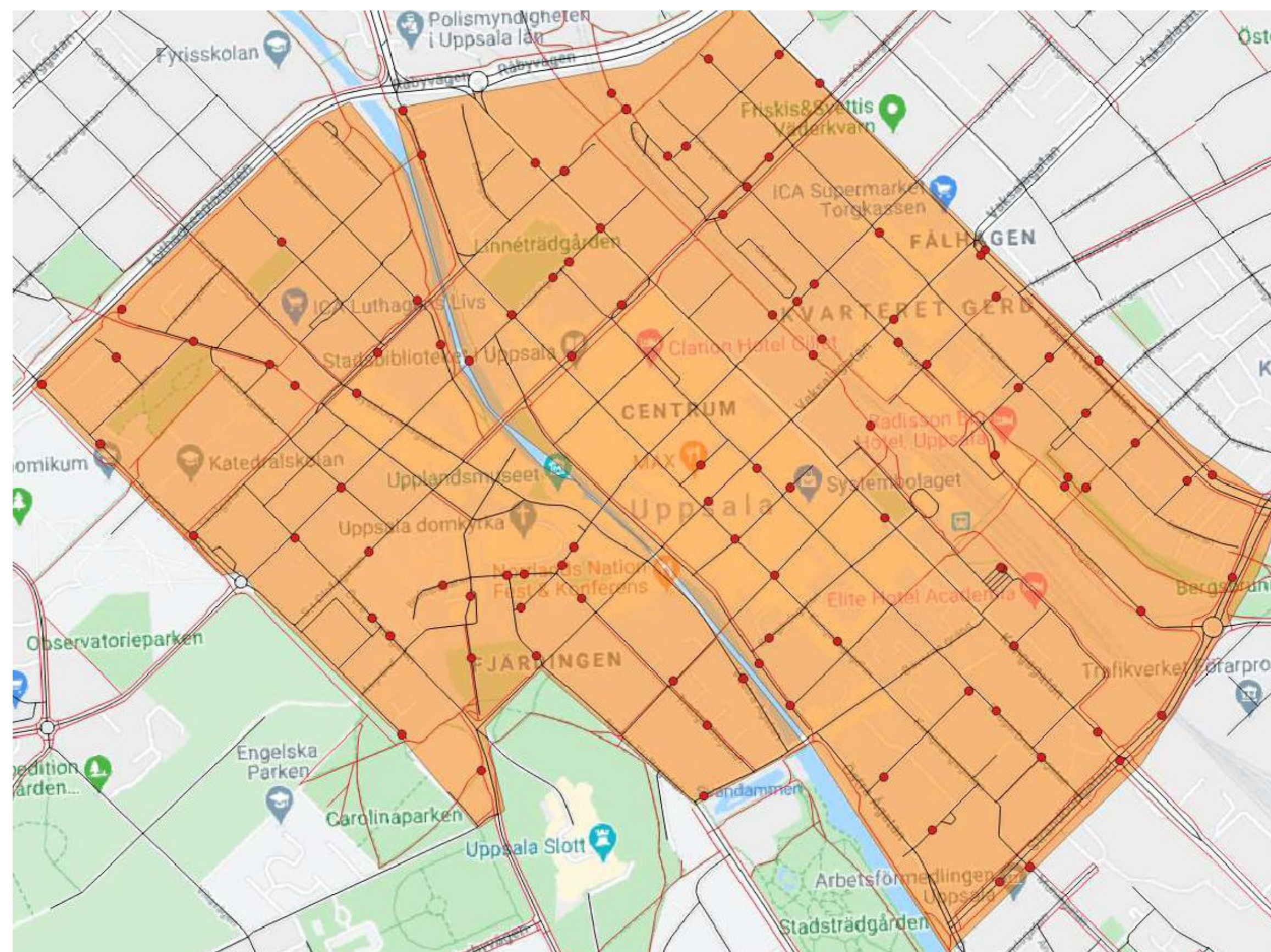


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Randomly select points

Example - Uppsala

- 105 points selected
- Measurements was made on the pavements/cycle paths besides the roads





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An example out on site

1. log into an application
2. Find the next point through a map, go to it, find a pavement
3. Measure the area – 5m long and maximum 5m wide
4. Pick up the litter from the area and put it in a bag
5. Count the number of chewing gums on the surface and register
6. If you can find a pavement/area on the other side, repeat 3-5
7. Continue with all 15 points for the day (7*15=105)
8. Bring the litter to a room intended for counting
9. Sort, count and weigh the litter
10. Register quantity and weight divided into categories in the app





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Cities and urban areas - Results

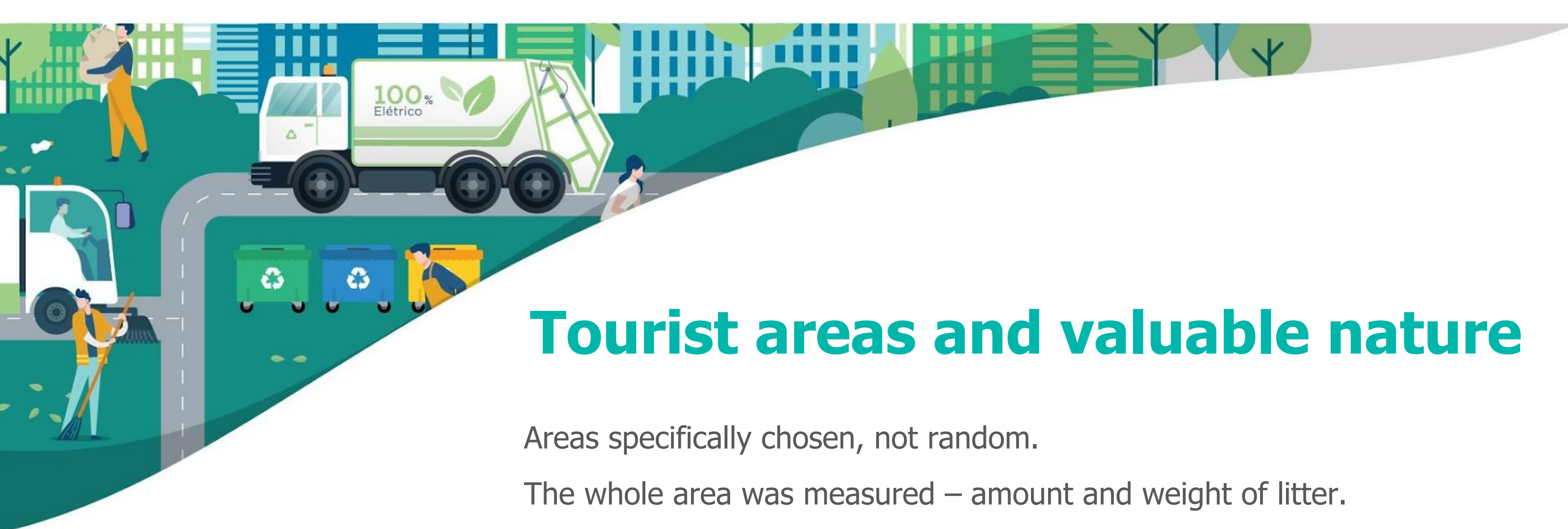
Amount and weight of litter
items on pavements, bike
paths, walking streets...

... within the defined areas

... between June 12 and June
18 in 2020

Tabell 6. Skräpföremål totalt och per huvudkategori i termer av antal skräpföremål, vikt och antal per 10 m² i centralorten i Sveriges kommuner.

	Antal		Vikt		Antal per 10 m ²	
	Miljoner	95% KI	Ton	95% KI	Antal	95% KI
Totalt	35,2	± 4,9	59,8	± 6,6	7,7	± 0,9
därav						
Plast	3,3	± 0,5	8,0	± 1,0	0,7	± 0,1
Papper/kartong	2,4	± 0,4	8,1	± 1,2	0,5	± 0,1
Metall	1,0	± 0,2	6,1	± 1,8	0,2	± 0,0
Organiskt	0,2	± 0,0	1,9	± 0,4	0,0	± 0,0
Glas	0,9	± 0,2	23,7	± 1,8	0,2	± 0,1
Annat (exkl tuggummin)	27,5	± 3,8	11,9	± 1,4	6,0	± 0,7



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Tourist areas and valuable nature

Areas specifically chosen, not random.

The whole area was measured – amount and weight of litter.



Hikers
resting
place



Beach



C. Swedish EPA upcoming surveys (from 2023)



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Swedish EPA 2023 and forward litter surveys

- National litter surveys every 2dn year from 2023
- The result are to be used for input to determine product fees within a new producer responsibility...
- ... this comes from a regulation regarding littering fees.
- The producers should take the economical responsibility for handling the litter.
- Swedish EPA now conducting a method project to determine a method that works in the long term.
- Probably focusing on city centers, parks, squares and likely.



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Swedish “Regulation on littering fees”

- “contains regulations on a system for extended producer responsibility for waste management of single-use products”
- A fixed yearly fee – For the fixed costs. For example administration and litter surveys.
- A variable product fee – To compensate communes for the cost of waste management regarding litter.



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Determine product fee for a year (example numbers)

Product category	Step A: Share in litter survey	Step B: Compensation, share per category	Step C: Number of products put on market	Step D: Product fee per single product put on market
1. Single use plastic lids for mugs	5 %	5 MSEK	1 000 000	5 SEK
2. Flexible wraps	10 %	10 MSEK	10 000 000	1 SEK
3. Single use lunch boxes	7 %	7 MSEK	1 000 000	7 SEK
4. Single use mugs	7 %	6 MSEK	1 000 000	6 SEK
.....
11. Wipes	1 %	1 MSEK	5 000 000	0,2 SEK
TOTAL	100 %	100 MSEK (Total cost for communes.)		

Communes report costs (B)...

... Total cost (B) * Share (A) = compensation per category.

Producers reports products put on market 2023 (C)....

... Fee a product is counted B/C=D

... Number of products * Product fee



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