

Air Pollution on Prinsessegade

A Global Issue on an
Ultrafine Level



Inflammation

Chronic obstructive pulmonary disease

Increased blood pressure

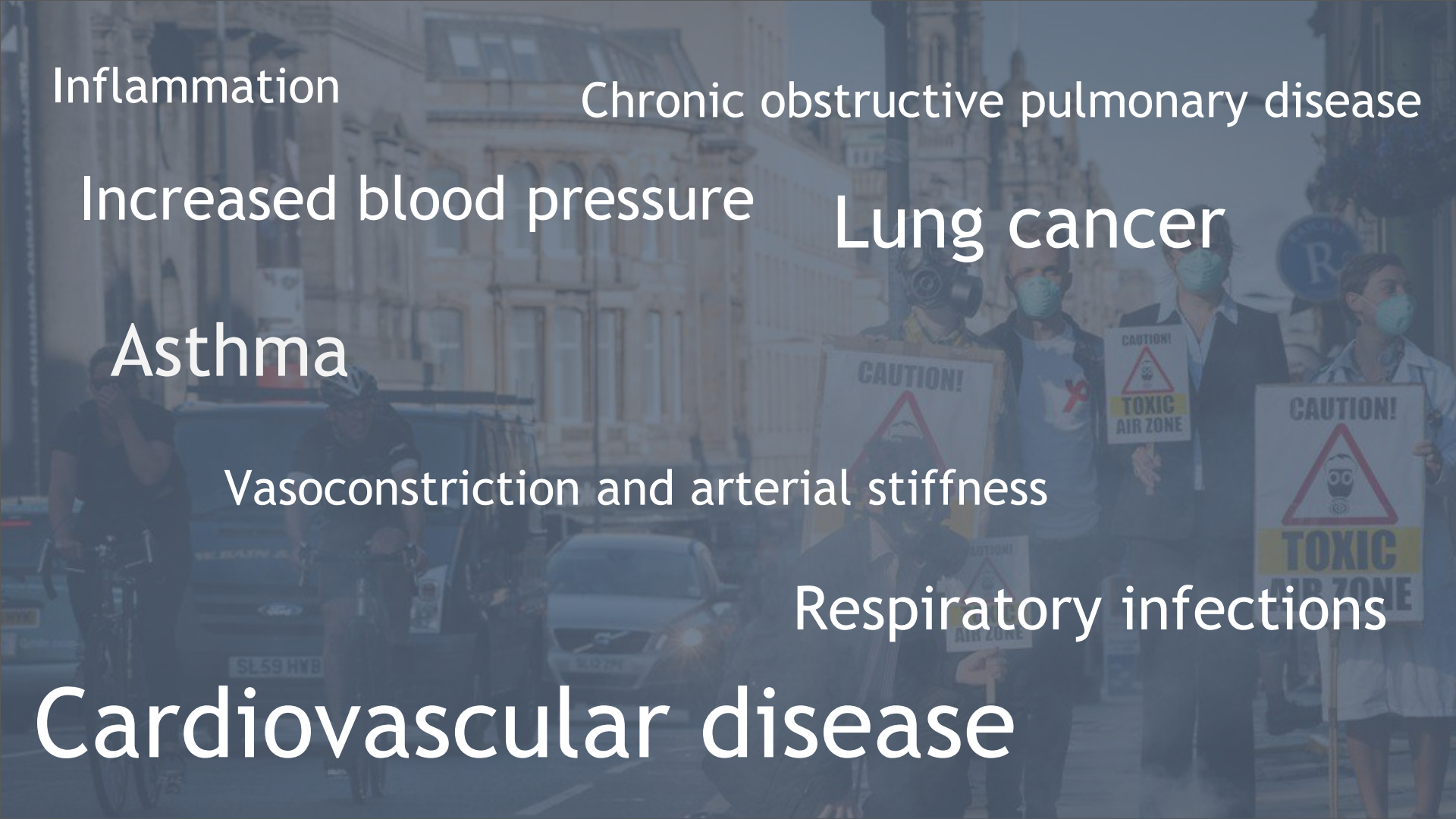
Lung cancer

Asthma

Vasoconstriction and arterial stiffness

Respiratory infections

Cardiovascular disease



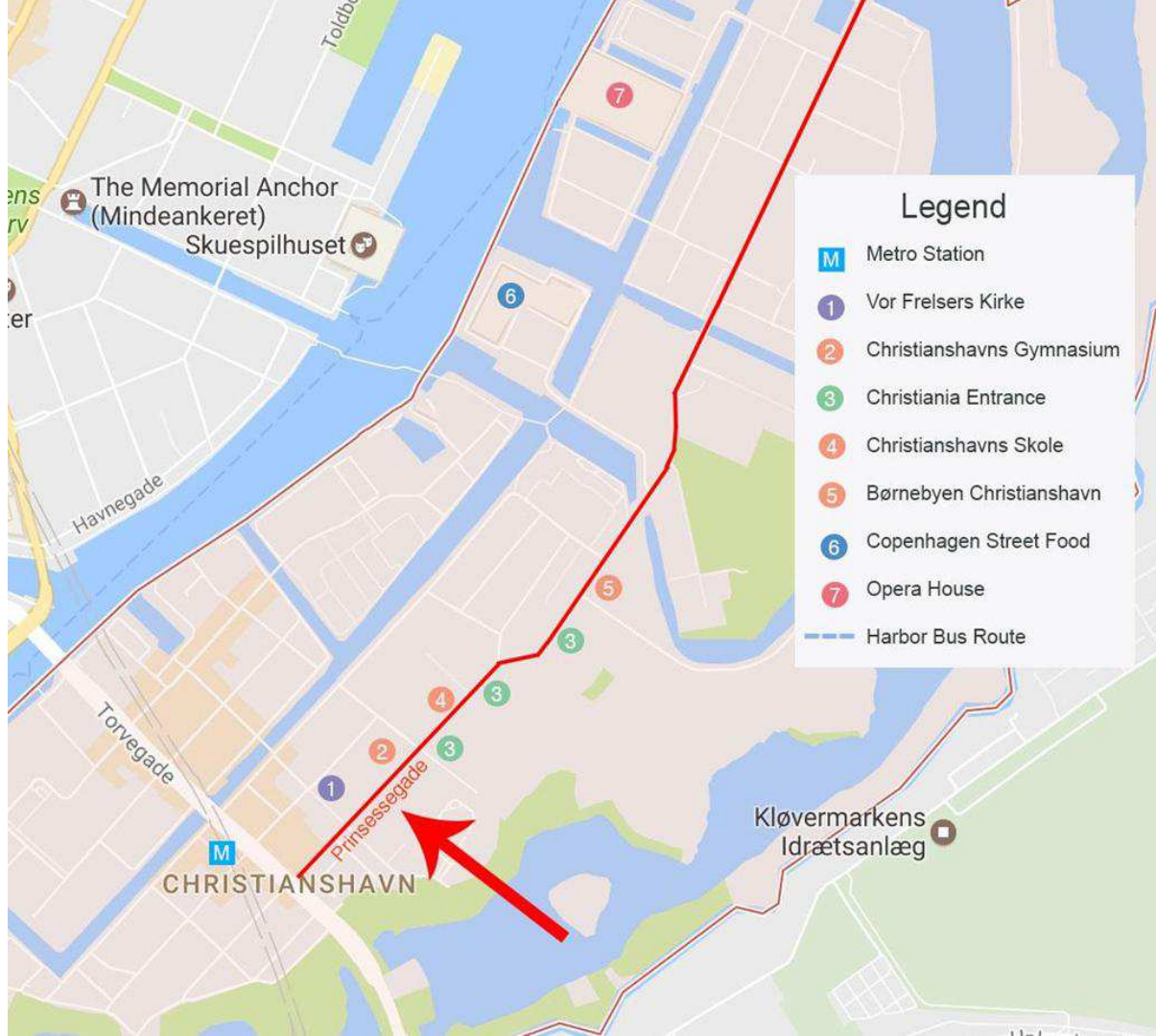
Diesel
Emissions



Increased
particle
concentrations

Traffic
Congestion





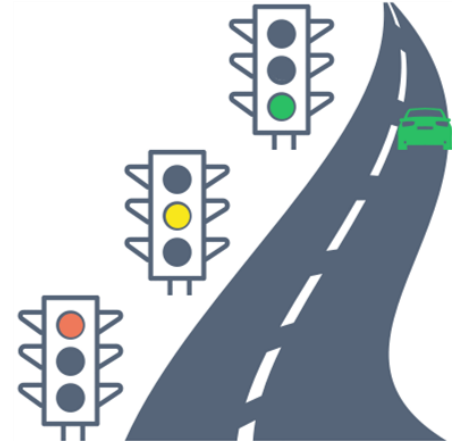
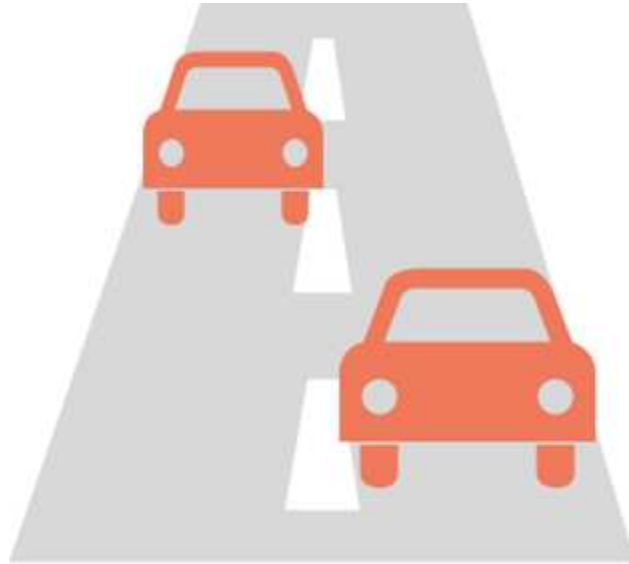
PM 10 levels in Christianshavn



Traffic Management



Reversible Lanes



Green Wave Initiative

Road Closure



Pedestrian and bike only



Bus gate

Stricter Policing



Road Pricing



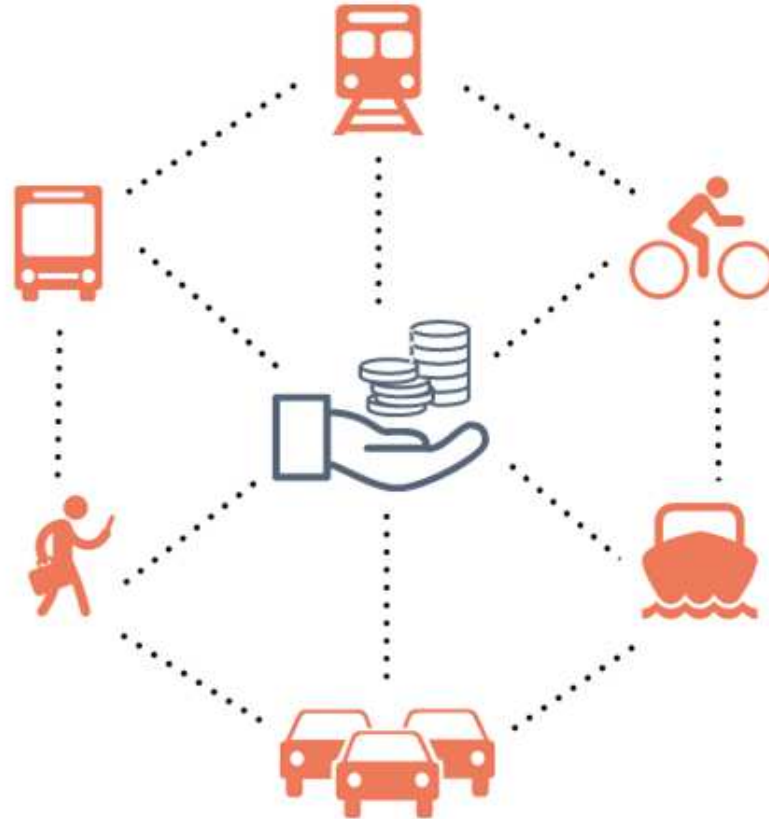
Low Emission Zones



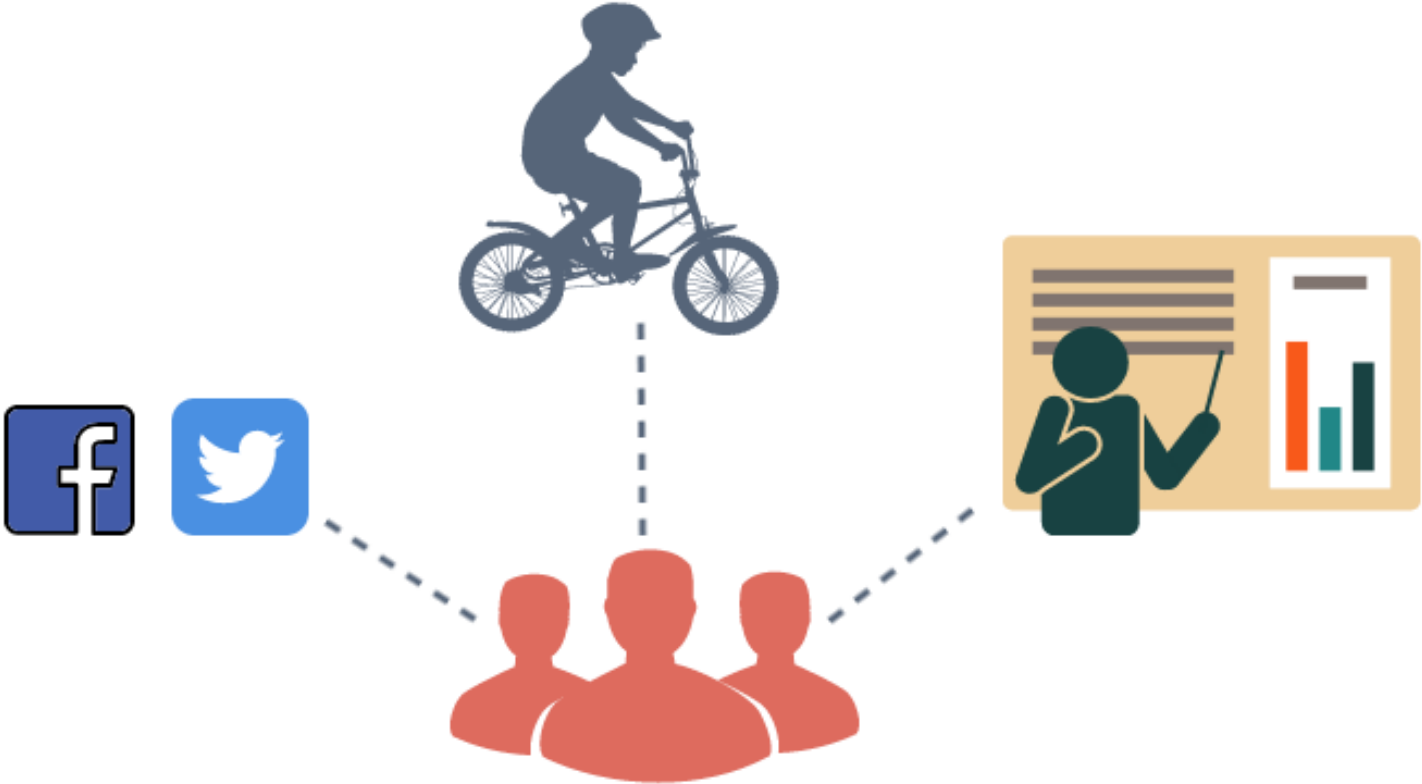
Limited Traffic Zones



Incentivizing and Improving **Alternative Transport**



Education & Community Outreach



Mission Statement and Objectives

1

PRINSESSEGADE CONTEXT

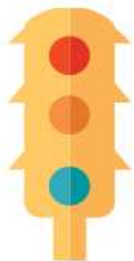
2

OPINIONS ON STRATEGIES



Informal Observation

Characteristics that influence **potential solutions**



- ✓ Reversible Lanes
- ✓ Road Closure
- ✗ Green Wave Initiative
- ✓ Policies
- ✓ Alternative / Public Transport

Result: Eliminated Green Wave



Informal Observation





Surveys

Past Attempts

Potential Solutions

Traffic Congestion

Transportation

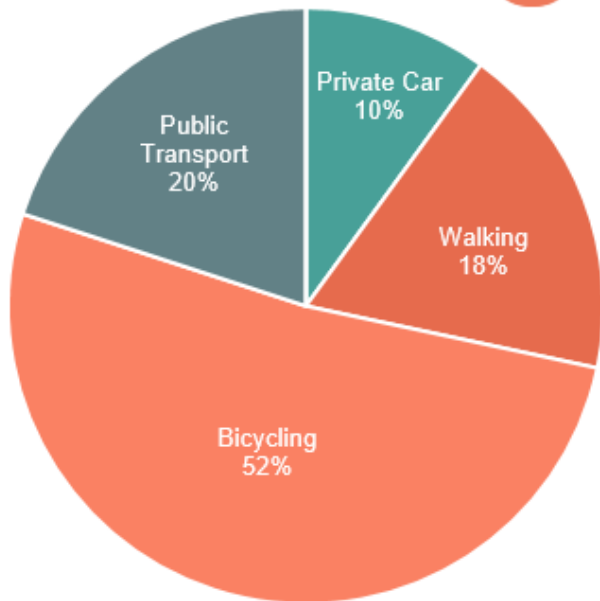


Health



Surveys

60 Responses via street interactions & Facebook



Demographics



Children

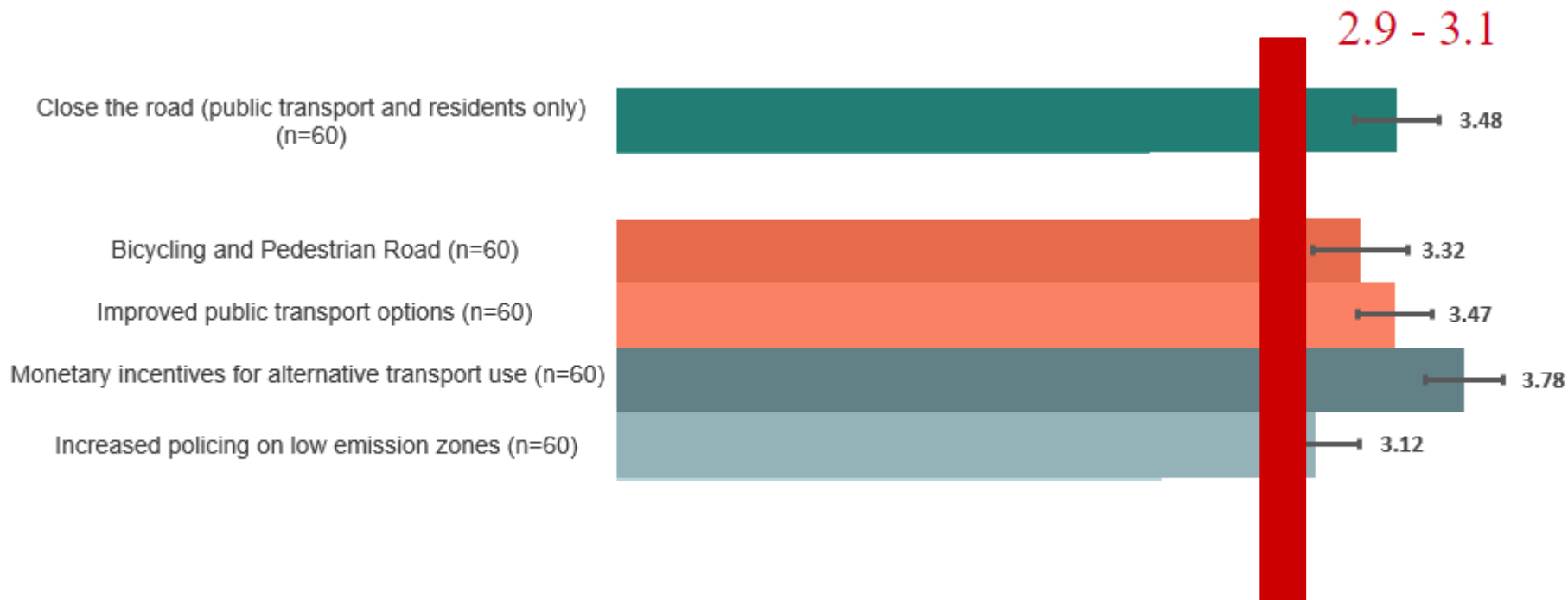


Residency



Surveys

Average rating on solutions on a 1 to 5 scale





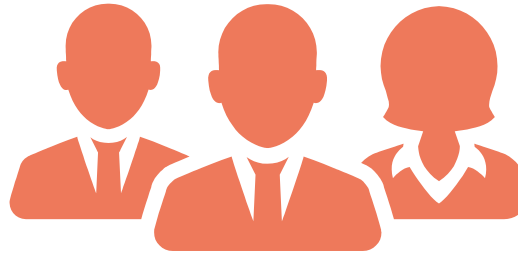
Semi-Structured Interviews

Assessment

Potential
Solutions

Public
Response

Past
Attempts



Community
Outreach



Semi-Structured Interviews





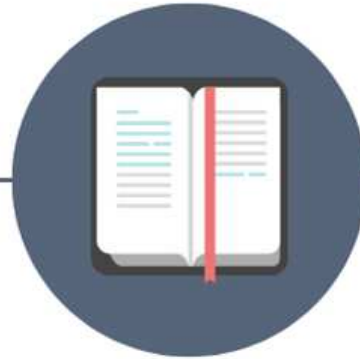
Semi-Structured Interviews



Politics
&
Government



Community
Background



Research
&
Predictions

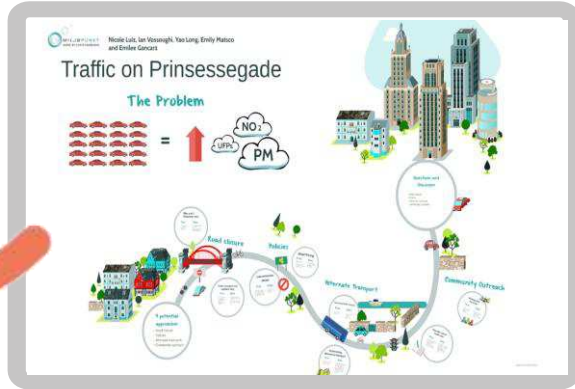


Transportation

Result: Eliminated Reversible Lanes



Community Forum/Discussion





Community Forum/Discussion





Community Forum/Discussion

- Encouraged discussion among community members
- Gained insight into potential solutions:
 - Road Closure
 - Stricter Policy
 - Alternate Transport
 - Community Outreach

TRAFFIC CONGESTION ON PRINSESSEGADE

THE PROBLEM: Traffic congestion on Prinsessegade results in increased air pollution levels.

POSSIBLE SOLUTIONS

ROAD CLOSURE	STRICTER POLICY								
<p>Restrict road use to buses and residents only, or convert to a pedestrian and/or bike road</p> <table><thead><tr><th>PROS</th><th>CONS</th></tr></thead><tbody><tr><td>People will be more inclined to use public transit. Through traffic must find alternate route Reduces vehicular emissions, provides safety for schoolchildren</td><td>Bus gate has been attempted and removed Lack of political support No sufficient alternate route that could be used for cars or emergency vehicles</td></tr></tbody></table>	PROS	CONS	People will be more inclined to use public transit. Through traffic must find alternate route Reduces vehicular emissions, provides safety for schoolchildren	Bus gate has been attempted and removed Lack of political support No sufficient alternate route that could be used for cars or emergency vehicles	<p>Road pricing, implementing low emission zones, or low traffic zones</p> <table><thead><tr><th>PROS</th><th>CONS</th></tr></thead><tbody><tr><td>Car users will be less likely to travel through these zones due to stricter enforcement and increased costs Studies and researchers have estimated that this could make a noticeable impact</td><td>Increased enforcement requires additional personnel to ensure that cars are being checked More money and more resources Parliament does not support it</td></tr></tbody></table>	PROS	CONS	Car users will be less likely to travel through these zones due to stricter enforcement and increased costs Studies and researchers have estimated that this could make a noticeable impact	Increased enforcement requires additional personnel to ensure that cars are being checked More money and more resources Parliament does not support it
PROS	CONS								
People will be more inclined to use public transit. Through traffic must find alternate route Reduces vehicular emissions, provides safety for schoolchildren	Bus gate has been attempted and removed Lack of political support No sufficient alternate route that could be used for cars or emergency vehicles								
PROS	CONS								
Car users will be less likely to travel through these zones due to stricter enforcement and increased costs Studies and researchers have estimated that this could make a noticeable impact	Increased enforcement requires additional personnel to ensure that cars are being checked More money and more resources Parliament does not support it								
ALTERNATE TRANSPORT	COMMUNITY OUTREACH								
<p>Improving public transport or providing incentives for alternate transport including biking and public transit</p> <table><thead><tr><th>PROS</th><th>CONS</th></tr></thead><tbody><tr><td>Increases easy transportation methods to northern Christianshavn Commutes will be provided with additional benefits to use public transit</td><td>No guarantee people will actually abandon private vehicles Creating more public transportation would be costly</td></tr></tbody></table>	PROS	CONS	Increases easy transportation methods to northern Christianshavn Commutes will be provided with additional benefits to use public transit	No guarantee people will actually abandon private vehicles Creating more public transportation would be costly	<p>Including planned events with residents as well as distributing information about traffic and air pollution</p> <table><thead><tr><th>PROS</th><th>CONS</th></tr></thead><tbody><tr><td>People may be motivated by moral obligation More informed individuals may be more likely to realize the environmental consequences of cars</td><td>Long term solution Community seems fairly knowledgeable about the problem already</td></tr></tbody></table>	PROS	CONS	People may be motivated by moral obligation More informed individuals may be more likely to realize the environmental consequences of cars	Long term solution Community seems fairly knowledgeable about the problem already
PROS	CONS								
Increases easy transportation methods to northern Christianshavn Commutes will be provided with additional benefits to use public transit	No guarantee people will actually abandon private vehicles Creating more public transportation would be costly								
PROS	CONS								
People may be motivated by moral obligation More informed individuals may be more likely to realize the environmental consequences of cars	Long term solution Community seems fairly knowledgeable about the problem already								

Recommendations

Intersection
Traffic Studies



Movia and Local Business
Partnerships to Diversify Transport



City Official Support for Low
Emission Zone Regulations



New Vehicle
Disincentives



Further Surveys, Interviews
with Car Owners



Acknowledgements

- Prof. Lauren Mathews
- Prof. VJ Manzo
- Marianne Spang Bech and the rest of the Miljøpunkt team
- Prof. Nicola Bulled
- Prof. Steven Taylor
- Interviewees and survey participants

