



Oslo

«Damned if you do, damned if you don't»:
**Get a green grip
of the white winter**

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Background

**Network with high operating standard
("bare road strategy"):**

- ▶ 2015/2016: 59 + 58 km
- ▶ 2018/2019: 90 + 120 km

OSLO



2014/2015: 2 %

2018/2019: 10 %

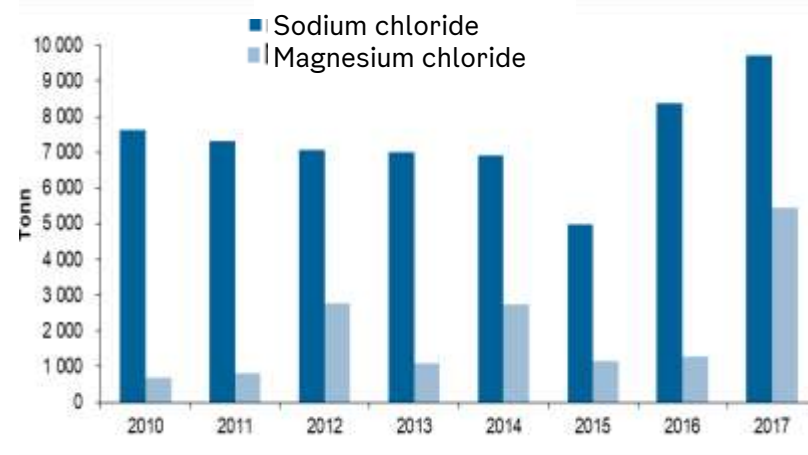
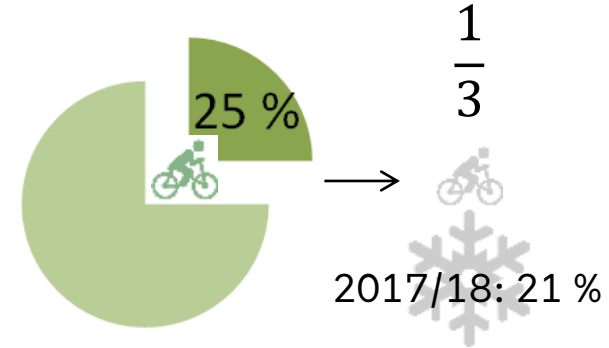


60 % increase in cycle traffic!



Oslo

Modal split 2025:



Agenda

«Damned if you do, damned if you don't»:

Get a green grip of the white winter

Projects:

- ▶ The use of no salt on separated infrastructure
- ▶ The use of formate (a more environmentally friendly salt as it is organic) on selected bicycle paths surrounded by particular vulnerable environments
 - Is it less damaging to the environment?
 - Do the measures give the bicyclists a satisfying grip (user experience)?
 - Can the measures be done to an acceptable price?

I «No salt» - a winter road

“Frequent removal of snow when needed”

Challenges:

- ▶ Thin layer of ice (safety threat)
- ▶ What is «good conditions»?

Lessons learned

- ▶ Private contractors give less ownership for testing new methods
- ▶ Better planning and follow up

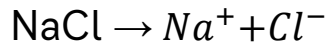


Hei! Jeg sykler fra Haugerud til sentrum hver dag og har et par ganger den siste uken meldt fra om dårlig brøyting via Bymeldingsappen. Hva skjer på denne strekningen? Slik det er nå er det jo farlig å sykle nedover bakkene mot sentrum. Når man kommer til sykkelveien under E6 v/ Helsefy og videre nordover mot Valhall er sykkelveien fri for snø. Det er ganske skuffende synes jeg. Håper dette løses raskt!

Ken

II Use of Formate – the bare road strategy

Sodium chloride (inorganic salt):



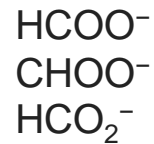
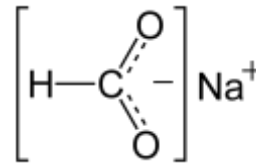
+ Available

+ Inexpensive

- Raise salinity in ground/water

- Corrosive

Formates (organic salt):



Replace the use of road salt
on the bicycle network during winter
without compromising accessibility and traffic safety

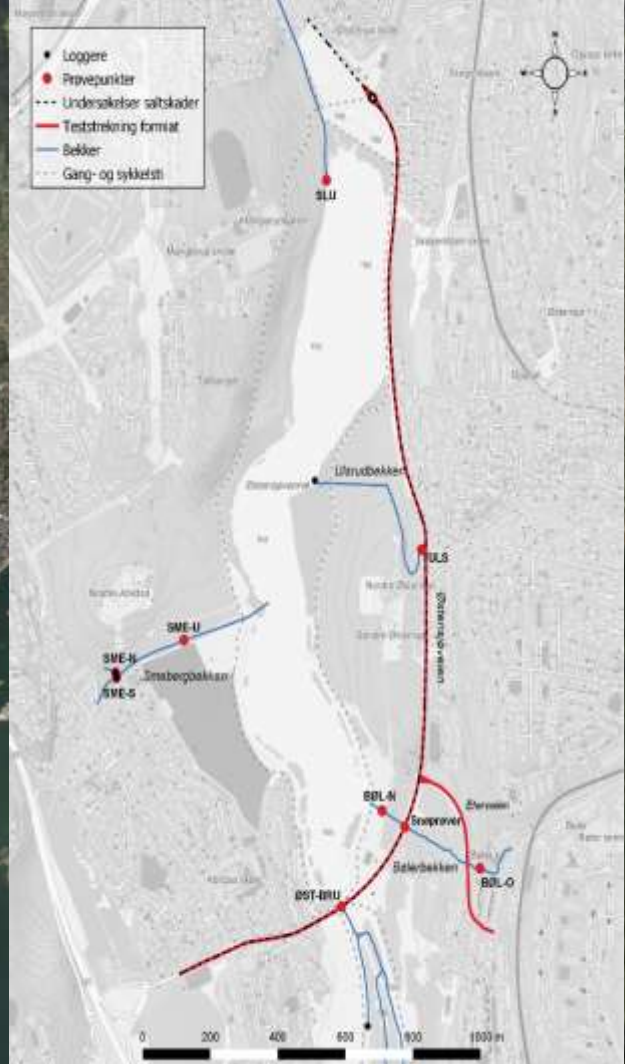
II The use of Formate

The main focus:

Mapping the environmental effects

- ▶ Improvement in terms of sodium and chloride contents in both water and soil

ion in the rest of Oslo



II The use of Formate



▶ User experience

Friction measurements showed that the friction in

- car lanes was approximately the same when using formate or road salt
- bicycle lanes was clearly better when using road salt

▶ Cost

- 15 x the price of road salt
- More frequent maintaining