

## Summary:

# 80% use of non-studded winter-tyres in 2004?

Results from a survey in Drammen and five neighbouring municipalities.

## The survey

One of the targets of the municipality of Drammen (south of Oslo, Norway) is to increase the use of non-studded tyres during the winter season to 80 percent before 2004. The main reason for this is to improve the air quality in the city of Drammen. According to the Public Road Administration, 70 percent of the traffic this winter in Drammen was on non-studded tyres. The year before it was 50 percent.

On behalf of the municipality of Drammen, TØI has conducted a survey in Drammen and 5 of the nearest municipalities (Øvre Eiker, Nedre Eiker, Sande, Lier and Røyken). The main focus in this study was to investigate the possibility of accomplishing the target for 2004, and find out what the respondents thought about winter maintenance of roads and the air quality in Drammen.

1500 respondents in Drammen and 250 in each of the neighbourhood municipalities participated in the survey. The respondents all had a driving licence, and owned or disposed a car for personal use. The questionnaire included the following themes;

- Knowledge of the target percent for the use of non-studded tires, and air quality forecast
- Grading of the air quality in Drammen, and consequences on everyday life
- Winter maintenance of roads in Drammen
- Feelings of unsafety as a driver on winter roads, and number of persons who claim they do not use the car on a number of days because of difficult driving conditions (snow or ice)
- Ownership of cars, type of tyre, driving distance
- Consequences of a charge for use of studded tyre

The data were analysed with the program package SPSS.

## Target and air quality forecast

30 percent of the inhabitants in Drammen know that the municipality of Drammen has a goal when it comes to the use of non-studded tyres, and what this goal is. About

the same amount of people have looked at the air quality forecast more than once a month.

## Air quality in Drammen

A majority of the respondents are satisfied with the air quality in their own neighbourhood, but the air quality in the centre of Drammen gets a somewhat lower score.

In 1999, 65 percent was extremely or very dissatisfied with the air quality in the centre of Drammen, now the percent is 40. So even if a lot of people remain dissatisfied with the air quality in the centre area of Drammen, there is a tendency towards an improving situation.

Female and younger people are more dissatisfied than other people.

## Improved winter maintenance of roads in Drammen

Most people in Drammen are satisfied with the winter maintenance of the roads. In 1999, 50 percent were extremely or very dissatisfied with winter maintenance (on roads only) in the centre of Drammen, now 10 percent are.

## Feeling of unsafety is a main reason for not changing tyre

Traffic safety is a main factor for a lot of people when considering changing tyres, and which type to choose.

50 percent of the users of studded tyres said that they often would have felt unsafe as a driver during the winter season, if they had to change to non-studded tyres. Just 5 percent of the persons who had non-studded tyres on their car, said that they often felt unsafe. There was no significant difference between the users of studded/non-studded tyres with respect to the number of persons who stated that they often chose not to use the car due to difficult driving conditions.

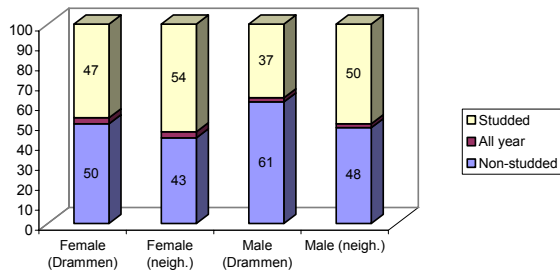
Among the persons with studded tyres on their car, there was a majority of women and persons above 60 years, who said that they would feel unsafe if they had to use non-studded tyre during winter season.

## Percentage with studded/non-studded tyres

According to the analysis about 57 percent of the cars in Drammen had non-studded tyres. In the neighbouring municipalities the percentage with non-studded tyres was 47.

## Who has studded/non-studded tyres?

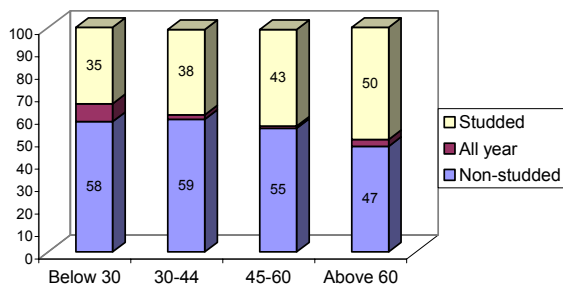
There are more men who have non-studded tyres (on the car in the household they use most), than women.



Source: TØI report 570/2002

Figure S.1: Type of tyre in Drammen and the neighbour municipalities. By gender. In percent.

In Drammen there is a tendency indicating that older persons more often have studded tyres than the younger ones.



Source: TØI report 570/2002

Figure S.2: Type of tyre in Drammen. By age. In percent.

## Driving distance with studded/non-studded tyres

The results from this and other Norwegian studies indicate that cars with non-studded tyres are used more than what is average for a car with studded tyres. Because of this the percentage use of non-studded tyres in traffic is somewhat higher than the number of cars with non-studded tyres indicate.

Table S.1: Average driving distance (km) with studded/non-studded tyres. For the respondents in Drammen and the neighbouring municipalities. During 24 hours on a weekday.

	Drammen		Neighbouring municipalities	
	Total driving distance	Driving distance in the centre of Drammen	Total driving distance	Driving distance in the centre of Drammen
Studded tyre	16,7	5,7	20,9	3,3
Non-studded tyre	20,8	7,5	23,9	3,8

Source: TØI report 570/2002

## Use of non-studded tyres in Drammen

When the driving distances are taken into account, the use of non-studded tyres in Drammen is 63 percent and the total for the 5 neighbouring municipalities is 51 percent.

In this study we are interested in the use of non-studded tyres in Drammen. Therefore the use in Drammen had to be given a higher weight than that of the neighbouring municipalities. The weighting is based on the amount of driving taking place in the centre of Drammen (table S.1). Based on that, we estimate that about 60 percent of the traffic in Drammen takes place on non-studded tyres.

In our study just the vehicle which is in personal use is accounted for. Vehicles like taxis, buses and other heavy vehicle are not included in this study. In another study executed by the Public Roads Administration, the percentage use of non-studded tyres in Drammen was 61 percent for private cars and 71 percent for all vehicles. Assuming the 10 percent difference are correct, the use of non-studded tyre was about 70 percent in Drammen this winter.

*Table S.2: Percentage driving using non-studded tyres. The winter of 2001/2002, in two years, and if a charge for the use of studded tyres are initiated. For car owners in Drammen and in neighbouring municipalities, and weighted for the amount of driving taking place within Drammen. In percent*

	Private cars		All vehicles	
	Drammen	Neighbouring	Weighted* Drammen	Weighted Drammen*
Today	63	51	60	65-70
In two years	71	58	68	73-78
With charge	74	62	72	77-82

Source: TØI report 570/2002

\* In the weighted percentage the non-studded percentage for Drammen has been given a weight more than double the neighbouring municipalities. The weighting is based on the amount of driving within the centre of Drammen (table S.1).

The respondents were also asked if they intended to buy new winter tyres within a two-year period. If the persons who said they would change tyre actually do so, and in fact chose the type of tyre they say, about 68 percent of the traffic (by private cars) will be on non-studded tyre in 2004. The total would then be around 75 percent.

If the municipality of Drammen implements a charge for the use of studded tyre from the winter 2002/2003 it seems like the target for 2004 is within reach.