4.4.2 Measures for October fotgiengerrefleks use of (4.8)

There are no results on how much flare use would happen as a result of specific measures. in Table 4.2 are therefore given the expected reductions in the number of injured persons if the reflex use skes from l5o / o respectively 30olo, 60% and 90o / o. The effects are based pi pi impact the individual pedestrian (see chapter 4.4.1 Use of the reflex).

4.4.3 The use of bicycle helmets (4.10; updated 2006)

A meta-analysis of studies of the effects of helmet (Permitted Well, Glaser and McFadden, 2001) suggests that pi cycle helmet reduces the risk of head injuries with 600 / o, the risk of home injuries by 58%, the risk of facial injuries by 47Yo and the risk of fatality with 73%. The risk of neck injuries, however, happens with 36%. All effects are statistically significant. The results concerning use of the hard helmet. Soft helmet has only a small power not statistically pilitelig (Elvik et al, 1997).

It can not be excluded that the results of this meta-analysis of publication pivirket-bias and therefore give an exaggerated picture of the effectiveness of bicycle helmets is. Many of undersskelsene's evaluations of the effects of pibud about cycle helmets. Most sub-sskelser not control for long-term trends. The results are therefore not necessarily a expression of the impact of the helmet pibudet pi head injuries. Robinson (2001) concludes that the reduction in head injuries as other authors ascribe pibudet just due to a long-term trend in the relationship between head injuries and other injuries.

Based pi results of Permitted Well et al and pi hospitals reported cyclist injuries (Veisten et al, 2005) is in Table 4.2 calculated differential effects pi injury. Head and brain injury inspires as serious / very seriously injured. The effect pi minor injuries are estimated as the average effects of pi facial and neck injuries. Since the head and facial injuries constitutes approx. 20Yo of all doctor treated bicycle injuries (Bjorn Skau, 2005) is effects of damage does not kill multiplied by 0.2. Because of uncertainty in the empirical results about the effects PFL injury and potential effects based medical pi background effects are pi injuries rounded, and the effects are anslitt pi killed in a vrre ph20% reduction.

Results on the impact of helmet pi risk of personal injury accidents per cycle-km is ambiguous. According to research from Australia and New Zealand where the helmet is pibud ocher risk per km of bike-I4%. This effect may be that cyclists are uforsiktigere nir the bikes with helmet (Bjorn Skau, 2005). Other investigations found no correlation between the use of bicycle helmets and cycling behavior (Towner et al, 2002). No found undersskelser about the differences between cyclists who wear helmets and cyclists who do not ttlelm use. It is possible that it is the racers with the most rabid kjorestilen using helmet, or that it is the most careful riders who use helmets. It is also possible that depends on whether the cycle is pibudt or not who bikes with and without a helmet. Because the great uncertainty associated with the results, the effects of helmet pi risk per kilometer bike not include pea in Table 4.2.

4.4.4 Measures Skt use of bicycle helmets (new measures in EffektKatlog20D \ (4.10; updated 2006)

According to the NPRA tilstandsundersokelser about 55o / o of all cyclists under 12 ir and Iag30Yo of cyclists from 12 k6 helmet. Helmets are not pibudt, but it is a e flour increase the use of helmets among bicyclists. The use of bicycle helmets can skes bide with volunteers measures and with pibud of cycle helmets.

Effects of measures pi injuries are a product of three deleffekter:

- Helmet Effect: Bicycle helmet protective effect (see Section 4.4.3 Use of cycle), this effect is dependent on how large the increase in the use of helmet is.
- Behavioral effects: The effect of the cycle with a helmet pi cyclists risk of being involved in accidents. If the use of bicycle helmets is related to less cautious behavior among the racers, the protective effect of helmet use several completely or partially oppveges (see cycle).
- Exposure effect (only pibud of cycle): If a pibud the use Bike Helmet hazards that cycling is less attractive so that cycling is reduced to this, all else being equal, lead to Farre injured cyclists. Exposure effect is different in different countries. More undersskelser suggests that mandatory helmet ph fsrer to reduced cycling among young people, to a reduction forbigiende among bam, and no reduction among adults (Hagel and Pless, 2006).

Voluntary measures for the use of bicycle helmets include information, personal contact (eg with parents), belonningssystemer and free helmet / off systems. Effects pi use of helmet stsrst for combined action of several 6d. In undersskelsene who have so far been through quickly seeks voluntary measures the proportion of cyclists who rides with a helmet maximum TLL 50% among children and adolescents and to 25-30% among adults, but there is considerable variation in results (Nol6n and Lindkqvist, 2003). Compared with most countries where surveys were reviewed fast is helmet use in Norway is already a relatively pi Hayter nivh (55o / o bam among under 12 k2 and 30% among cyclists from 12-ir). It is therefore possible that a Hayer nivi of helmet use can oppnies with voluntary measures than in other countries.

Pibud about the use of bicycle helmets (in combination with information) has effect stsrre pi using cycle than by only using voluntary measures. Percentage of cyclists using cycle after a pibud of cycle varies between 46% o and 85%. The effects are stsrre for bam / adolescents than for adults (Noldn and Lindkqvist, 2003). According to several undersskelser from Australia and New Zealand leads pibud about the use of bicycle helmets to a net effect of 22Yo Farre cyclists with head injuries. It is the combined effect of an increase in helmet use from 25y, TLL 60Yo, a reduction of head injuries pi 25Yo, Skt risk per cycling k * pi l4oh and a reduction pH of cycling 29%. Pi same mite was estimated effect of pibud cycle in Norway. The math is based pi following assumptions: Helmet use is nine 30o / o, use of helmet fsrer TLL reduction of damages mentioned in the previous chapter, risk of accidents per cycle-km happens with l0% and a reduction of cycling Arrow I0%. The effect pi pe cycling and risk as bicycle kilometer were found in all undersskelser and therefore anslitt maneuvers in slightly lower than in Australia. The results are shown in Table 4.2 and shows that helmet use Skt fra30oh to 50o / o gives 4% reduction in the number of cyclists killed and 2% o reduction in the number of severely injured cyclists. Similarly, an increase in helmet use from 30% TLL 75% 9% reduction in the number of fatalities cyclists and 5o / o reduction in the number of severely injured cyclists.

In Norway, the siren in 1995 and 2004 an average of 13.1 vnrt cyclists killed and 832 injured cyclists and ir (SSB). An increase in the proportion of cyclists who wear helmets from 30 to 50% would danger tll0, 5 frerre fatalities per k6 o92, 9 fren injured. A skning the proportion of cyclists who use hj elm from 3:00 TLL 7:05% would lead to 1, 2 fewer killed and 46 fewer injured per ir.

4.4.2 Measures Skt use of fotgiengerreflekks (4.8)