Examen Environmental and Transportation Economics - Januari 2020

1. A road is used for both local transport as through transport. 13000 vehicles pass through of which 6000 are local vehicles. There are also 2000 local user of bikes and public transport.
- a trip is 10 km
- without congestion the maximum speed is 100km/h
- now the speed on the road is 20km/h during 1 peak hour
- value of time is 10 euro/h
- for the other modes (bike and public transport) the first has a gp of 5 euro and the one in the user equilibrium has a gp of 8 euro
- Bike and public transport don't suffer from congestion as they a seperate path alongside the road
- people are indifferent between choosing a vehicle or bike/public transport and demand is constant

give the equations of the user equilibrium (5 lines)

Is there an optimal tax/subsidy? (8 lines)

What is the welfare gain? (8 lines)

Would implementing a subsidy for bike paths and public transport have the same effect as implementing toll? Explain (8 lines)

2.   Motorcylces are not allowed in some street because of extreme noice. Cars and bikes are still allowed for. Is this a good policy? What would you suggest?

3.   Cost/gp for car is 100 euros. The government wants to implement a tax of 40 euros. The elasticity of demand is -0,5. What is the impact of this tax on demand (=Q), price and something I forgot.