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## INTRODUCTION

This contribution to the road pricing project in Holland is a dated, limited picture of the future mobility analysis and strategy which is currently in process by Planck globally.

Based on the published request for contributions of both the Ministry of Transport and the Ministry of Finance of Holland, the team of Planck Holland has decided to submit the current "on the road" conclusions of mobility project development in its current stage, empathically highlighting the "on the road" characteristics of this stage of analysis and strategy.

Planck Holland is a team of future specialists, dedicated to analysing future developments for corporations and governments through extended background thinking. The Planck Holland team operates globally in cooperation with other Planck teams, which are formed by Gijs Graafland.

We know that the presentation method of this contribution cannot be perfect for several reasons. First: This contribution is made in the process of Planck's own mobility project strategy and vision project: it's no more than a blueprint of the definitive Planck Mobility report which will be (like most Planck reports) concentrated on one page. Secondly: This contribution is an unpaid project, which limited the input of staff hours and secretarial support. Thirdly: All Planck reports are by definition not super perfect in presentation.

A simple method of presentation makes a distinction among the receivers of this report directly and very clearly: on the one hand visionary specialists, on the other formal specialists. Each project needs these two parties, and it saves lots of time when everybody's speciality is clear from the start. They don't like each other, but in reality they need each other very badly. Like light and darkness, or left and right. Strategy is always a combination of both visions and formalities. Without formalities visions remain just visions and never become an active strategy.

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The Planck Team

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## THE THREE ESSENTIAL DEMANDS ON ROAD PRICING

The first demand on road pricing is clear: It has to reduce traffic congestion substantially. Traffic congestion has long been seen as an unsolvable negative product of prosperity. Times, however, have changed: civilians and companies become more and more demanding towards their governments in solving this issue. The combination of prosperity and traffic congestion is more and more perceived and explained as governmental malpractice.

The second demand on road pricing is just about chilly figures. From each road pricing euro the net result must be as close to 100% as possible. This important demand is threatened as soon as governments leave solutions too much to the design of suppliers. On the totally other end road pricing suppliers are also fixated on obtaining as much as possible of each road pricing euro. This are two strong completely opposite powers. Civilians and companies are becoming more and more critical about any type of tax spending. A high net result (total incomes minus total costs) will be the second demand on road pricing in line of importance. For inefficient use of national money there is less and less political space.

The third demand on road pricing is secure ness of the privacy of civilians and companies. Both civilians and companies are not amused about the threatening idea that the government registers their physical movements. Only one major change of type of government and these instruments can be used to control people and companies. An illustration: The headline (!) on a special election front page (!) of the Dutch national newspaper De Volkskrant (!) of May 1, 2002: "Civilians find governments ignorant. Prosperous voter withdraws and takes care of his own issues." Both civilians and companies are not waiting for a government that registers something basic as people's private or corporate movements and so takes, at least potentially, more control of civilian and corporate functions. Registration of such essential data as movements of civilians and companies is outside any governmental mandate. This type of registration threatens civil freedom and corporate competitor ship, the two fundaments of any free parliamentary capitalistic open democracy. The current political trend can be characterized by the conclusion that civilians and companies have an increasing dissatisfaction with the functionality of the government. This is a sensitive issue: Governments rule more by the grace of trust than by the chilliness of power. This delicate balance is crucial for the function of a parliamentary democracy. In the USA this important facet is historically out of balance. The current generation of Americans is born out of parents that have come from other countries to get freedom these countries were not giving. Americans have an inborn suspicion against governmental control. A recent tragic example of this fire burning under the surface is the Oklahoma bombing, which was directly linked by the culprit to the Wako incident, overpowered by the FBI. In the USA people say regarding the Oklahoma bombing: "We have met the enemy and he is us." Good governments rule on the small (but essential) base of trust. Bad governments rule on the (also) small base of violence. To make a long story short and come to a governmental conclusion in this context: Governments need to handle road pricing very delicately. Road pricing involves basic liberty issues, and therefore needs a lot of thinking before acting, because it can damage the fundamentals of today's society. Corporations will not accept that competitors can buy a corrupt official to get their client location data or client visit data. Today any debt collector has relations within the IRS and can get all fiscal information of anyone. It's clear that governments (and their departments and officials) see neither the positive possibilities nor the negative dangers of ICT very clearly.

Both civilians as well as companies are perceiving governments more and more as just service institutes. They pay tax and they demand services for their money. This new look on government is a result of the intellectual maturing of society. Governments that are serious concerning their function, better adjust themselves to this intellectual maturity. Those that don't adjust, will find themselves more and more out of the centre position in society. The same influences that brought communism down (party policy and officials are the centre of any thinking), now knocks on western governments. Excessive control of civilians and companies will result in a natural born freedom creating movement. Total control doesn't have a long life in the history of the world. The concept of total control is opposite to the very nature of people. To this delicate balance road pricing can become a burdening weight. The stakes are high. On both sides: Traffic congestion solving and maintaining the base of trust in of civilians and companies in their government. Road pricing is a very delicate issue. Let it be solved by technology worshippers and the people will start hating governments. And we not even want to think about the consequences of such a development.

Planck people are technologically very up to date. We think that we have in technological knowledge a head start on many companies and government officials and bodies. We avoid, however, isolating technological knowledge from the societies it will be implanted in. The results of a blind worship of technology include nuclear rockets and biological dangers like anthrax. People (and the companies they work for or invest in) must be the central issue in governments and technology. Technology can support people and their environment enormously. Let's use technology to the maximum for such purposes and be alert about abuse of possibilities.

## BEST TECHNICAL CENTRAL LOGGING ROAD PRICING SOLUTION

### PASSIVE LOW WATT GSM BASED SOLUTION OPERATED BY TELCO'S

This technology is completely based on a very inexpensive (less than E 25 production costs) in-car mutated stripped GSM device, which is capable of sending the standard alive data packages, embedded in the GSM protocol, in a higher frequency than a normal GSM cellular phone, and which has a lower amplifier power, which gives a lower reach of the device of several hundred meters.

There are many reasons to choose this technology: The main reason is of course the absence of the need to build a new national extra-car network. Because the telco's already have operating nationwide networks, nothing has to be built. Therefore the implementation of this solution doesn't bring about any extra traffic congestion nor a giant extra-car network cost. The telco's are open for any new source of income (and this is an understatement; they need it badly). The telco's have proven to be reliable business partners, serving daily millions of private and corporate customers.

The telco's only need some new software to analyse the standard GSM alive data packages in relation with road pricing routes in combination with the specific route road pricing tariffs. There is no other extra-car hardware necessary, maybe the telco's need more ground station density on the highways, which can be realized on the sides of the road information infrastructure. The intra-car solution is a simple battery less, car battery powered GSM phone with a lower amplifier than the regular cellular phone and maybe a higher frequent location data package transfer. The best amplifier power range must first be tested and then propagated. The GSM network logs the car movements and the telco back office analysing and invoicing software takes care of the rest.

This solution is the best functionally, the simplest to implement, the easiest to operate, the lowest in costs, the highest in income, of all technically central logging based solutions. There is no better technological central logging system than the one described above, all others will require a new extra car national infrastructure, with all connected investment, realizing and operational issues. Above described system gives on all counts the best score by central logging. Police officers may test cars outside (not inside!!) on signals and can issue tickets with high fines if the device is absent. People can test the in-car equipment through their own phone shop. People can login to the telco's online accounting system to see their road pricing data.

The extra possibilities of this in/out car system are of mixed character, both good as well as frightening: Car registration, car theft solving, car locating (super scary), traffic stream information and even speed control and ticketing. These additional possibilities for use and the chances at both governmental private and corporate abuse, should bring up doubts. A government that knows where civilians are on a specific moment is scary. Abuse can be reduced, but it's a dream of blind ICT amateurs to think that there will be no governmental / private / corporate abuse of these data.

The solution described above, is the best technological central logging solution (less investments, high net output, quick implementation, no traffic congestion caused during installation, etc.), but like many mere technological solutions it is absolutely against everything the western world has fought for over the last 500 years. Realisation of this kind of technology will only be done by governments that are blind for both the positive and the negative possibilities of ICT in general. There are much better ICT related traffic congestion preventing solutions.

In Holland we have seen that the political structures can be changed gigantically within less than one year. Maybe this motivates to prevent current governments to install this kind of technology. Who today holds the buttons is clear. Who holds the buttons tomorrow is never clear. This technology has a too high impact on basic rights in a free society. Let's prove to ourselves that we can maintain a free society for longer than 60 years before we start to think of installing this kind of technology.

One of the reasons the loss of Jewish lives in Holland during the Second World War was higher than in any other non-German European country was the perfect condition of the civilian registration in Holland and the fact that government officials loved the administration too much to destroy it before it turned from a source of societal order to a source of societal destruction. Let our democracy first develop further before we consider this technology threatening our freedom of movement. For the sake of every recently repressed group in society (from gay people to Islamic people and everything between these two groups).

The look of the wealthy civilians and companies on government is changed dramatically the last year. Government is no longer taken as a granted institution. Government has become an important supplier for several important products with very critically focused customers. The human society has entered its mature state of development. Road pricing by movement logging doesn't fit quite right in this picture.

## BEST TECHNICAL DE-CENTRAL IN-CAR LOGGING ROAD PRICING SOLUTION

### PASSIVE IN-CAR LOW WATT GSM MEMORY SOLUTION OPERATED BY TELCO'S/OIL COMPANIES

This road pricing technology is based on in-car logging of externally sent GSM echo's. The storing of these echo's with a time stamp is not done centrally, but in the in-car device. Whether the new location analysing services, which most telco's recently have set up, have to be used is disputable. It is not necessary, because the system works also without these new services. This in-car and de-central logging system guarantees the important constitutional right of autonomous movement for civilians and companies.

Oil companies read wireless this in-car device automatically when a car comes to their station to buy fuel. It analyses the movement data, calculates the road pricing amount and checks last value plus kilometre/fuel value received from the central system. In case the fuel purchase and road pricing miles don't match the car's average figure, the car driver receives also a printed warning on the fuel ticket. Only the resulting data and calculation key deviations will be send to central governmental information systems (and not the route data).

This in-car logging system makes route and time dependent variable road pricing possible. Because the system is not based on central logging, it does not threaten the autonomous right of free movement for both civilians and companies.

The investments in central road infrastructure are minimal and will be done by the telco's which will be pleased by the additional income they will generate from this new use of their infrastructure. The investment in de-central invoicing infrastructure are minimal and will be done by oil companies. The government only has to install some central computers at the central payment handling locations that the oil companies use. CVV is an important company for gas station payment handling. The semi-central computers must communicate with the central vehicle information system of the government for getting the average value out of this systems and putting road pricing transaction data into this systems.

So road pricing payments can be handled by the oil companies through their gas station outlets. Another possibility is initiating a new invoicing structure, or using the current car owner tax systems and organisations, because road pricing will lead to the termination of car ownership taxes and this will end the activities of this part of the tax organisation.

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## LIMITED ROAD CAPACITY EXTENTION BY INVESTMENTS

In the light of the coming ICT wave extension of the overall road capacity is investing in the past. Just as investing in water roads in the beginning of the last century was a bad investment at a moment that the world was already changing to road traffic, investing in overall road capacity in the beginning of this century is a bad investment. The times are changing much more quickly than one hundred years ago. The coming ICT wave will have as a result that within 5 years from now (so before 2007) it will be possible to get speed tickets on the highways to the major cities of the world in both the morning and the evening rush. This coming ICT wave will reduce office traffic enormously and will reduce the traffic streams in the rush hours to normally flowing streams without traffic congestion.

A capital with the size and economical weight of Amsterdam that has only 3 connections with the northwestern part of Holland is underdeveloped in its infrastructure for the current traffic situation, and the daily traffic congestion is the daily proof of this fact. There is also much traffic congestion on secondary roads to middle sized cities. The fact that these traffic jams are not mentioned in the news bulletins, does not imply that they're not there. No government in the past could calculate the current number of car movements or the locations where they would take place. On the other end: Almere has been extended substantially without any governmental traffic policy to the Amsterdam region.

So the current problems has two causes: First, explosively growing traffic streams. Secondly, a government structure and policy that always walks ways behind the developments. Concerning infrastructural issues maybe that's the best attitude, because infrastructural policy failures are very expensive and cost next generations money for wrong, unused products. The Betuwe Rail Road is a perfect example of a waste of infrastructural capital: the waterway container solution has much more geographical coverage than one rail road, is much cheaper and takes only a few hours more transit time for a container. And much more important: it is completely setup and operated by market parties without a single euro governmental risk or cost.

Investing in tomorrow's infrastructure, however, must not be done based on the reality of yesterday, but only on the predicted reality of tomorrow. The reality of tomorrow is absolutely not drawing the curve of yesterday further. The old stat(istic) future model is only calculating from the past and is not reckoning today's and tomorrow's changing influences. Only after an analysis of today's and tomorrow's influences an adequate investing plan in new infrastructural capacity can be done. The fact that this isn't done, is a signal of today's governmental short term focus leading to blindness for the future. New research must be initiated as soon as possible and must be performed by a combined team of the old statisticians and knowers of today's and tomorrows technological developments. This combines the best of both the past and the future under the guidance of the knowledge and experience of the past. The best example of "how not to do" is the housing project the Bijlmer in Amsterdam from the middle of the last century. It was a fact that there was a housing problem. The forgotten fact was: What direction the housing market was moving to.

There are some small investments possible that will solve traffic congestion substantially. Most of these treatments are similar to cardiology. The traffic throughput of both highways and some secondary roads can be increased by some small, but essential highway shortcuts and bypasses. This must have priority, because the investments needed are low, and the effects are high. An example: The low priced traffic circle bypasses (like near Joure, which is only too cheaply implemented, so the road speed has to be brought back unnecessarily, which paradoxally will lead to many easy avoidable accidents). The short extra high way driveways (like at the A27 Almere/Utrecht before Hilversum, where some miles of one extra driveway have solved some daily returning problems). Everywhere where some miles of extra highway driveway will solve a bottle neck in a highway this must be done quickly. Where small investments with high results are possible, they need to be done. These are not new roads, but optimizing of the current road net. Of course these investments this time need to be implemented without the many unnecessary roadwork traffic congestions that are now regular.

## LIMITED ROAD CAPACITY EXTENTION BY LEGISTATION

Another way to reduce traffic congestion is by improving or adjusting the current legislation. Traffic congestion can still be much reduced by better traffic management and adequate congestion prevention. In cases where there are no external parties involved and the governments (or her contractors) are the only parties, legislation is maybe too heavy a word. Definition of optimal handling / response scripts is then a better wording. The purpose is to ensure that problem solutions are based both on the practical situation of locations and the best theoretical possibilities. Now many situations are managed by incident management, which results in unnecessary slow restoring of the road throughput. In case there are other parties involved (like in ship legislation), the only way to adjust current situation handling is by legislation.

Traffic accidents cause each day a lot of traffic congestion. A flexible legislation, resulting in action scripts to deal with accidents more quickly, as well as measures preventing them, is needed. In the USA lots of traffic congestion in the rush hours is caused by broken cars on the highways. In Holland this problem is almost absent thanks to the APK legislation. In the USA this problem is treated in a very American way by a tax reduction on buying a new(er) car. Back to Holland: A lot of traffic congestion is caused by traffic accidents. Traffic accidents aren't preventable, they just happen and they happen more during the hours when the traffic increases. A quick accident removal response method will solve traffic congestion substantially.

Lost freight from trucks causes each day a lot of traffic congestion. A flexible legislation or action script on solving and preventing these incidents, should lead to a better and quicker response on lost freight on the roads, which damage the road throughput. A quick lost freight removal response method will solve traffic congestion substantially. But there is also a typical legislation solution. Legislation that holds truck owners and/or truck companies responsible for the damage caused by the lost freight of their trucks. They would cover this by insurance, but claims will reduce their no-claim bonuses and therefore it will certainly have effect on better truck loading practice.

Road maintenance and road extensions are also a major source of traffic congestion. The good part of this type of traffic congestions is that they are by nature temporary, and that the roads afterwards have a higher throughput than before. But there is a lot of unnecessary traffic congestion caused by road works. Here also more throughput optimization knowledge is needed than the common road building or road maintaining company has shown to the road customer the last years. Road work contracts must have traffic throughput clauses. Governments and road work companies must initiate together a task force that is specialized in maximum throughput knowledge. Companies like Saan maybe can develop to specialize in this area. The current road work management, focused on the work mainly and not on continued traffic throughput during the works, can easily be replaced by good road works purchase management and purchase contracts. Traffic congestion by road works doesn't cry out for adjusted legislation, it simple needs better governmental management.

Some change in shipping priority rules will also prevent some daily traffic congestion. This traffic congestion solving and preventing issue can be easily attained by adjusting the ship priority legislation on some items. There are just some new ship rules needed. Thousands of cars waiting for one recreational ship that passes a highway bridge is a situation we can not sell anymore in the current time-is-money society. The traffic congestion on the A1 (Amsterdam / Amersfoort) near Muiden is a perfect example of a few pleasure yachts causing irritation among a very large numbers of car drivers. Freight ships, however, prevent a lot of road traffic and must hold their priority position in the bridge legislations.

## UNLIMITED PREVENTING SOLUTIONS

Like in all things preventing is always many times better than curing afterwards. This is also applicable to the subject of traffic congestion. Much better than controlling traffic congestion based on actual mobility needs, is preventing congestion by active mobility needs changing policies.

There are some policy changes that will have huge effects on traffic congestion. Some of these have no or less social resistance, others have huge social resistance. The bottom lines will be: First: Will traffic congestion really be solved. Secondly: Can this be done with other road pricing based on digital movement logging, also the worst practical solution. In our opinion there are much better pro-human and pro-freedom ICT based solutions to solve traffic congestion than Big-Brother-like governmental movement registration. The fact that such a major issue is discussed without any warnings whatsoever, illustrates the poor vision of governments on both positive possibilities and negative dangers of ICT for societies.

A renewed look on the functions of the city regions is necessary. There are some central serving functions concentrated in some places which can be done better (read: without traffic congestion problems) elsewhere. An example is European holiday or short distance European business flight traffic. This traffic exists now the year round and not just in quiet holiday months. More such flights using regional airports can fulfil these mobility needs better than national airports, especially because national airports also have air traffic congestions, thus doubling travel stress and travel time. This concerns governments, dealing with major public functions like airline licences, but it also applies to all companies as regards both production plants as well as office farms. Some accountancy firms have relocated themselves. They left the cities and put major office buildings in the dormitory suburbs. A town like Almere, which has space enough, profits on a large scale from this development. This process of moving functions and companies to attractive suburbs has just started and has a long way to go. Each move in this development reduces traffic congestion.

A total new look on phone numbers and geographical locations is also necessary. Companies move to Amsterdam, just to be located in a global capital (or for example to Arnhem to be located in a regional capital). The three digit numbers (like 020) must be released for each company that wants it. All companies in the neighbourhood of major cities must be allowed to use the city's name. The legal use of Amsterdam-Almere (instead of plain Almere), or Amsterdam-Laren (instead of plain Laren), or Amsterdam-Schiphol (instead of plain Schiphol) will give decentral locations the trigger they need to attract companies of which the employees want to do better things with their time than unnecessarily partaking in congested traffic. This super effective secondary naming must be legalized as soon as possible.

A better traffic congestion information is called for. The current information screens above the highways with alternative routes work fine for users of that highways. But graphical presented traffic congestion will prevent people to drive to these roads. Current voice based low effect information will be replaced by website, i-mode and cruise control based easy to interpret graphical information. Extra travel time of roads will be displayed exactly.

Theoretically there is some traffic congestion prevention that can be realized by flex work. But this development will not start automatically. It needs promotion of the concept. It needs more human office environments. Companies that export, import or service companies in other time zones can realize a head start on competitors by flex work. For flex work some tax discount is necessary as a starting stimulating factor. Holland as international business country can economically benefit from this development. Doing business with companies in other time zones will be stimulated by this. But business communication becomes more and more email mediated and this has less time zone connections than phone communication.

But the most important traffic reducing development will be the home office based on flex work. This development will reduce city based office hours per employee enormously. The hardware (pc and gsm) is already years among us. The infrastructure (cable and asdl) is already there, the software environment (Novell Directory Services, Microsoft Active Directory and total web based company structures like asp, dotnet, php, js and many other standards) is implanted now in most companies. The effects of the combination will result in growth of the missing link: The acceptance and realisation of more home based production for digital and communication based jobs. This will result in a decrease of traffic in the rush hours, which will result in disappearance of traffic congestions in the rush hours. This technological development correlates with several social developments. People turning their backs on small houses in gardenless housing concentrations. The combined part time parenthood / careers of both parents. The frustration about the loss of time in travelling (with or without traffic congestion) in busy daily time scheme's. The home office will never replace completely the city office. But people will attend the city office only one instead of the full five days a week. This home office development will solve within 5 years all traffic congestions on all roads. Traffic congestion is caused by that small percentage "too much cars". The home office development will reduce this too much cars situation completely. What must governments do to stimulate this development? We think that the actual development does not need any governmental support. It's just the way information technology will take us. The government can provide some conditional incentives. Clear tax rules (or reductions) for home office equipment and for house space used for office purposes. Maybe there is governmental stimulation needed concerning information about home work technology. Concept information and technology awareness can be broadcasted for a short time. Plus a supplier independent database structure with no governmental opinion, but with user rated solutions. Also a reform on countryside or agricultural land policies will support this major development.



## THE BEST PRACTICAL NO LOGGING ROAD PRICING SOLUTION

If government decides not to take the road of stimulating an ICT based economy, but stick to road pricing as the main facet of governmental traffic reduction policies, the big question that then pops up is, why this must be done by a method with high social and economical risks for both civilians and companies. Reducing or damaging their autonomy by movement logging equals taking severe social and economical risks.

There is a simple road pricing method that not enters the autonomy of civilians and companies. It's called fuel tax. After this word is dropped, further discussion is usually no longer rational. This is the trigger word for shutting down all political cohesion. But let's look on this issue rationally.

The implementation costs E 0. That is something we cannot say of any other road pricing solution. The reason is that the administrative infrastructure already is functioning. From each litre of fuel the government gets already its share. This E 0 implementation cost is a strong argument in a political climate where each major spending of money is difficult. The complete administrative and ICT infrastructure for fuel tax is already available and working. There is no implementation risk or trouble.

The operation costs E 0. That is something we cannot say of any other road pricing solution. The reason is that the administrative infrastructure is already functioning. From each litre of fuel the government gets already its share. This E 0 operational cost is a strong argument in a political situation where each major spending of money is difficult. Any other road pricing system will not result in a 100% usable fee. Costs of other solutions can go up as far as 50% of the revenue. The complete administrative and ICT infrastructure for fuel tax is already available and working. There is no implementation risk or trouble. Any other solution will relatively be a waste of tax payers money, and that's a construction no tax payer and no government is waiting for.

The implementation time can be short in theory. But then the first practical implementation problems start. It has to be done within the whole European Union. Otherwise people in border area's will go by car over the border to buy fuel. Maybe this is a good test case whether the European Parliament is able to handle important issues which are a benefit for all member states.

The implementation can also give national political problems. Both political parties, as well as civilians and companies will not cry of joy for any road pricing solution and certainly not through fuel tax. This problem can be solved. If at the same time the car ownership tax disappears the criticism will be severely lower. When from the same day the governmental earning on mobility will be re-invested in mobility the criticism will be also considerably lower. When the air pollution will be lower it also helps in selling this solution to both people and companies. But first the political parties have to be convinced that there must be some traffic congestion treatment. That digital road pricing is an assault on basic autonomy in a free and open democratic society. That digital road pricing is a waste of tax payers' money, both in investment as well as in operation. That digital road pricing will increase governmental spending of each earned euro in the national economy. That any government true-heartedly believing in freedom and democracy, rejects the system of digital road pricing as in conflict with the principles the society is built on.

Governmental officials that are in charge of solving the traffic congestion problems can hire companies like [www.best-policy.info](http://www.best-policy.info) and [www.press.nl](http://www.press.nl) to communicate arguments to both politicians and civilians. Press Sure is specialized in attracting media in a way media want to be attracted. Best Policy is specialized in communicating with politicians in a way politicians and their parties and other main movements in society are open for issues: By communicating analysed and motivated facets of each involved issue in road pricing. This will result in less resistance against fuel tax, because other solutions are so much worse.

There is one minor disadvantage to fuel tax as a road pricing method. There is no route or time of day grading possible. However this one missing facet is compensated by many other positive facets and the effect will be the same: The number of cars on the road is less a time and route problem (these are daily static values for people and companies) and more an overall mobility issue.

Fuel tax also reduces the CO2 national emission severely. This is necessary to prevent that the Dutch government does not realize the Kyoto emission norms. When these norms are not realized the Dutch government can face severe penalties on the extra emissions caused by signing this international agreement, which is so important for the world (and for sure for low lands like the Netherlands), and which has been accepted by most countries.

But fuel tax will not be necessary. Governments that anticipate right to the coming ICT wave will see traffic congestion disappear like snow before the sun. It's clear that this solution is better than expensive digital road pricing and even cheap fuel tax (even if the last solution gives the 100% of the pricing, without almost any costs).

## CONCLUSIONS ON ROAD PRICING

We mentioned it already: Approximately in 2007 the traffic congestion problem will be solved by the coming ICT wave. The hardware (pc and gsm) is already years among us. The infrastructure (cable and adsl) is already there, the software environment (Novell Directory Services, Microsoft Active Directory and total web based company structures like asp, dotnet, php, js and many other standards) is being implanted now. The effects of the combination will result in growth of the missing link: The acceptance and realisation of more home based production in digital and communication based jobs. This will result in a decrease of traffic in the rush hours, which will result in the disappearance of traffic congestion in these rush hours.

Mobility must not be punished. It must be steered, or (better if possible) prevented. Governments are at risk concerning this issue, potentially cutting their own roots. It is save to state that their licence to govern is directly connected to the way they will solve the mobility issue. Both the proof of their determination to solve it and the proof of their determination not to create an over controlled society are at stake.

The history of the former USSR has proven that civilians and companies together kick too extrovert governments out of power. This difficult issue has to be addressed. Technological solutions that decrease basic human rights and threaten corporate competitor ship environments have to be thought over thoroughly. Road pricing by digital movement logging is creating infrastructure which can be (repeat: can be, we don't say will be) used by total control seeking governments, who put their own interests before the basic values of an open democratic and free market based society.

An active government that does not walk miles behind the technological developments (and we don't mean big brother technology, but the general technological direction) will be granted a solution to the traffic issue in the same way it has grown: Just by itself. This seems contradictory, but active knowledge and passive behaviour can be a good marriage: Travelling a river is much easier that digging a channel. Even more so when the channel never will be used as planned by technological and societal changes.

Traffic congestion is a product of a post industrial society. The now developing digital society may have traffic congestion before the Amsterdam Internet Exchange (the digital hub of Holland), but that problem is already solved by realizing other Exchanges in Groningen, Rotterdam and Enschede and by much other peerings. As with container traffic and the Betuwe Rail Road or the waterways solution: The market solves this kind of problems better, quicker and at a lower price than any government ever can do.

Should a government invest in digital infrastructures for home/work integration? No that is not necessary: The market gives these facilities for comparative prices pointed to market needs. The only thing governments will need to do is developing laws ensuring continuity for digital traffic. Connections and domains need owners' right protection. Domains and connections must be protected legally in case of bankruptcy of suppliers and must also be protected by law against governmental and big market parties influence.

Should a government do nothing? No they have to react actively and in the right direction. They must chose not to solve the problems of yesterday. Active things governments can do are stimulating both the digital look on home work places and other geographical spreading issues. But this needs nothing more than governmental (Postbus 51 in Holland) media spots and a supporting website. Any other action is a waste of money and will damage the image of the government. The government doesn't understand actual technology and never will: This is a fundamental difference between 9 to 5 working governmental officers and 7 till 24 working tech-nerds and entrepreneurs.

What can a government actively do? Creating a legislative basis and support for decentralisation. By reducing the legislation barriers of countryside development. By giving suburbs the legal possibility to use the main cities' name. And there are many more possibilities. More on active policies concerning stimulation of living suburbs can be found on [www.planck.us/future/agriculture](http://www.planck.us/future/agriculture) and other issues analysed on this site. Planck is willing to help departments with creating this concept of developments adjusting to rising instead of descending. The best thing the Dutch Government can do is dealing with the future in stead of solving the past.

Governmental officials that don't see the current developments, should not be in office, but that would be a problem, because their would be only a few left. Governmental officials that want assistance in grasping technological developments, can hire members of the Planck team or of other technological/societal analysers in the area of active knowledge operation.

## SUPPLEMENTAL INFORMATION

### THE RELATION BETWEEN GOVERNMENTAL POLICY FOR AGRICULTURE AND MOBILITY

Agriculture has been the main economical stimulating factor for ages. Since the second part of the last century it has been changed from a prosperity source to an important money drain for governments (and so for societies).

A good example is Europe: Agricultural subsidies occupy these days the major part of the budget of the European Community. Agriculture has become the main problem by incorporating more countries in the EC. Agriculture has become a source of trade conflicts with other economical zones on the globe, thus damaging other local industries. Agriculture has developed itself into both environmental and animal hostile directions.

Having its own agricultural food production is a very positive facet for a country. This will always be the case. Especially in a world that has planned to use the fossil energy resources within 100 year from now. Most farmers are not pleased by the source of their current income: Governmental subsidies. They want to earn their own income in the profession they like: Being a farmer.

The governmental subsidies to farmers must end quickly, but without causing social problems, in the interest of all parties concerned. How to do this without other (just replacing) subsidies by governments who want to get out of debt instead of getting deeper into dept?

The answers for the problems of the agricultural industry are as simple as they are complex. If farmers are allowed to develop 1% of their soil for housing, this will give them an extra income which helps them to step out of the current rat race of more of the same for less money. This solution costs governments nothing and when combined with balance reduction of the agricultural subsidies per farmer on an individual basis, it even will release governmental budget pressure. A balancing per farmer by a standard balancing formula, will also make it an individual decision for each farmer: Staying depending on subsidies or creating an independent future.

Environmentally concerned people may be against this development at the moment. But we need to digest the work of Schumacher, the first ecological economist of the world, with major governmental impact in the 50s and 60s of the last century on the UK government. In one of his books Schumacher describes his resistance against housing in agricultural regions. His conclusions after years of thinking on this problem was: It's not a question of yes or no, but more about the how of no. If the housing is done in a green way, it contributes to environmental diversity instead of disturbing environmental areas.

The landscape model in town and country planning has been overlooked by governmental officials, which have a unnatural drift to ordering everything in straight lines. The green border is nonsense invented by uncreative people. The compact city model is criminal to children, who get robbed of the last playgrounds and developmental environments they have. The compact city is an invention of professional environmental activists, who purposely only picture one side of the story and who have no vision whatsoever about the importance of the biodiversity of the areas concerned. Current agricultural areas are not quite bio-diverse. We don't need more bare industrial areas. We need industrial areas that are green. Only then economy and environment will become friends. A widely planned and diverse green decorated landscape model is much more environmentally adapted and friendly than the non diverse agricultural landscape.

Agricultural subsidies will disappear. If farmers get the possibilities to build for a start 1% of their soil (with a 90% green norm on this 1%), farmers will no longer need subsidies and will stop producing more of the same for lowering prices. Each farmer will become a project developer, including on-location infrastructure. This will reduce the budget pressure on local authorities. The market will solve the agricultural, housing problems and contribute in solving some environmental issues. If only 1% soil destination change is allowed the current house prices will not come under any pressure.

On the difficult question "What kind of living environment people prefer?", a simple answer is possible, in the form of just this one question: "What is the housing condition of the wealthy?" This simple truth is the final breakthrough for a more living countryside based national planning. This simple truth is also a big facet of the solution of the traffic congestion problems. Information technology will move the work place of an increasing number of people to their home offices. These people like for a major part a modern relaxed country style way of living (if there would be commercial de-central community facilities within range). This simple truth also matches perfectly the current trend of two part time working parents in an increasing number of families.

The latest version of this information can be found at [www.planck.us/future/agriculture](http://www.planck.us/future/agriculture) on the internet.