

Auroville and Mobility

Observations and Suggestions from a Traffic Planner



Summary

This is an essay by Karl-Heinz Posch, a traffic planner from Austria who visited Auroville twice for a period of several weeks in 2008 and 2009. He describes observations he made on the traffic situation in Auroville, including some inquiries he did while being there. The diagnose is rather negative – Auroville is swiftly evolving towards a fully motorised society.

He makes suggestion to improve the situation, mainly by promoting alternative modes of transport and by better managing mobility. He states that this work should be started immediately, as else the high aspirations for some future idealistic traffic situation will have no chance to be realised.

At the end he offers to hold a workshop in Auroville to help install a more systematic approach towards traffic planning.

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Introduction

I'm a traffic planner from Graz in Austria from Austrian Mobility Research, a company that works in both in Austria and on a European level for sustainable mobility. I am also the coordinator of the European Platform on Mobility Management (EPOMM).

In January 2008 I was 2 weeks in Auroville, and one year later, in December08/January09 I was again for 3 weeks in Auroville – both times for holiday purposes – not for professional reasons. In this time I got to know many parts of Auroville – took a tour with Ambre, visited many communities, and often inquired about traffic. I'm fascinated by Auroville as human and urban experiment and deeply impressed by its many successes – but of course I have also heard a lot about its manifold problems.

As a small contribution to the development of Auroville I contribute this text, I hope it will support developments here. I'm well aware that some suggestions might just not fit for Auroville or are might be too superficial, but I just did not have the time to do deeper research, and of course I have seen only the situation in January and do not know anything from personal experience about the other months of the year.

I mainly address the current situation and what should be done about it – but I believe that this is very important for the future development of Auroville and can also serve at least partly as a model of what should happen in other places in India (after Auroville I was a week in Bangalore – what a contrast!). I would like to thank Bunty, Nicole and David for providing some essential inside-information.

Observations

Positives

So let's start with the positive things about traffic in Auroville... there are quite a lot after all...:

- There's a great number of separate cycle paths, most of them are very nice to use. In this way one alternative to the car is already promoted.
- A scheme for a public bus to Pondi is being tested
- Auroville taxi services are fairly reliable and available 24/7
- A large part of the visitors go through the visitor centre and have to use the parking there, and most also use the outside road, not the inside road past Savitri Bavan.
- The parking at the visitor centre is paid parking – great! It is often very hard to achieve this, people tend to take free parking for granted and protest heavily, when payment is introduced.
- The visitor centre has acquired 20 nice bicycles and rents them out for 50R per day.
- From the visitor centre, people are supposed to walk to the Matrimandir, or use an electric shuttle.
- Several electric vehicles are in usage and under development and constructed on location, the electric bicycles can even be “test-rented”. The electric vehicles are partly charged by solar energy, there are even some special charging stations.
- There is the Auroville Mobility Concept for future traffic organisation (presented to me at Auroshilpam) that aims to ban the car from the central zone of the future city.



Bikes for rent at visitor centre

- There is a more modern concept for this future traffic organisation under development by the group “Dream Catchers”, which in my opinion overcomes some of the weaknesses of the Auroville Mobility Concept while maintaining the spirit of the original Master Plan.

Negatives

Some things are pretty obvious to most guests and Aurovillians and it was summed up nicely by the article “What a Shame” by Jonny in the first “News and Notes” of the year 2009:



Parking in front of the visitor centre

- The dominant mode of traffic in Auroville is the motorised two-wheeler – TVS or motorcycle. The share of cars is on the rise. Cycling on the roads at rush hour or during the night is not very nice and rather risky.
- In some places in Auroville, the sound of motorised traffic is already the dominant sound – as I even noticed when participating in the OM Choir in Savitri!
- I met a young Chilean woman who was run over by a motorcycle near the Matrimandir on January 1st and was, according to friend of mine who is a doctor and treated her, “close to breaking her skull” – to death in other words. Just one symptom of a creeping, growing accident rate.
- Motorised traffic is sharply growing, my estimate is 20-30% over the past year
- Nobody in Auroville seems to be doing much about these developments, certainly not in a coordinated way, and there seems to be no coordinated traffic planning authority for Auroville

Some not so obvious facts that I also noted as negative:

- There is hardly any information available on traffic policy, traffic facts, transport alternatives etc., certainly not for guests (in sharp contrast to the many other infos on ecology, forestry, water conservation, sustainable energy etc. etc.). In other words, when I arrive as a guest it is de facto almost my only choice to either rent a motorcycle or use autorikshas or taxis.
- Facts about traffic (traffic counts) are not collected in any systematic way. So there are no good data on traffic developments and none on modal split (the share of the transport modes)
- Following from this, there seem to be no targets whatsoever on what sort of modal split to achieve on short, middle or long term.
- Thus there is no “road-map” how to arrive from the present situation to the future, idealised Auroville. But it is illusionary that the traffic behaviour in the future will suddenly change to a new system, when almost everybody is already addicted to the usage of private motorvehicle, be it a car, a motorcycle or both.
- As more and more traffic moves through the city centre, it will become less and less attractive to live there – exactly the opposite of what should happen in order to develop a dense “crown” around the Matrimandir
- I have no proof of it, but it seems to me that everybody in Auroville is moving towards a sort of “Los Angeles style of living” – almost all trips are done motorised, as soon as anybody can afford a motorised vehicle. As workplaces, shops, offices, events, yoga classes, beach etc. etc. are quite

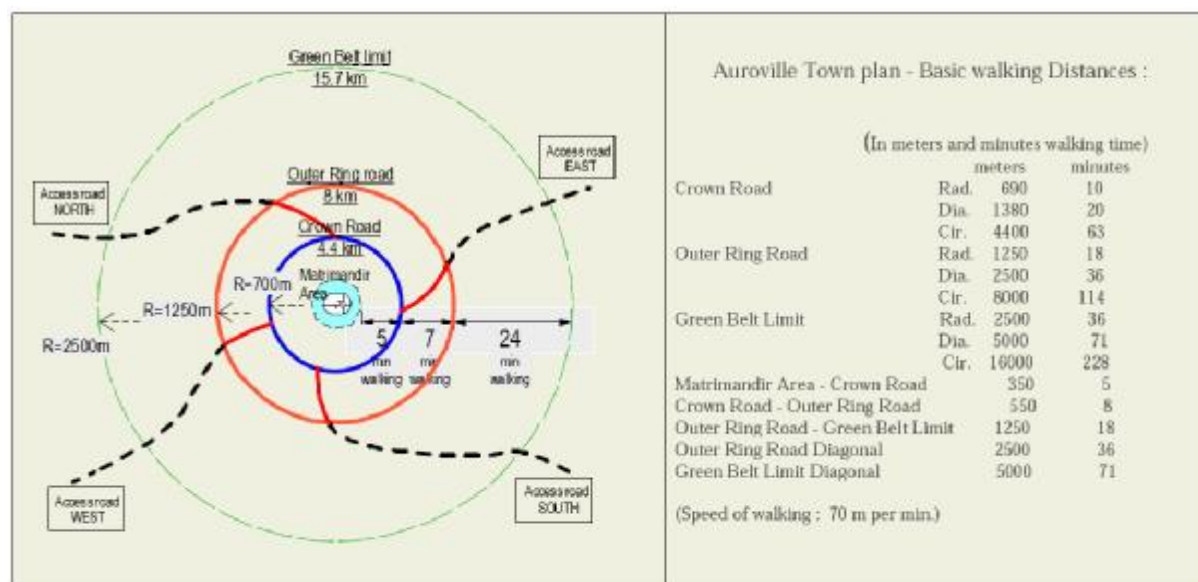
far apart from each other, walking is unusual, and cycling becomes less and less attractive. So, for almost everything you do – if it's not in your community – you jump on your motorcycle or into your car. Worrying!

My impression is that many people in Auroville are unhappy about this situation, but that the ideas on what to do about this, while well-intentioned, are uncoordinated and thus in sum quite ineffective. To this problem you can add the rapid motorisation of all of India – after China probably the most promising market for the ailing car manufacturers of the world. The ensuing additional pressure on Auroville needs no further description – everybody can see the development - with her/his own eyes – just look at the road to Pondicherry. So the pressure is on.

Some comments on the Auroville Mobility Concept

This concept was made in 2006 by Auroville's Future, approved by Roger Anger and partly based on a concept by the German traffic planner Billinger.

- As already stated: the concept is very ambitious and goes in the right direction – but does not include realistic assumptions on human traffic behaviour
- The street design is not explained in detail, but the impression is that it is primarily designed to serve the transport function, and not the much more important aspect of being a public space
- A speed of 15 km/h is simply impossible to enforce. Low speeds can only be achieved by appropriate street design and by imposing mixed use areas – so that car drivers must get the feeling of being “guests” that have to be careful and respectful.
- I like the idea of the service nodes to change the transport mode once you go inside the city – this principle is already in function at the visitor centre – at least for non-Aurovillians. And this might be the weak point: at the visitor centre, people will respect this, as they come for a single purpose –visiting! But imagine coming to the city with a car or motorcycle that can go 50, with things to transport, and being forced to change to snail mode, waiting maybe 20 minutes for a bus to be transported a mere 1-2 km, you might be quicker walking! People will hate this.
- There is a lot of information on shuttle busses or even trams, that will have a very low service quality – monodirectional, design speed of less than 10 km/h and intervals of at least 15 minutes, in the beginning 30-40 minutes. Will they run early in the morning? Evening? At night? Weekends? Experience shows that public transport hardly ever gets a higher modal share than 10% in small communities.
- There is precious little emphasis on cycling – they are to move on “separate paths” – and there is no provision for cycle parking. But in some new model cities in Holland and in car free areas cycling has a modal share of up to 60% !!
- There is no indication how to achieve the “idealistic state” in incremental steps from the current not at all idealistic situation, that is moreover rapidly deteriorating.



Graph and table from Auroville Mobility Concept (2006)

Suggestions

What follows is a rather longish list of suggestions to improve the situation – not all of them may be practical, as I'm only partly familiar with the situation here. Some of my suggestions apply to the situation as it is, some are more for the future development of Auroville as city. These issues are connected. However, the focus should be more on the present situation; I see it as building the bridge to the future – as stated in the third part of the Auroville charter: “taking advantage of all discoveries from without and within, Auroville will boldly spring towards future realisations”.

My suggestions are not neutral, they are my own opinion; it stems from many years of experience from my everyday work for establishing more people-friendly, more environmental-friendly, and more urban-life-friendly traffic in European cities.

Prioritisation

Almost all countries and cities in the world have given car traffic priority over every other mode of transport – with unintended, but disastrous consequences: millions of deaths, hundreds of millions of injuries, wars over oil, destroyed city living, enormous land use, enormous costs for roads and road maintenance, emissions, noise etc. etc.

Among traffic planners in Western Europe, the general opinion is that this has been a big mistake. Consequently, the repair troops are out, and slowly, city by city, policy is changing:

- The first priority is shifting to walking and cycling.
- Second priority is given to public transport and other collective modes like carsharing, carpooling, on demand services.
- The car has only the third priority.

Another priority are the means used. In Sweden and Holland, you get a permit to build new traffic infrastructure only after you have proved that the traffic problem cannot be solved in a more simple way: by mobility management. Mobility management is the information and marketing for sustainable modes. In other words, before you build another road, often transport problems can simply be solved by changing people's transport behaviour to switch from the car to cycling, walking or public transport.

Thus it should be in Auroville: put the active transport modes – walking and cycling – first, in funding, infrastructure, information policies, marketing – and also put information first – before building infrastructure.

Cycling as Number One

Cycling should be seen and promoted as the most important transportation form in Auroville. Why?

- It is the most effective and most ecological form of transportation. Zero emissions, silent, surprisingly fast – in European city centres it is the fastest form of transportation.
- The distances are right: In European cities, the average distance of cycle trips is around 2.5 km (same as Pitanga-Visitor Centre), the normal maximum trip length the average cyclist is willing to drive is 5 km (same as Repos-Solar Kitchen) – which takes about 15-20 minutes. The planned Crown Road is about 4.4 km long – so the distances are just about right for cycling in Auroville
- The cycle is still well established among the Tamil population – and still relatively well established among Aurovillians. Even some of the guests are willing to use it. All this potential should not be wasted.
- Cycling keeps you fit and it is joyful: it brings automatically a little movement every day, you breathe, hear, see – much better than in a car or even on a motorcycle.



- There is already supporting infrastructure in place – the cycle paths
- Cycles are comparatively cheap in India: high quality mountain bikes with gears and suspension currently come at about 6000-12.000R.
- Infrastructure for cycles is low-cost to build and low-cost to maintain – much much lower cost than roads. This is even more important in the situation where still a large part of the infrastructure is dirt roads – these get worn down by cars much, much faster than by cycle traffic.

In order to support the cycling, the following should be done:

- Extend the cycle path network as fast and as high quality as possible. A focus should be on closing gaps in this network
- Maintenance of the cycle paths should be given a high priority, higher than the maintenance of the roads
- Auroville should establish a bicycle rent, sale and maintenance centre – where quality bikes, accessories like lights, dynamos, spare parts, tyres, rain gear etc. can be easily obtained. It could be done in cooperation with a bicycle shop from Pondicherry. This centre should be at a rather central location, possibly on the Crown Road.
- Information on where to rent and buy bicycles should be easily obtainable – on the website, in a folder, at the visitor centre, in all guest houses.
- Every guest house should offer the possibility to rent bicycles at a low price – as a package in combination with the guest house fee.
- The Visitor Centre, Pour Tous, Bharat Nivas, Town Hall, the Matrimandir and the Solar Kitchen (and any other place with a high visitor frequency) should offer high quality cycle stands close to the entrance (that are prohibited for motorcycles and mopeds).



Parking at solar kitchen

- New buildings should always provide for high quality cycle stands (covered) for its users.
- The new Crown Road should be fully accessible for cyclists and provide protective facilities (speed breakers with gaps for cyclists, bicycle lanes, low curbs or no curbs) – possibly designed according to “shared space” principles.

Walking

Walking seems to have a very low share in the modal split of Auroville. It is of course practised by the part of the Tamil population that has no alternative. Aurovillians mainly walk inside the communities or between communities that are very close together. But as most communities are rather far apart, walking is not very practical. As long as the density of Auroville stays as low as it is, this won't change.

The usual average distance that people walk in European cities is one km, modal share is most often between 20 and 30% of the trips. For this it is essential that the public spaces are interesting and lively and comfortable for pedestrians.

My impression was that there is no such thing in Auroville. The only places where I saw significant amounts of people on foot were the Tamil villages, especially Kuilapalayam – and between the Visitor

Centre and the Matrimandir – but that is sort of enforced. All other roads in Auroville are dead – in terms of foot traffic.

Main reason is of course the lacking density – but also the lack of attractive footpaths. Walking along the main dirt roads is often cumbersome because of noise, dust, and the danger from cars and motorcycles. A footpath network should be systematically developed. In the future, it will be essential to develop interesting public spaces of mixed use where many people pass by on foot. In that case, I recommend the development in the direction of “shared space”.

A good example from San Sebastian, Spain



“Before” in a village in Austria



Shared Space design suggestion

Shared space is a new sort of street design and a further development of traffic calming – it focuses on the mixed use of traffic, attractive street design, citizens’ participation in the design process and the allowance for natural movements and instincts instead of reliance on strict traffic rules and engineered behaviour.

Some features of shared space design:

- Hardly any traffic signs, street markings, no traffic lights
- Almost no on street parking by cars
- No or only minimal level differences between “sidewalk” and “street”
- All street space can be used by all kinds of traffic, and are not limited to cars only
- Some zones are protected against car use
- It is the street design itself that provides the traffic participant with the feeling that they should take care about the other traffic participants (just like on any busy street in India).

To explain in more detail is not possible in the framework of this short report – there is a new website sharedspace.eu with good information.



Public Transport

There is hardly any public transport in Auroville, and Aurovillians do not seem to use it. There is hardly any information (I could not find any) and there is and will not be enough demand – not enough customers to transport. In India and in and around Auroville public transport is mostly used by the so called captives – people that have no other choice. Who can afford it uses an alternative – walk, cycle, drive or fly. Only when the service gets to an acceptable quality level, reasonably comfortable and intervals of 15 minutes or less at peak time, then “non-captives” start to use it. And of course there needs to be excellent information available. The alternative is to make

people captives by forbidding the use of other modes or by making it difficult or expensive. The Auroville Mobility Concept proposes this by installing a large car-free and motorcycle-free zone. This is currently not possible in Auroville.

My suggestions for action:

- I doubt it is possible to develop a viable public transport service out of Auroville – there will just not be enough demand. I am sceptic about the success of the current experiment.
- There already is public transport available – there are busses that go to Pondicherry, there are busses driving through Edayanchavadi to somewhere (I did not find out) but it is very difficult to get the information on when these busses are driving, where to get the tickets, how much it costs etc. This info should be made easily available – leaflets, internet, information signposts at stops.
- If demand for existing public transport is high enough, there could be negotiations to improve this service.
- Taxi service is also some sort of public transport and taxi trips could be combined if there is enough demand. The disposition of taxis could be improved.

Carsharing

Carsharing¹ is when people pay to use a car by the hour/day, and the car is owned by an individual company that runs the scheme on a commercial basis, and when the cars are not located in one central depot, but spread around the city or even several cities. Carsharing is distinguished from Car Rental in that using the car is possible for a very short time, that no personnel are needed to provide the car and that cars are available in many locations.

Carsharing might be an option for Auroville in the near future. In Europe and the US carsharing is a rapidly growing industry with fleets of thousands of vehicles with very sophisticated reservation systems, onboard computers, etc. Cars are reserved by phone or internet, and the car is opened swiping a card across a reader on the windshield. To emulate this is beyond the means of Auroville, as it would require investments in the order of several million Euros. And still, the demand would not be there.

The question would be whether a licensed start-up scheme could be set up in Pondicherry, of which Auroville could then profit. This would need to be negotiated with one of the big providers in the US (Zipcar) or Europe (Mobility, Cambio, Greenwheels).

A simplified system could be set up (without sophisticated electronic reservation systems), but this option needs more research. It could work in the community structure of Auroville as a sort of a communal car concept.

¹ In the UK Carsharing is called Car Clubs, as the term Carsharing confusingly is used for Carpooling, with which the rest of the world means sharing rides.

Carsharing can be very helpful in forging an almost car-free community, as it prevents people from buying a car (typical carsharing users have the option of carsharing every once in a while, whereas all other mobility is organised with other modes of transport).

Land Use Planning and Mobility

This is a rather new topic in Europe and currently researched in depth in the large EU-funded MAX-project of which I am the coordinator. Land Use Planning strongly influences future mobility – and mobility strongly influences the usage of the land and the quality of public spaces, especially of streets and squares, which arguably are the most important public spaces for the functioning of a city.

- The most important measure for the connection between the two is that land use planners and traffic planners should work together, from the beginning on. Unfortunately, this is not the common practise.
- Planning the mobility: Practically all developments – housing, workplaces, schools – generate mobility. And this mobility should be planned for, especially if the aim is to have more ecological and humane mobility. How should people come and go to these places? What options will be available? What sort of parking should be provided? How will this influence their traffic behaviour?
- Manage individual mobility: the moment a person changes job, changes house is the moment where mobility behaviour is reconsidered – that is the moment when marketing for sustainable modes should be active. Later, changing established habits is much more difficult to achieve.
- A very important element of determining mobility is the parking policy. In Europe, it is most often the law that a certain type of land use entices a certain number of parking spaces – leading to enormous infrastructure investments in parking. In a few countries (notably Switzerland and the UK) policy goes in the opposite direction: instead of these minimum parking standards there are so-called maximum parking standards: this means the law determines that a certain number of parking spaces may not be exceeded – but that the number may be quite lower – e.g. on average just half a parking space per household. This leads to huge savings in infrastructure costs, but also to the necessity of providing more sustainable transport possibilities.

As land use planning in Auroville is quite different from what is happening in Europe, I let these points stand as food for thought. In a few months, excellent material on connecting land use planning and mobility management will be available on the MAX-website.



Cycle parking



Motorcycle parking

An impression of priorities for parking at Auroville town hall

Electric vehicles and pedelecs

I had the opportunity to test one of the electric bicycles manufactured in Auroville, and I was a bit disappointed – they were heavy and uncomfortable. I do not think they will be success.

However, electric bicycles are booming in Europe (usage and production are doubling every year in some countries) and in China, and they would be a quite interesting mode of transport in Auroville. Prices are still high and climate and roads are possibly too harsh to have successful usage. Still, I think the introduction of pedelecs should be supported.

Nobody knows how the electric car industry will develop, but it is probably a good guess that prices will go down and quality will go up – which will have an impact on the experiments going on in Auroville, of which I do not know much.



See also: en.wikipedia.org/wiki/motorized_bicycle

Targets, Monitoring and Evaluation

Currently, there seem to be no targets for the modal split in Auroville – there are not even any data on what the modal split currently looks like and how it is developing (although everybody agrees on the very visible trend). This needs to change.

The suggestions are:

- Install a simple system of regular traffic counts (a few days every year at some strategic spots will probably suffice),
- inventarise the vehicle fleet and parking spaces.
- These data should be carefully evaluated and from that basis, ambitious, but still realistic targets should be set as to how traffic in Auroville should develop.

And then the measures can be selected – and with the new monitoring in place, the success and failure of the measures can be controlled and accordingly reinforced, changed or abandoned.

Awareness campaign

In order for people to change their behaviour, it is essential that they become aware of the problem, of their particular share in the problem and in the solutions, and of the options to change their and other persons' mobility behaviour. None of this is happening in Auroville.

The MAX research project has analysed effective awareness campaigns in depth. With this theoretical but in practise proven approach a successful awareness campaign could be developed for Auroville.

It could involve

- General information on mobility – what is going on, what mobility options are available, what impact do they have on life in Auroville
- Information on public transport – going through Auroville as well as going to Pondy
- Information on taxis, rikshaws, bicycle rental, motorcycle rental, repair shops, cycle tours
- Information on the cycle-path network in Auroville
- Information on the benefits of cycling, walking, using public transport
- Information on the electric vehicle schemes under development in Auroville
- Information on the “Auroville Carbon Neutral Initiative” which I think is great but almost unknown
- Campaigning for more cycling, less motorcycling, less car driving

I think the idea is clear. Much is dependent on framework, in which the awareness campaign is set (for example parallel improvements on bicycle infrastructure), the quality of the message, the credibility of the message, the media used etc.

See also: epomm.org/newsletter/electronic/0309_EPOMM_enews.html

Mobility management (MM)

My company has been one of the key players in the development of Mobility Management, we have been promoting and developing it since the start at the beginning of the 1990-ies. I am now also the coordinator of the European Platform on Mobility Management.

Mobility Management (MM) is a concept to promote sustainable transport and manage the demand for car use by changing travellers' attitudes and behaviour. At the core of MM are "soft" measures like information and communication, organising services and coordinating activities of different partners. Such "soft" measures enhance the effectiveness of "hard" measures within urban transport (e.g., new bus lines, new roads and new bicycle paths). MM measures tend to be very cost effective.

So what would it mean for Auroville?

- First and foremost, it would mean the integration of all efforts and the inclusion of awareness and information into the whole mobility policy.
- It would mean a very coherent effort to change mobility along a well researched and proven trajectory.
- It would aim to include all relevant partners and "stakeholders"
- The effort would culminate in the development and implementation of a sustainable urban transport plan addressing all target groups with tailor-made mobility plans – infrastructure, information packages, campaigns.

This has to be developed in Auroville, it goes beyond the scope of this essay to describe in depth.

Relationship with the villages

This is a delicate issue of which I do not know much and of which I have heard a lot of very positive, but also some very distressing stories. So bear with me if I propose some measures that just won't fit.

- I think the main source of traffic comes from the villages – for the simple reason that they are many, many more people
- In analogy to what we see as development in all societies that are on an upward trajectory of economic development (first US, then other OECD-states, then former Soviet bloc states, currently China) we see a very, very strong desire for motorised mobility – especially for a car. At the same time, bicycle travel is marginalised. This will happen in the villages.
- Currently, the mobility behaviour of the villagers is still very ecological: walking, cycling, some motorcycling, public transport and hardly any car travel. This might rapidly change – rapidly here meaning within less than a generation. It will be very hard to convince them to choose something different
- To me, it seems that a two-pronged approach is important:
 - Raising awareness about mobility issues – pollution, accidents, option etc. and giving cycling a positive image
 - Promoting walking, bicycle travel and public transport as strong as possible – improving services, repairs, bicycle quality, bicycle safety, bicycle parking, village centre design, providing cheap bicycles etc.
- In short, in ALL mobility planning for Auroville the villages and its population should be included as much as possible.
- If this is successful, it could prove to be a model for all of India.



My proposal to you

As you have read, there are many issues which need work. I hope to have impressed to you that the necessity to work on the mobility issue is not something for the future, instead it should be addressed as early as possible.

- I'm quite willing to help and provide more information. An idea might be a sort of a workshop of several days, in which I would first provide some more in depth information on the many topics I touched, and in which we would then jointly work out a sort of a rough "mobility plan" for Auroville.
- We would work with the newest and most up-to-date tools developed in Europe and currently on the way to become standard practise in the most innovative cities in Europe (and beyond)
- We could also work on the topic of "shared space" – currently my company is working on about 6 projects and studies here in Austria, we're in continuous direct contact with the "inventors" the shared space institute in the Netherlands, and are building up a national shared space knowledge network for Austria.
- For this, I would be prepared to come to Auroville for a week or two – provided you come up with some sort of compensation – in which form, is up to you – flight, lodging, something like this
- This might be in July, August or November, December, January, February
- It would be good if you could form some sort of group and if there would be a counterpart in Auroville with whom I could organise and prepare this.
- A follow up on that could be more in depth work on specific topics that are seen to be

I hope this has been an interesting read and that I've provided some inspiration for the future development of Auroville.

Karl-Heinz Posch (Carlo)
Done in Graz, Austria, End May 2009



Websites

For more information see also the following websites:

- epomm.org Information on the European Platform on Mobility Management
- max-success.eu Information on the MAX-research project
- fgm.at Information on my company
- epomm.org/index.phtml?Main_ID=868
Newsletters on most of the topics I touched with further-leading links
- en.wikipedia.org/wiki/motorized_bicycle
Information on pedelecs
- epomm.org/newsletter/electronic/0309_EPOMM_enews.html
EPOMM-newsletter on awareness campaigns
- sharedspace.eu Website of the Shared Space Institute
- mobility.ch The leading European Carsharing organisation
- zipcar.com The leading US Carsharing organisation