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To: LinkRoadandRapidTransit@EssexHighways.org>

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Subject: A120 Link Road and Rapid Transit - comments from THSG and two other organisations

The Transport and Health Science Group is the principal public health organisation in the transport field in the UK and one of the two principal such organisations internationally. We bring together public health and transport professionals interested in all the relationships between transport and health. We sponsor the publication by Elsevier of the award-winning Journal of Transport and Health, which is listed in scientific citation indexes.

In the UK we

- Act as agent for the other such organisation internationally, the US-based International Professional Association for Transport and Health.
- Manage the Transport Special Interest Group of the Faculty of Public Health of the Royal Colleges of Physicians of the United Kingdom.

In all three of those capacities we write to comment on the A120 Link Road and Rapid Transit, except that in the case of FPH we would require, and have not yet obtained, approval to comment on the specific scheme; until we do the TSIG of FPH must be regarded only as making general policy comments. In our own name, and on behalf of IPATH, there is no such caveat to our comments.

CYCLING AND WALKING

As you clearly believe in integrated travel, we are bemused by the fact that you are seeking comments on a road scheme and a public transport system but not on the cycling and walking network.

Why? It is incomprehensible.

There are many questions about how the walking and cycling network will link to the park and choose sites and to the rapid transit and how they will access the Garden Village. These are as important as the questions you ask, and indeed may be relevant to the choices made.

We would strongly advocate that you consult on all aspects of your integrated transport system in an integrated way.

RAPID TRANSIT

We strongly support the development of a rapid transit system.

We strongly support the idea that this should be the core of a comprehensive public transport system including, eventually, driverless shared taxis at the edges of the system.

This is an exciting and comprehensive vision which we commend.

It is compatible with a paper which we contributed to Municipal Engineer (part of the proceedings of the Institute of Civil Engineers) in February 2018 (Watkins, S (2018) "Driverless Cars: Advantages of Not Owning Them: Car Share, Active Travel and Total Mobility")

Starting with a BRT and subsequently developing this into a trackless tram, is a very sensible proposal indeed.

Research has shown that public transport facilities are more effective at attracting modal shift when they have at their core a system with its own track, whether that is a rail track, a busway, or even a trolley bus route. This is because passengers see such infrastructure as implying dedication and permanence. This is additional to the benefits of the actual service improvement.

In order to have its maximum impact the rapid transit system must be a complete network.

Metcalfe's Law, devised for IT networks, but with a mathematics equally applicable to transport networks, prescribes that the utility of a network is proportional to the square of its size. A 10-mile

line therefore has its utility increased 10-fold if it is part of a 100-mile network, provided that all lines in the network have equal utility. Research has shown that the first Metrolink line in Manchester did not start to reduce peak hour congestion on the roads parallel to it until it became incorporated into a wider network.

We believe that every effort should be made to ensure that rapid transit stations are accessible by cycle, and that as much as possible of the area surrounding the route is brought within one mile on foot of a station.

We believe that the cycle/RT combination should be regarded as a distinct transport mode, competitive with the car, and that your rapid transit system should reflect this.

We believe that there should be cycle parking at all stations on the system and cycle hire at enough stations to bring the whole of the area surrounding the route within 3 miles by hired cycle.

There should be a cycle van on each tram so that cycles can be carried. The experiences of Cal Train in San Francisco have shown the value of this approach.

You ask for comments on the positioning of stations. We do not have enough local knowledge to comment specifically but we believe that cycle hubs, park and choose sites and railway stations should obviously be included and that the criteria about access on foot and by cycle set out above should be met.

If this requires more stations than is desirable, then the average distance between stops should be reduced not by eliminating stations but by identifying the less important stations and serving them on a skip-stop basis, provided that a service not less than once every half hour (ideally not less than once every 20 minutes) can be achieved even at the smallest.

The A120

Roads damage health. They attract traffic which increases congestion elsewhere, they worsen air quality, they disrupt active travel, they compete with sustainable transport, they sever communities and they facilitate relocation which increases travel and diminishes community stability.

They also have beneficial effects in improving networking and the opportunities to travel to health-beneficial settings (including work, leisure facilities, shopping and the countryside), but usually the adverse effects predominate and the benefits are more cost-effectively achieved in other ways.

On balance, the building of roads (other than cycleways and busways) is only beneficial to health in three situations

- (a) Where it improves essential links between communities in very sparsely populated areas – no part of Essex (indeed no part of England) falls into that category
- (b) Where it removes traffic from residential roads and the road space freed up is redesigned so as to be allocated to other uses, whether it be active travel or community use
- (c) Where it is built solely to access a development, or existing poorly-linked facility, where links to that destination are beneficial to health.

Even then it is only beneficial if care is taken to avoid severance of walking and cycling routes.

Only a handful of the road schemes in the UK meet these criteria and the A120 does not seem to be one of them.

Subject to seeing and commenting on a detailed health impact assessment, it is very likely to be our view that it should not be built.

Some road link to the Garden Village will be needed but it should not be a through route and the aim of the transport plan for the Garden Village should be to encourage sustainable travel.

The A120 will not reduce congestion. It may do so temporarily but it will unveil demands for relocation which are currently suppressed by congestion. In this way it will encourage more traffic until congestion over a few years rises back to previous levels.

The money would be better spent on the rapid transit and on cycling and walking infrastructure. The development of these schemes as a network will have a greater impact on congestion than any investment in roads because they will provide alternatives which will raise the trade off point between the benefits and time costs of using the road. However, as we have already commented,

this will only happen if a substantial network is provided, as otherwise road space freed up will be taken by traffic which starts and finishes away from the route but uses part of it.

Your transport thinking appears to be advanced and informed, so we are amazed that you are proposing to waste money on building a road.

If the reason for this is that you are seeking funding from an earmarked source, then we understand that, but we think you should also bring forward an alternative proposal showing how you would like to use the money if not constrained by the delusional preconceptions of rigid funding streams. If you decide to do this, please contact us so we may brief THSG's Parliamentary Advisers.

If you do proceed with the construction of the A120 it is fundamentally important that you ensure that it does not sever walking and cycling routes. We do not have enough local knowledge to comment in detail but you should ensure that your proposals for linking walking and cycling routes, along and across the road, are fully acceptable to user organisations like Living Streets, the Ramblers' Association, the Open Spaces Society, cycle and equestrian groups and groups representative of local communities. They must be seen as essential partners not as obstacles to be circumvented or placated.

The road should have a cycle lane separated from the road at least by a kerb. It should also have a footpath, and highway verge suitable for equestrians.

STEPHEN J. WATKINS

On behalf of 1. THE TRANSPORT AND HEALTH SCIENCE GROUP

2. THE INTERNATIONAL PROFESSIONAL ASSOCIATION OF TRANSPORT AND HEALTH

3. (subject to the important caveat given at the outset) THE TRANSPORT SPECIAL

INTEREST GROUP OF THE FACULTY OF PUBLIC HEALTH OF THE ROYAL COLLEGES OF PHYSICIANS OF THE UNITED KINGDOM.