

## ► Future Transport

### ► London Assembly Transport Committee Investigation - London Councils response

London Councils represents London's 32 borough councils and the City of London. It is a cross-party organisation that works on behalf of all of its member authorities regardless of political persuasion.

#### **How are current developments in transport technology supporting or challenging the Mayor and TfL's overall objectives for the transport system, particularly in terms of health, accessibility and affordability?**

Current developments in technology demonstrate the risks of trying to predict the future and back certain technologies. TfL's own remit as the public transport provider of London is also being challenged, for example by the trialling by CityMapper of a night time demand-responsive bus; and private company supplied dockless bikes. The focus must remain, however, on ensuring that Londoners have the best possible methods of clean, affordable and reliable transport, regardless of their operator. The focus for TfL in collaboration with the boroughs should remain to encourage more active travel, which has benefits for people's health as well as for the wider environment through reducing car journeys and therefore reducing congestion, air pollution and noise. This is unlikely to change due to new technology and should remain the same in the foreseeable future.

New technology is usually costly in the short-term and cheapens as economies of scale and cheaper methods of manufacturing can be achieved. This means that in the shorter-term poorer Londoners may lose out as affordable public transport lags behind more expensive models. An increase in private transport, such as autonomous vehicles, does pose genuine risks for the health of Londoners, if people switch from public transport to these vehicles. The 'novelty factor' makes this quite likely, at least to begin with, but prohibitive costs would minimise this risk. Autonomous vehicles and demand-responsive transit do have the potential to improve accessibility for many groups who struggle to get around at present; people with medical conditions, elderly people, young people, people lacking good public transport options, and large groups of vulnerable children or adults. Affordability, however, would be central to this.

#### **How effectively does TfL plan for the possible largescale adoption of new technology?**

Where TfL drives the change to new technology, it is well-planned. Examples of this include cleaner vehicles, retrofitting of buses and introducing Ultra Low Emission Zone charges. However, where new technology comes from the private sector, TfL is slow to react. Examples of this include Uber and dockless cycles. As we are not

involved in TfL's internal planning, we cannot comment on how much horizon scanning there is. However, the recent addition of the innovation team should have a positive impact on this and we suggest that research into emerging technology will be a priority for them. Our response to the draft Mayor's Transport Strategy calls for a small team to do this, by monitoring developments in other global and UK cities. The draft Mayor's Transport Strategy needs to take a stronger stance on some of the new known technologies, such as autonomous vehicles. Given these are a known new technology likely to be widespread adopted within the lifetime of the strategy, there is a distinct lack of specific approach to them in the draft Mayor's Transport Strategy.

### **Does TfL have the powers it needs to continue to deliver fair and accessible transport services in a more technologically advanced future?**

Innovative and creative approach to new technology does not always require new powers. Powers of regulation usually follow innovation but it is difficult to predict what regulation is needed before that innovation arrives. Dialogue and consultation with operators is usually preferable given the timescales for regulatory powers, which should be accelerated once the need for them is known. New regulatory powers should not be only for the Mayor or TfL; as highways authorities it may be appropriate for the boroughs to be included in new powers.

### **How effectively does TfL influence regulations that affect transport in London?**

Many regulations and powers TfL has are those it has opted to legislate for, for example through London Local Authorities and Transport for London Acts. Other powers are granted to the Mayor of London that TfL operates under and others are handed to TfL as a highway authority through national legislation. There are some notable areas where TfL and the Mayor seek more regulatory powers, for example in regulating the number of private hire vehicles but these require government action.

### **What is the likely extent of the introduction of autonomous vehicles in London in the next ten years? What would the impact of autonomous vehicles on congestion be? What are the likely implications of autonomous vehicles in London in terms of car ownership, vehicle occupancy levels and usage?**

This is very difficult to predict, and requires the Mayor to set out in his draft Transport Strategy the scope and scale he wants to see from autonomous vehicles and how they relate to his vision for more walking and cycling and reduced car use. The benefits, if managed well could include freeing up parking land for other uses; reduced congestion; and greater mobility for older people, disabled people and children. Managed badly or not at all, autonomous vehicles could cause more congestion, worsen air quality and contribute further to obesity and related health problems. Autonomous vehicles could reduce car ownership if sharing models are supported, especially in outer London. Vehicle occupancy levels are unlikely to be affected unless app-based technology can support the bringing together of people needing to undertake a similar journey. Experience from the taxi and private hire trades suggest this is a more complicated process.

Outside of Mayoral direction, factors affecting take-up will include price, the legislative framework, safety concerns, the capability of the technology and whether an ownership model or shared model is pursued. London is already trialling the technological capabilities; and could trial other aspects of autonomous vehicles such as sharing models and legislative frameworks as well. The Mayor needs to work with manufacturers and system developers to track progress and fully understand the issues in order to plan and regulate effectively. This work needs to include the boroughs, as highways authorities.

## Will TfL consider introducing autonomous buses?

This is a question for TfL, but we would support this with some qualified assurances. We support measures that improve safety for bus passengers and other road users and autonomous buses may be a solution here. However, given the complex nature of London's road network, we do not see this happening soon. In addition, there must always be at least one person on board at any time, to ensure fares are collected and to prevent anti-social behaviour. RB Greenwich is already conducting trials of autonomous shuttle buses. TfL and the Mayor need to start thinking about autonomous vans and HGVs, and the related safety, congestion and mobility implications for this; as well as the serious employment challenges autonomy of vehicles (as well as deliveries by drone or droid) presents. There may be implications for taxis and private hire vehicles, school and minibus transport and the delivery and consolidation of goods. A number of existing companies have expressed their desire to use autonomous systems in London, and are planning to trial them; such as Ocado, Uber, and Tesla.

## What regulation will be needed to ensure autonomous vehicles are used safely?

We suggest that regulation needs to be flexible, as this is an emerging area that will change rapidly. We suggest regulation or codes of practice need to include:

- Interface with other road users including cyclists and horses;
- Interface with people and other pavement users (including wheelchairs, pushchairs, mobility scooters and dogs) at crossings, traffic lights, people crossing the road at unspecified points including in stationary traffic and sudden, unexpected behaviour from people;
- Interface with inanimate objects (bollards, level crossings etc.);
- Emissions standards;
- Parking, loading and drop-off;
- Where an autonomous vehicle goes once a journey is complete;
- Mechanisms for calculating the most efficient use of the vehicle to ensure the vehicle doesn't travel for miles empty to collect another person;
- Mechanisms for calculating the most efficient route for a particular journey;
- Recognition of road markings and road signs (for example not collecting children outside schools);
- Communication requirements with the user / owner; (Bluetooth, 4G, 5G, Wi-Fi etc.);
- Legal liabilities for collisions and other damages and transparency of owner and contact information (where shared model);
- Restrictions on actions e.g. remaining stationary until required;
- Security of systems, to prevent them from cyber-attack and malicious usage;
- How enforcement will occur and against whom enforcement will be made.

## Do drones and droids have significant potential to reduce the level of delivery traffic on roads?

Congestion needs to be tackled holistically, by reducing trips, not by shifting the problems off roads and onto pavements or airspace. Assuming drone and droid technology develops rapidly; then there is likely to be a role for them in deliveries. That said, the 3D printer could remove the need for deliveries significantly; this demonstrates the importance of TfL and the Mayor looking beyond technological changes in transport alone, and considering technological impacts in the widest possible sense. Large and hazardous items we suggest are probably not suitable for drone or droid transport, but could be delivered in a clean, silent autonomous vehicle, perhaps at night. Other benefits of droid or drone use include the absence of emissions and low and sustainable energy use, however there are also health and safety concerns associated with them that would need to be addressed and may require regulatory change.

## What are the specific safety hazards arising from the widespread use of pavement-based droids?

We suggest there are a number of challenges which would need to be considered by manufacturers. These include competition for pavement space and causing obstructions. This could potentially be managed by geofencing or droids not using pavements at all, perhaps using tunnels instead. However, this infrastructure is not necessarily readily available, so careful management of pavement-based droids is required. They would also have to have systems for not hitting people and dealing with sudden behaviour change; whilst also being able to deal with human interaction necessary for receiving a delivery. The interface with motorised traffic would also need to be considered. Impacts of droids in different places in London and the UK would also need to be considered; for example avoiding railway lines or public parks or alternatively maximising use of these corridors. Pavements in central London particularly are already very well used and often overcrowded and we would be concerned if pavement-based droids displaced pedestrians or, worse, discouraged people from walking altogether. Any trials of pavement-based droids therefore need careful monitoring, including researching attitudes amongst current and future pedestrians.

## How will access to airspace for drones be managed, if at all, and by whom?

We suggest that access to airspace will need to be managed carefully. How much will depend on how prolific they become. Drones may require different legislation depending on who is operating them. If they are owned by a family or person (like a car) a driving-licence style approach might be appropriate, overseen by a body similar to the DVLA. Were their usage and ownership more exclusive, for example only by companies, a different way of managing access might be more appropriate and may require all the highways authorities to come together, similarly to the London Lorry Control Scheme. The extent to which they require human operation or are autonomous also depends on the level of regulation. We suggest that an overall airspace operator continues to be necessary, as currently provided by NATS, or perhaps local authorities would have control over airspace to a certain height to manage drones; regardless of which models are ultimately chosen, they need to interface well. We suggest that drone use is likely to be more optimal in suburban areas, where tall buildings do not have to be navigated and 'as the crow flies' direction is more likely to be achievable, whilst also having economical levels of demand. Regulation and management of drones may need to be flexible as technology and safety improves and

speeds and height develop. Consideration of privacy if devices have cameras or recording equipment will be necessary. Individuals will need to have the opportunity to complain about the management of drones, so a form of identification will be needed.

## What regulation is needed to ensure drones and droids are used safely?

We suggest that regulation needs to be flexible, as this is an emerging area that will change rapidly. We suggest regulation or codes of practice need to include:

- Interface with people and other pavement users (including wheelchairs, pushchairs, mobility scooters and dogs);
- Interface with inanimate objects (lampposts, waste bins etc.);
- Interface with other flying objects (aircraft, helicopters, other drones, birds and other wildlife);
- Interface with motorised traffic (e.g. at crossings);
- Interface with people at the point of delivery (i.e. not avoiding them);
- Maximum weight carrying stipulations;
- Maximum height flying stipulations;
- Communication requirements (i.e. communication 'back to base' – 4G, 5G, Wi-Fi, radio frequencies etc.);
- Legal liabilities for collisions and other damages;
- Transparency of owner and contact information for people wanting to make a complaint;
- Privacy requirements, particularly if drones carry cameras or other recording devices;
- Restrictions on areas drones may fly over, for example airports but also other sensitive areas e.g. nature reserves or busy pedestrian streets – this may include geofencing or other technological solutions;
- Security of systems, to prevent them from cyber-attack and malicious usage;
- How enforcement will occur and against whom enforcement will be made.

## What are the next steps in developing app-based transport technologies and does TfL plan to be a leader in this area?

We suggest that TfL doesn't try to lead app-based transport technology, as there are other, more expert developers, but continues to work with those developers by sharing data and trialling innovative technologies.

## Would moving to a 'Mobility as a Service' (MaaS) system in London make public transport more accessible for disabled passengers?

We would hope to see these benefits for disabled passengers, although we note the considerable efforts of TfL to make its buses accessible and the boroughs to make bus stops accessible. We think the strongest benefits will be in parts of London where the public transport system is already poor, infrequent or unreliable. The costs will be most important, and whether concessionary travel schemes would be inclusive of MaaS systems. We note the generally very expensive upgrading of the tube network to make it accessible, but want TfL to continue to prioritise step-free access, given the huge benefits this has. MaaS may be more cost effective, but is in our view interim measure, as we would like to see all car journeys reduce.

## What are the implications of MaaS technology on transport fares and transport inequality in London?

This will depend on who the owner of MaaS systems is and therefore on the price structure. Privately-operated car clubs will, understandably, seek to make a profit on their investment and so may not have accessible charging structures or seek to install units in places where demand is lower. This may mean that some of the highest potential beneficiaries cannot access these services. TfL will need to act to ensure that it is not left to run public transport services on routes that are unprofitable for other types of services.

## How should TfL and the Mayor manage dockless cycle hire schemes?

London Councils is currently working with TfL and the Mayor to identify ways to make sure dockless cycling is a positive contributor to cycling in London and local economies. Dockless cycling has a particularly strong contribution to make in boroughs where TfL's Santander Bike Hire schemes will not reach. Consultation with boroughs and TfL before arrival, and agreements on how dockless cycling will be managed, needs to take place, and some operators have shown they understand this. Where this is not forthcoming, boroughs and TfL already appear to have a range of regulatory powers available to address dumping, public nuisance and so forth.