RTIGS014-1.0

Discussion Paper

RTIG in the connected world.

1. Premise

1.1. RTIG is an organisation that was set up in 2000 to design standards in, provide advice on, and lead the development of, real time passenger information (RTPI) for buses. Its aim is still to help authorities and operators provide passenger information effectively and economically.

1.2. Until around 2010, RTPI systems were typically monolithic – provided by a single supplier using bespoke interfaces between constituent parts. From then on, and in part due to RTIG activity in defining and promulgating interface standards between system elements (such as SIRI real time data feeds between servers), we now see systems as made up of sets of discrete modules. This process has accelerated to such an extent that systems are now effectively fully modular: with each module able to 'talk' reliably to others, thereby providing an overarching system made up of parts, quite often supplied by differing suppliers. Examples of modules may be 'open data', 'historic data reporting', 'roadside display provision and maintenance', and 'operator control system'.

1.3. At the same time, other transport sectors have been developing connected services and the interfaces between them. Established services like Urban Traffic Control (UTC) systems, developed data transfer protocols in conjunction with RTIG and allow UTC systems to communicate to, and interface with, Real Time Information (RTI) systems. More recently, there are a wide variety of related systems that would benefit from the integration of guidance and standards currently offered within a public transport information system.

1.4. This paper asserts that many existing systems as well as the emerging ones can be seen as 'modules' to be interfaced with RTPI systems - to provide a more holistic service; and that RTIG should be involved in setting those standards.

2. Changing landscape

2.1. The advancement and reduced up-front cost of technology options to resolve issues has, in recent years, made the prospect of Smart Cities, Connected Cities and Mobility as a Service (MaaS) (however poorly defined these terms are) not only possible but also probable. Examples include:

- a reduced cost to the technology - enabling managing systems to identify fixed assets thereby facilitating the development of intelligent infrastructure;
- the proliferation of personal smart devices; and
- crucially, a better understanding of the ways to communicate between these technologies.

2.2. Government and formal standards body involvement in standard setting is inevitably behind commercial innovation and takes place at the point where a commercial market exists for goods or services; but the interfaces are not standardised, and this is causing significant impact to business or consumers. There is a risk that this approach can lead to multiple competing standards or standards devised by market domination, rather than suitability.

2.3. Development of 'open data' principles and 'big data' services have accelerated so that there are, in effect, a huge number of services that can be said to influence the behaviours of passengers in real time. However, they are all not yet appropriately connected to maximise their impact.

2.4. Within the Smart Cities (et al) concept, efficient and effective transport and travel information and guidance remains a fundamental element.

2.5. From a transport authority and end user view, it therefore becomes even more essential that Bus RTI systems start expanding: to include and properly integrate data feeds from other modes like trains, taxis and demand-responsive services. This will realise better service provision, improve accessibility and awareness of availability as well as personal time efficiency, in addition to effectively promoting sustainable travel modes and environmental benefits. This, in turn, will allow provisioning bodies like

transport agencies to manage multiple modes effectively and provide the base data to power platforms for MaaS provision.

2.6. In the future, governing bodies should consider influencing systems and data sets. The need for this is currently underlined by the general pressure to include fares data in the generally available dataset. In addition, there are other interfaces and data sets that could improve the traveller experience - such as those to social media channels, smart city activity, sensor networks and city movement planning. However, there are often no standards and little guidance on how to do this.

3. Assertion

3.1. It is this paper's assertion therefore, that whilst RTIG's original aims have been met, there is an increasing need for the organisation to take a wider role to encompass other modes and interfaces - particularly other smart systems that influence relationships with public transport travel. These could include fares, journey purpose data, journey personalisation and planning data, travel integration into smart cities, update and new standards such as NeTEx and ticketing implementation.

3.2. In future, unless concerted action is taken to develop or adopt appropriate technologies, buses - which arguably have been amongst the most connected vehicles on the road, risk becoming less connected as newer approaches to communications and integration take hold in other sectors.

3.3. Past RTIG activity has been directly related to RTPI in buses and to a lesser extent trams, and these proposals move the work done by the organisation over the past 15+ years into a far more digital and connected world - where the functional silos have enlarged considerably.

3.4. Whilst the original principles underpinning RTIG's raison d'etre still apply, the need for a coordinating body around the wider agenda has grown, so we should grow with it.

4. Proposal

4.1. We are proposing that we continue in our role of providing the tools for 'system implementers' to do their jobs but in wider systems, not simply traditional RTI and RTPI.

4.2. This would mean that we remain aware of the ideas generated by the leaders, but still only react when those ideas require practical implementation. Our membership would then continue to set the agenda.

4.3. The changes proposed are not a concerted movement into the world of "blue sky" ideas but rather a widening of our remit to include practical advice and standards delivery into wider systems, when they need practical or at-scale delivery. We will only become directly involved once it is clear that there is a need for practical solutions and/or implementation.

4.4. We therefore suggest that our scope be increased to consider:

- Designing standard passenger / consumer information interfaces between modes – rail and tram, demand-responsive and non-emergency ambulance systems, micro mobility, taxis etc. (MaaS and Total Transport) as and when needs emerge, and in line with member and market expectations;

- Defining interfaces and protocols between systems that enable better journeys but are not directly related to the journey itself – Railway station 'Concierge' systems, city wide mapping systems, Airport and airline systems, smart city systems;

- Advising on the use and suitability of data sets that enhance travel decision making including fares, alternative, cross modal disruption, weather, personalisation preferences and accessibility requirements.

4.5. In simple terms, this will be RTIG continuing with the successful practical implementation advisory role we currently hold for RTI and RTPI; but also actively looking out for integration trends outside our traditional purview, and when it is clear that the market requires standards or advice related to public transport users, moving quickly to fulfil that.

4.6. The areas where RTIG support and action is required or would be beneficial, will be identified through consultation and discussion with stakeholders and key interest groups - with a strong focus on the needs and wants of members and funding bodies.

4.7. We will agree the business plan deliverables through the current steering committee, member consultation and AGM process. The detailed work plans will be agreed with working groups in conjunction with the steering committee.