



PTIC meeting 8 September 2021

You Tube video: <https://youtu.be/l2cDm5ffVNI>

Video timings for the start of each agenda item are provided below.

Actions in red text.

Opportunities to engage/test/feedback in green text

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Notes and Actions from the 8 September 2021 meeting

[Next meeting 17 December 2021 1400-1600, Online](#)

PTIC website: <http://pti.org.uk/>



**Public Transport
Information Coordination**

Attendees

Ian Barratt, Lancashire County Council
Mike Baxter, Leicestershire City Council
Amy Brown, Traveline
Graham Browne, WYCA
John Carr, ATCO Board
Nic Cary, Waysphere
Alex Clarke, Caerphilly County Borough Council
Alex Cranton, Systra
Tony Davies, Trent Barton
Adrian Falconer, DfT
Geoff Goodwin, Bustimes.org
Dr J Harrison, Thoughtworks
Jess Jackson, DfT Policy Advisor, Communications for BODS
Triumph Okojie, DfT BODS Team
Steven Penn, DfT
Aiden Proctor, Omnibus
Jonathan Raper, CEO Transport API
Tim Rivett, RTIG and PTIC
Rebecca Roe, SYPTE
Dan Saunders, Basemap
Chris Sherry, Passenger Group
Peter Stoner, Ito World
Mark Taylor, Staffordshire County Council
Rob West, Elydium Solutions
Keith Willis, React Accessibility
Julie Williams, CEO for Traveline and Plusbus
Tricia Wright, Nottinghamshire County Council

Apologies

David Batchelor, Ticketer
Yan Tsui, DfT
Meera Nayyer, DfT



1. Introduction

2. Notes of last meeting 27 May 2021 (11:30 - 14:00)

Actions to follow up:

1. Yan to follow up with school bus operators inputting into BODS

Getting better at understanding this now.

2. John Carr - ATCO Board - discussion about fares and BSIP. Board mtg next week - will chase up then.

ACTION: Tim to follow up with John about ATCO board via email / follow on chat

3. Bus Open Data Digital Service (14:00 – 55:34)

Lots going on - Steven Penn asked to give DfT update (this is rehash of what was shown at Programme board a few weeks ago).

Headline points:

- new starters in team
- NeTEx data standards contract
- Review of disruptions and SIRI-SX more generally
- Focus at moment - Timetable and VM data more comprehensive, standardised and doing UX into customer experience for BODS and NeTEx fares service. PTI validator launched, and there will be a lock from 1st Oct where doesn't meet the profile won't be published (to avoid cliff edge in data supply).
- Fares tool adding development. Thinking about Plusbus functionality Q3 this year.
- Vix and Ticketer - should be seeing their clients datasets in Sept
- Punctuality
- NaPTAN bus stops - Dr J to elaborate later on. Some Local Authorities yet to upload data.
- 114 operators published Timetable data, but some yet to publish AVL data, and they receiving an email prod. Also those not engaging with BODS at all also receiving email via DVSA.
- Some services are using some level of BODS - moovit, journeytimes, buschecker, bustimes.
- ABODS - focus on launch of corridor functionality
- Discovery on Disruptions to explore how/where that can go in future.
- Predictions: on roadmap, but details to be work up, including links between Timetable and VM
- BSOG digital rediscovery happening in September



3.2. TransXChange PTI Profile (25:30 - 33:55)

Tim: worth picking up on some of the routes and Timetable stuff. Lot of focus at the moment focusing on data suppliers being compliant with the PTI 1.1 profile. Has been recirculated this week by DfT.

Most of the effort now seems to be case of trawl through and republish data in the right format. Most of the suppliers software is up to date and capable of supplying compliant datasets. Operators mostly just need to republish the data.

Block to be put on BODS for new submissions of data from end of September 2021. If not publishing in 1.1A then you won't be able to upload. Existing datasets will be left, but there will be a process of encouraging these to be republished between end of Sept and end of 2021. Datasets not compliant with 1.1A. will eventually be cleaned from BODS, to ensure consistency and reliability for data consumers.

Still a few interpretation challenges with things like Bank Hols, TXC thinks XE and NYE are BH when they are not. They are different. So different things happening around these - challenges getting heads round how to describe these properly in scheduling systems.

Questions / discussion

Tim: any questions on profile or validator?

Nic: how much will we use from cutoff?

Steven Penn: Hopefully nothing. Non-compliant will not be removed.

Nic: in future how many might not comply?

Tim: all of the major software suppliers are capable of supplying compliant data. One has a couple of tweaks to make to sort out slightly weird edge cases, but all of the big 5 are capable of supplying it in BODS schema. Anything new going in end of month will be ok. Will be a grind to get people to republish. That's why David Batchelor from Ticketer is not here as most of their operators have published already in TXC2.1, and now getting these to be published in 1.1A BODS profile. Its a time thing. Hopefully nothing will be lost because conversations are happening about compliance. No-one wants to see the data disappear. Reality - might be a small numbers of operators / services that won't be compliant but lots of work going on to make sure this is as small as possible.

Peter Stoner: Ito team noting a lot of improvement coming through now, encouraging. Long way to go, but if pace of improvements continue then that will be good.

Julie: chat with ADPI of First Group. Groups have all got software pretty well ready, but rolling out to the depots might take the time for First, Stagecoach, Go-Ahead etc. We haven't yet had any of the published files in new BODS profile yet. Quite a gap between software suppliers being ready and schedulers across the depots being ready.



Tim: yep recognise this. Also that schedulers publishing to different locations and other places don't recognise BODS 2.4 profile.

3.3. Location Data (33:55 - 43:00)

Tim: minimal checking going on at moment. The Validator tool is in development, and put into acceptance testing and available for data suppliers to test at start of Oct for a couple of weeks. Aim being to put validator live at end Oct / early Nov. Not a hard block for SIRI VM unlike with TXC. Instead, a reporting and checking process. SIRI VM a month behind TXC.

As Nic said earlier on, making the data match between TXC and SIRI VM; that's when data consumers can really start to make a difference and produce good quality information for customers on the street.

Questions / discussion

Jonathan Raper: we've had to do matching between TXC and SIRI VM on industrial scale, and we should expect to be a very long tail of compliance. This is where you start to discover discrepancies with routes and stops, especially the first few stops. Also where you discover some vehicle without running boards, or reallocated between garages. A ton of issues, and a long process. Welcome that people won't be shut down, as I don't think SIRI VM will ever be perfect. Curious about what the maintenance plan is for this activity, as we have a dedicated process for this inside Transport API and it never stops.

Tim: as part of BODS stuff, all of the reports and analysis available and data ultimately, if people aren't providing it in compliant ways, but if there is not a match, it is an OTC compliance issue. The work with operators to improve this data quality will be heavy over time, if there isn't the level of matching that the BODS programme would expect.

Same will be with fares, which is potentially even harder to get right - matching fares with routes and Timetables, as we are less used to doing this. You are right Jonathan there is a very long tail - every operator will have to put weight into journey matching.

Jonathan Raper: this is where digital data starts to lead engineering. In past data quality didn't matter but now it involves training, unions, kit etc. Really important that DfT understand there will need to be constant maintenance of that. Otherwise we run the risk of data quality being too poor for end users to commit. We found that when quality is in 80% bracket, people start questioning its value and use. Needs to be up in the 90%, but because of all the things that need to happen to make this the case, it's a lot of hard work.

Nic: totally endorse what Jonathan just said.



Tim: and me. We are just beginning this journey in reality

Mike Baxter: where does it fall down? Is it where block or journey numbers don't match up?

Jonathan Raper: yes, and also that buses can disappear. Challenge is that we can't differentiate between data loss and cancellations. Need to publish cancellations. Bus industry assumes if live feed not there, it is cancelled. But this is an assumption. In the case of Rail, they confirm what is cancelled. GPS locality and continuity of data can be an issue, and when it drops out for a long period of time it can lose the journey.

3.4. Fares (43:00 - 55:34)

Steven Penn: slide deck presentation given 10 days ago to programme board

Lot of fares data published in September, various routes:

(comes back properly at 48:00)

- Most of the data so far is from the Fares Data Tool rather than from ETMs.
- Two main ticket suppliers, Vix and Stagecoach partnership. Stagecoach data is on their open data site, but not published to BODS yet. Business processes for checking accuracy before sharing with BODS, possibly in September.
- Ticketer have added the functionality for their clients, so expecting some data in September
- First York division to publish soon
- Create Fares Data service available with more functionality. Most of the major operators have updated their data to reflect improvements and changes

For operators outside of Vix or Ticketer, or fares outside of their ETM system, then the Fares Data Tool is there for them. BODS team are working with smaller operators to get them onboarded, so there are lots of smaller operators data in BODS at the moment.

Action +Opportunity comment/feedback: Technical document coming up - because we are hearing that NeTEx involvement is far too variable. Specification won't change but guidance to give details of what we expect to see. Should have been finished last week. To be circulated in February for comment, and we'll send to Tim to circulate around the group for feedback.

Other bits of work:

- User research - we've been talking to academia and app developers about their appetite for it, business cases for it, blockers they face to use it etc.
- Interest in GTFS conversion. Not much interest in off-site product - focus at moment on adult tickets and day savers etc.
- Version control - issue - how revision will be managed, and for NeTEx files too.



- Multi-operator and multi-model - in roadmap but challenges still here to address these. Bus, rail, tram and Plusbus - all key parts of BSIP but more work to do.

Questions / discussion

Offer for exploration of Transport API Fares API tool: We have an API now that allows exploration of the NeTEx fares data. If submit two ATCO codes, it will give you back all the fares available in NeTEx data. If anyone wants to play with this, let me know and we can arrange that. We'd like feedback on this jonathan.raper@transportapi.com.

Steve Penn: encourage people to do so and use it.

4. NaPTAN Project (55:34 - 1:14:30)

Dr. J and Adrian giving update on this.

Mural board with details on.

Adrian:

- demo of new service
- Talk through issues of old (existing) service
- timeline for changes

Demo:

Made a very simple website to download NaPTAN data - taking data a day ahead of current NaPTAN system. Three pages, which are all accessible and responsive. Fully functional site for private beta.

1. access stop data in csv or xml - all data in one go, or by local authority
 - a. only CSV at the moment, XML coming next week
 - b. for Local Authority's - add in the Local Authority(s) you want, select file type, and all of the data you need.

In xml, got everything in it. for CSV, used to provide zip with 17 files in, but only stops CSV used majorly, so we are currently only providing the 1. a few issue with some of the other files, but if you need it, yet

Re: access via URL. Will provide more info on the site - you will still be able to download via URL. We have tried to recreate a lot of the key things people need.

If you download the full dataset, or data from multiple Local Authorities, then you will get it in version 2.4. If you just download data for 1 Local Authority, then it will only be the version that the Local Authority has used to upload. Still a variety of 2.1, 2.2, 2.4 being used. Not mandating specific format yet, but want to encourage consistency in future.



Issues of current site:

- issues with data. old system, increasingly hard to support. Survey on site a few months ago. Took site down a couple of days, and struggled to get it back up.
- tried to update data for Durham and add a train station in - but couldn't get it into CSV only XML, so unable to make that change. If you access via new site, not a problem.
- updating data manually - issues - 900 stops (TfL). Had to get TfL into the private beta for ferry stops at Hammersmith sprted. Also there are two Heathrow airports in NaPTAN
- some issues with coaches and Plusbus working - not updated for a while
- some of the data we've been provided with in NaPTAN (e.g. location); if we were only given one co-ordinate, we used to calculate the others and sometimes these calculations were wrong. So, not doing the calculation at the moment, just taking what is given.

Want to get as many people as possible using the new site asap. Dataset is becoming increasingly degraded on old service. More people on the new service will free up time / space to work on upload.

Suggested timeline for this for discussion (slide)

- service assessment early October. We have failed in the past, so not certain. Subject to that going ok, then we open up to public beta by later Oct 2021. Once this is working and fine, then close down download part of old service at the end of the year.
- Non bus-stop info could then be improved on the new site. Also, train stations, fix Heathrow issue - want to fix in new service not old one.

Other issues: 7,000 stops have created data after modified date. This will be a barrier to doing other useful things in future, so needs fixing. Data quality issues to fix to enable new features to be added.

Questions / discussion

Chris Sherry - for us that timeline works fine. We tried the Beta and it works fine for us. Use the URL. Raised comment in meeting - local one is handy, but no public url address call to get data for specific authority, so we just have to download the whole lot like we usually do.

Adrian: we do have a way of doing this. Can pass on details after the call.

Mark Taylor: would like to be able to access stop area and hierarchy, which were part of the zip file, would like them in xls format easily. If you try using the XML, its a devils job to work out which stops are in what, unless there is some easy method for obtaining data from XML files that you can easily bring into xls.

ACTION: Adrian to pick up on this with Mark Taylor next week.



Dr J: thanks to response on making changes to data. We found some errors against new schemas, so thanks to Mark for doing that.

Adrian: checking files across schemas and been able to pick them up, which wouldn't have otherwise been obvious. Quirks from not implementing the 2.4 schema etc.

Mark: your checks picked up things I didn't realise.

Dan Saunders: October sound fine for us. Started downloading it already, so confident of that.

Updating static links, which hadn't been updated for 10 years.

Adrian: we have multiple stacked redirects in the old service - bit of a shock.

Mike Baxter: have you got Vix in on the private beta? Their DMS has various calls and stuff hardcoded to the current NaPTAN infrastructure.

Dr J and Adrian: yes they are in now, brought them in. Scheduling meetings in next few weeks. Justin Bloom from Vix involved.

Tim: couple more working groups coming up in next few weeks. check out PTIC site or on emails for how to join.

5. Traveline Projects (1:14:30 - 1:27:50)

Updates from Julie Williams.

TNDS:

- 25% increase in people logging in and using our services in the last year. Currently 16k compared to 8k on BODS. But for us that also includes Wales and Scotland.
- work with Basemap - exploring what data people are using. 2.1 TXC - vs 2.4/ 94% only using 2.1. Not including own supplier Silverrail. Although had 2.4 / 2.5 live for 6 years, only 6% of our users consuming it. doing more research to understand if there are blockers to this - if so, what the barriers are. Now we know hard end date in BODS, so can start to plan things more. Would like to continue providing 2.1 for as long as we can, but need funding for it, and software upgrades to make the format transfer easier.
- 25k logins per month, and taking 50k+ regional folders per month - that's a lot of data being consumed
- in TNDS, integrated First and Stagecoach data for England, Scotland and Wales. First group TXC 2.1 - 1 single file per depot; strip, convert, recombine and publish in 2.1 and 2.4.
- Stagecoach already publishing in 2.4 EBSR format, so we are using that in TNDS.
- Our service report will tell you where data was published from (LA or Operator)



- As soon as we start taking data from BODS (depending on quality in BODS, and LA permission to stop providing to us). Then we will show BODS as the data source so it is clear to data users what data sources are.
- No intention of stopping letting others using the TNDS. No end date we can see that LAs are going to stop providing data to us.
- plan is to integrate all operators data, but step by step. Once the dataset for one big operator is stable, then we will bring that, one at a time, into TNDS. Theoretically once we can import 1 operator all the others are simple...!!!

Fares data - quite a lot of operators have NeTEx fares working in stages. Step by step though getting it into production - First and Stagecoach have come across different bugs (with BODS system in this case) they need to address to ensure this works. They are putting in lots of effort to put in to making the data; huge amount for operators to do, including BSIP re-registering all services by Jan etc - lots of work.

Plusbus:

Approval from all TOCS - to go ahead with barcode rollout across the UK. Status - GWR produced barcode ticket for Plusbus in tests, validated by Ticketer in West of England partnership - in test. Blueprint for next stage is to change the barcode standard for rail tickets to allow it to be on flashcard as well as validated electronically. Flash passes. Next version - almost final version for RDG validation. Different colour background so making it obvious it is not a rail ticket. RDG said we couldn't have flash passes, but we have made the point the revenue risk is on the bus network, not rail.

Expect finish by end December this year

Rollout:

- RDG puts it in rail retail engine
- TOCs switch it on station by station. 280 Plusbus zones with at least one station in them. Will make sure the rollout is coordinated accordingly.
- Driver training packs.
- Support staff trained in how to issue these tickets and deal with queries

Quite a big achievement - never been done. Hope lots of retailers will be interested. Moving very quickly.

Bringing services together and future.

How we bring together what we are doing in Traveline, Plusbus and support / out-reach.

1. old site, outreach, orange. Change colours and tighten up branding
2. then explore bringing together both websites a bit more
3. surprising that some TOCs and operators can see benefits of bringing more of their other multi operator tickets under the Plusbus brand. Would need exemptions to current



restrictions on plusbus. This will happen at a local level. Have to be managed by local legislation, so to be done locally, but we can help support them work through the hoops to make it happen.

4. we didn't expect the extent of interest in Plusbus that we have had.
5. We might or might not have an app, but these sorts of decisions will have to wait until next week, as we are all so busy on BODS

Questions / discussion

None

6. Electronic Display Standard Interface (1:27:50 - 1:48:40)

Tim: RTIG doing this with Transport for Wales. Worth being aware of, as it will end up with a standard.

TfW about to go out to tender for the Welsh equivalent for the Bus Open Data Service. This will include a RTI engine and central Content Management System (CMS) to manage content for displays, and framework to buy displays to go out on street.

Would like to get to point where there is a basic interface between CMS and on-street displays so that they only need to manage the core information on displays in one place, rather than having to go to lots of different CMSs to edit / input messages. Want to do this across their whole suite of bus stops (25k) and 600 displays if possible. But the focus is on new displays at the moment.

RTIG did some previous work on it in 2015. We put together an interface specification - not the technical interface, but it talks about the principles of what it needs to be. And some guidance on the sort of information you might want to put onto displays.

Having been talking to Local Authorities who have existing display networks, and who are looking to procure over next couple of years - there is a interest from English Local Authorities as well as Welsh.

in 2015, couldn't quite get enough buy-in to achieve a standardised interface, but maybe more impetus behind it this time.

Wales are wanting to look at displays in three ways -

- basic text-based display (3-line text only and countdown times)
- graphical displays - might be able to partition part of the screen for adverts, news, weather
- off-grid displays - not needing mains power. e-ink. TFT or LED powered by other means. Different set of requirements to make sure their power management is very well controlled to cope with not having a mains supply.

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Looking at displays in these three types. What we need to do for basic RTI content distribution for text based displays as first priority. To get messages out there; cancellations, diversions etc.

Operational monitoring - is it online? problems?

Initial workshop last month for introductions etc. Next one in a couple of weeks time, where will start to look into detail.

Goal: by end of this year we've got the basic text interface going, can understand what it looks like and is documented, ready for implementation. Then plan for what we do next - graphical content. Other stuff? Interfaces for sensors etc?

Opportunity to engage: If you want to get involved, check out RTIG website for the events.
<https://www.rtig.org.uk/events>

Questions / discussion

Jonathan Raper: if BODS is going to start providing predictions nationally, what about capacity of BODS to service all these CMS systems for achieving that? Loading processing effort onto that source? Will that effect Welsh decisions on this? Has DfT modelled market dynamics as a consideration of this direction in medium term?

Tim: I don't think DfT have at the moment - action for Tim and Teresa to talk to BODS team on what work has been done on this. Welsh work will initially be plugging into Wales back office they are procuring. Not a BODS per se.

Jonathan Raper: there are some very good CMS companies entering the space; Passageway etc. If its free, they will hit the source every 5-10 secs. Not seen any analysis or thinking on how to rate-limit access to throttle / manage this in a sensible way? BODS potential mission creep - also needs longer term plan.

Use Welsh exploration as a tool to explore possibly what will happen. Looks like BODS will become a comprehensive platform, publically funded, free at point of use - but only up to a limit? Don't know yet.

This group should think about its position on this.

Tim: Wales and Local Authorities will have their own prediction engine back offices and CMS that would potentially use this interface. Not sure there is an immediate crisis looming as a result of this work. But can see downstream how this could happen.

Jonathan Raper: there are some very sophisticated prediction engines. But I have had experience of pitching prediction engines, and what I have seen is that it will not matter whether it is right or wrong, but whether it is compliant. Might have an impact on provision elsewhere, not because its



necessarily better / more accurate, but because it free and 'official'. Wales will have to adopt in line with BODS, as already there is a lot of Welsh data in BODS. Won't want to waste money.

Mike Baxter: if what Jonathan Raper says is correct, then isn't that a big threat to the like of Vix and Trapeze?

Jonathan Raper: Meera says that suppliers will have to add more value - go up the value chain. There will likely be other secondary consequences that haven't necessarily be thought through.

Mike Baxter: the standard you are proposing Tim, should we be waiting for this? Is it not the case that SIRI-SM would be the standard for driving displays at the moment?

Tim: you can drive display systems with SIRI-SM. Can expect this system might have very similar style and approach to SIRI-SM. But SIRI-SM doesn't do messaging or fault managing, or graphical displays. So there is nothing off the shelf in a EU-standards context that you can just lift and use, hence why work is needed. In terms of waiting we will have something by the end of this year, then suppliers will need to implement. So depends on your timescales for buying them.

Mike Baxter: the proposal is for three different types of interface?

Tim: yep, but they all build on the text based displays. It doesn't mean that, for graphical displays and off grid, you won't need a CMS, but you'll get to the point where you'll only need to put messages in a single central place rather than multiple places.

Mike Baxter: interesting idea. We're looking at battery signs in Leicester.

Tim: In future you might have minimal to do with that, but at moment, you would have to enter stuff.

Mike: are suppliers involved in this?

Tim: yep, all the likely crew, and a few ones that are new to the UK market expressing interest too.

7. EU Standards development (1:48:40 - 1:55:00)

7.1. New SIRI functionality for Control Actions

Tim: update to this just going through the final vetting and checking, still expecting it to be released by the end of this year.



Waiting approval for work to start for Control Actions - what a control room might do for managing vehicles that aren't necessarily affecting public transport information.

7.2. NeTEx Accessibility Profile

Progressing rapidly, Use Cases are in place and starting to look at what data already exists, and what data people think they need, both Public Transport specialists but also users. All EU at the moment, Tim has a watching brief on it, but not enough UK suppliers / people expressing enough interest for me to want to do more than that.

Opportunity to get involved: If people want to do more on this, accessibility needs and how it should be modelled, please do get in touch - as would be really good to have another set of eyes and ears in that group.

Questions / discussions

Keith: last meeting Julie mentioned it about accessibility data - saying working on business cases of this. Where is that up to?

Dr J: taken a business case for data discovery for how we can build accessibility data into NaPTAN, and what to do for NaPTAN. Also what would happen for Local Authorities and what it means to them. It's with SRO board for review right now. Hoping to get Discovery done by the end of the year. Wishful and best timeline, but more likely in the new year. You will all be dealing with me more than you want in next couple of months. Data engineers and I will be talking to you about accessibility. Be prepared!

Keith: so this is an extension of the current NaPTAN project?

Dr J: don't know about that - will depend on the outcome of the Discovery. Need to explore the burden on Local Authorities and any mitigations DfT might need to provide. Need to gather more data together, and present in a coherent way on this.

Given NaPTAN has been the neglected but golden child, setting it up solid and for future proofing would be wonderful.

8. Issue Log

No issues raised. Tim encouraging attendees to think about changes to standards etc that they see are needed and valuable.

Opportunity to get involved: None of the standards are perfect, so there is lots of things to be done, but it needs people to identify/champion these.

9. Next Meeting

Traditionally we would have next meeting just before Christmas. Get heads together for early December. Interesting time to see interest with BODS and head towards year-end. Legal

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compliance deadlines etc. Still propose remote meeting, as reduction in travel time and emissions worth it.

Mike: does that mean not another in person meeting?

Tim: we should consider whether we need to. If so, would need to be a hybrid meeting.