Passenger Transport for Councillors

Edition four of the Pocket-book series

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A practicable guide blending a professional whole-system awareness with a light touch introduction to 'Lean and Systems Thinking' (L&ST) – Achieving More for Less.

Contents:

Pocket-book published by Support Services Direct as part of the Visualising Transformation series. Previous Books include: Quality or Politics, Visualising Transformation and VT-Achieving More for Less.

Booklet One: Potholes, **Two**: Waste (Recycling and Cleansing)
Three: Fleet Management
Four: Passenger Transport

Also 'Total Transport – from theory to practice'

Special Thanks to Stephen Good for his supportive advice.

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1. Introduction:

The Councillor Pocket-book series is designed to be short, useful summaries for Local Government and operational issues, without over-simplifying the subjects, enabling Councillors to ask better questions to improve services.

Booklet four: Passenger Transport

The majority of transport within a council tends to be 'Home to School' (H2S). The various types of councils determines the range of transport provided. District councils do not offer PT in two tier working arrangements. Generally London Boroughs only offer 'Special Educational Needs & Disability' (SEND) H2S transport as London Transport provide Oyster cards to school children. While Counties and most Unitaries also offer mainstream H2S transport.

The most relevant guidance was published by the Department for Education in July 2014, cross referring to acts of parliament and transport law. + Pre / Post 16 guides.

Abstracts include: '…promote sustainable travel and transport…', '… compulsory school age..' , '… improve the physical well-being of those who use them…', '... to improve safety and reduce car use…', '… cycle training, road safety training, & independent travel training … walking promotion, .. park and stride …'

'For children with SEND, … travel to named school on their Education, Health and Care Plan (EHC Plan)…', 'Best practice suggests .. maximum of 45 minutes each way for primary pupils and 75 minutes for secondary. For children with SEND journeys may be more complex and shorter journey times while desirable may not always be possible.'

A few generalities (Based on 16 PT assignments):

a) The majority of computer software in those assignments, for PT is extremely dated, inefficient and difficult to use. b) H2S route designs are very poor, c) Procurement practices are ineffective, d) SEND H2S provision tends to be over-protective, not enabling learned life skills, e) Whole service awareness is rare, f) Commercial awareness is rare.

Some explanations;

a) H2S PT software has generally been evolved from private sector bus packages then amended over time. The complexity of updating and reprogramming defeating any 'Agile' capabilities. Software that doesn't allow full integration with school passenger lists (CRM), finance, procurement, routing and EHC's are not really worth thinking about.

b) SEND Routes tend to be created on an estate basis, i.e. collect the first person in the estate, travel round that estate until all are collected, then drive towards the school. A bus can be travelling for 50 minutes and only be 10 minutes closer to the school. Virtually all SEND passengers travel only on a single vehicle, only with other SEND passengers. Is that preparing them for independent living after school years? Is that good route planning?

c) Procurement 'best practice' often promotes 'economy of scale' so routes are let for 3 years. Hence when the annual re-routing of travel is carried out for new academic years, contract years 1 & 2 tend to be left mainly alone, creating a gradual interweave of longer than needed routes like a plate of spaghetti.

d) SEND passenger needs vary from extreme autism and health issues, to marginal needs. Some children need very specialist transport! Others could be 'Travel Trained' to need no transport support, or less complex travel support. Some councils have 90% of SEND passengers picked up away from home at safe places or bus stops, while others always pick up from home. Some councils use two stages of 'collect then deliver' SEND passengers, while most others will always have 'one bus, one journey'.

e) Most councils split PT into many silos, where every section is separate from all others: Public Transport, On demand transport, Mainstream H2S, SEND H2S, Respite care, Adult Social Care Transport, Voluntary Sector… Ambulances ++ If all are treated separately, each area will be less efficient than the whole could be: Service delivery worse, costs more!

f) Commercial awareness has been virtually eroded from the public sector. Great use of ICT is rare, make do and work-rounds proliferate, customer contact fragmented, budget compliance far less important than individual decisions. Senior management decisions made with virtually zero awareness of the service requirements.

A brief real-life example:

A large city council was overspending SEND H2S PT by 60%. The CMT engaged a major consultancy to help redesign to budget; that appointment was opposed by most people within the service and in particular by their in-house transport provider. The council was also redesigning their Policy & trying to understand their costs.

They had no operable ICT: for passengers, routes, or finance. The service units didn't support one-another, every service seemed to 'blame' every other one for their issues. No one had any form of 'big picture'.

It was found that 97% of all passengers had transport provided in excess of Policy. The existing policy was sound, however; conformance to it, was virtually zero. Initially a few special exceptions had been made due to councillor or senior officer 'special requests', then travel appeals were over-turned by well-meaning officers, leading to a general over-provide in all cases.

After some deliberation, it was agreed to retain the current Policy, then gradually install a system of control, ensuring that new transport, or retained over-provision of existing service was only approved by middle management.

Dozens of passengers were wrongly shown as being on more than one route, those passengers being charged for; several times. A single passenger was on a 17-seat bus route; only travelling 1.5 miles to school, with a parent as a Personal Assistant (PA) and costing £29,000 per annum.

Most routes were needlessly long, being designed to get a passenger on the bus as soon as possible after leaving the depot for fuel tax evasion. Some relatively short streets had three different buses going to the same school, including siblings on different routes needlessly.

Many passengers were given Travel Training, enabling lower cost transport and more independence; then the in-house provider wouldn't reduce costs on the reduced route.

Parent / guardians were approached for passenger details on

up to eight occasions as a routine, as the various service units didn't trust each other. Several duplications of single passengers existed with: Transposed names, (i.e. forename / surname in both orders), misspelt names + correct ones, siblings living both sides of the road and even passengers attending their old school plus their new school, both five days a week.

Mapping all the current routes into one school demonstrated that their route orders with collection times included: The current routes individually were illogical, and many were impossible. Routes crossed over one another repeatedly adding to miles and time, reducing capacity.

Large mini-buses were taking 1, 2 or 3 passengers. PA's were provided when not needed, a simple redesign reduced the number of vehicles by 25%, daily mileage by 30% and journey times by an average of 12%. Costs from one simple exercise would reduce by 28% based on the initial information.

Our intervention significantly reduced journey distances and times, reduced the number of solo passengers, reduced the number of routes overall, eliminated duplicated passenger records, enabled data sharing and cleansing between units, reduced 'over-provision' against Policy and enabled current ICT to be better used by several departments.

2. **The annual cycle of work.**

Home to school transport (H2S) has a major transition of service delivery every September based around the academic year.

Effectively schools have a 38 week year, which simply translates for budget purposes as 190 days. However, the terms vary, mainly due to Easter, which can be anywhere from late March to late April.

While all (school) academic years are around 190 days, financial years can vary from around 185 to 195 days. {It's possible to have a financial year with zero, one or two Easter Sundays, thus more travel days or less than 190.

Then there's the effects of training days and weather. Snow days with no transport often results in no provider payments.

Colleges tend to have around 15 fewer days a year, while universities have even less.

Planning for 'next-September' often starts 'This September' when the applications for placements process starts.

By mid-February most Junior School placements will be known, and by the end of March most senior school. Six form college attendance tends to firm up very late, often only a few weeks before the start of term.

Most pupils are expected to walk, cycle, or make their own way to school, if they have a safe route to school of over two miles for under eight years old, or under three miles for eight and over.

If the distance is greater than that, (for the closest

suitable school), then the authority needs to make some provisions to get to school, via bus pass, travel card, individual payment or dedicated transport. If there isn't a safe suitable route over a shorter distance, again the authority needs to make provisions, or make the route 'safe'.

'Best practice' suggests a maximum journey time of 45 minutes each way for junior school pupils and 75 minutes for seniors, not requiring 'several changes' of transport.

Discretionary travel arrangements can be put in place for people who do not qualify as above, for which charges may be applied. Families on low income qualify for most transport free of charge.

Any persons directly interfacing with H2S passengers must be checked for criminal records, generally using the Enhanced check for the Disclosure and Barring Service (DBS) That would include all Drivers, PA's, Transport Team, and direct line management.

Special transport is provided for SEND passengers who will have an Education, Health and Care Plan (EHC Plan) in place. This will include a nominated school for that assessment.

While the previous 2 and 3 mile qualifying distances may apply, it is quite likely that the SEND conditions will limit travel distances that can be safely achieved. The recommended travel times are again desirable, but the complexity of need, may lead to longer journeys to be required.

Between April and July each year, the Transport team will need to completely redesign H2S routes, factoring in new Year 0 & 1 pupils (4 & 5 year olds), Year 7's moving to a

senior school (ex Y6 Junior) and then transitions around Y's 12, 14, 15 …

As new passengers need to be catered for, and routes with passengers either changing schools or ceasing requirements get smaller, all routes need to be re-examined.

That is, virtually every route, every year needs to be redesigned. (See Chapter 4, Map Based routing)

The most expensive elements of SEND H2S routes are: Solo passengers, high needs wheel-chair passengers, out of area transport (These can be 40+ miles a day in each direction).

The least costly transport tends to be from well-filled minibuses and MPV's. Sometimes the Passenger Assistant (PA or Escort) will cost as much as a taxi plus driver.

Cost avoidance is derived by getting as many people to a vehicle as safely possible, travelling the least distance.

Once the routes are designed, the vehicles, drivers and escorts can be tendered for. The earlier in the year this is carried out, generally the lower the costs. Leaving procurement until July enables the providers to submit very high prices, with little second chances to reduce them.

If the school placements and EHC's are late, costs will be greater!

Awarding contracts must be a balancing act of best overall meeting of authority needs, while ensuring the providers have sufficient, well qualified and suitable staff (and vehicles) to meet those needs. Apparently cheap options can become quite costly soon after.

3. **Map based routing:**

There are many free Aps for passenger transport routing, available such as GoogleMap to design one route at a time. These tend to produce route times as an average across the day, but don't factor in the extreme congestion issues that many Town Centres experience during 'The School Run'. Minibuses and Taxis can generally use Bus Lanes once they have a passenger on board, which will help speed them up. However, those routing systems don't allow all options to be seen collectively.

Most collective route systems design on an estate-based (or clump) method, i.e. their algorithms are sub-optimal. Only one system that we have used uses a linear (string) theory, where every pick-up gets you closer to the school.

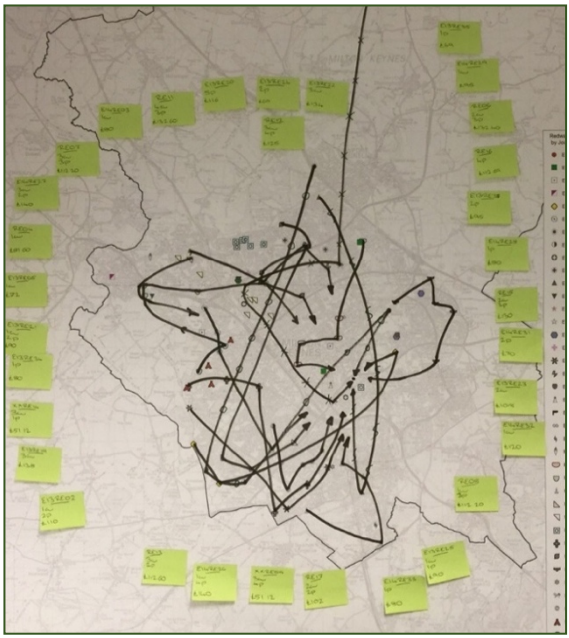
Simply start with maps.

Most spreadsheets will enable data to be uploaded into a Geographic Information System (GIS). If the council no longer has much use of GIS, free GIS aps are available on the internet, or inexpensive web-based versions are simple to use.

Filtering by a school will enable all passenger details, post codes are fine initially, and mobility issues to be graphically uploaded onto a map.

Constraints such as 'Solo Passenger' or Passenger X cannot travel with Passenger Y can be added or annotated within the map. Then very simple routing options can be added initially in pencil starting from the furthest distance passengers and working towards the school. An improved design could then be overwritten in coloured pens.

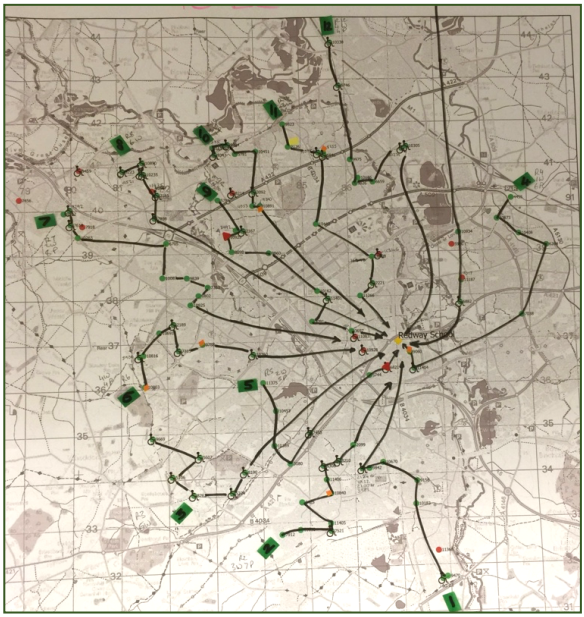
Here are two SEND H2S PT designs to a school, showing before and after routes for a whole school.



The diagram on the left shows existing routes to a school.

This was drawn on an A0 sheet, placed on the wall, to create curiosity from all involved.

Many routes had evolved over time. With year 1 & 2 routes being left as sacrosanct.

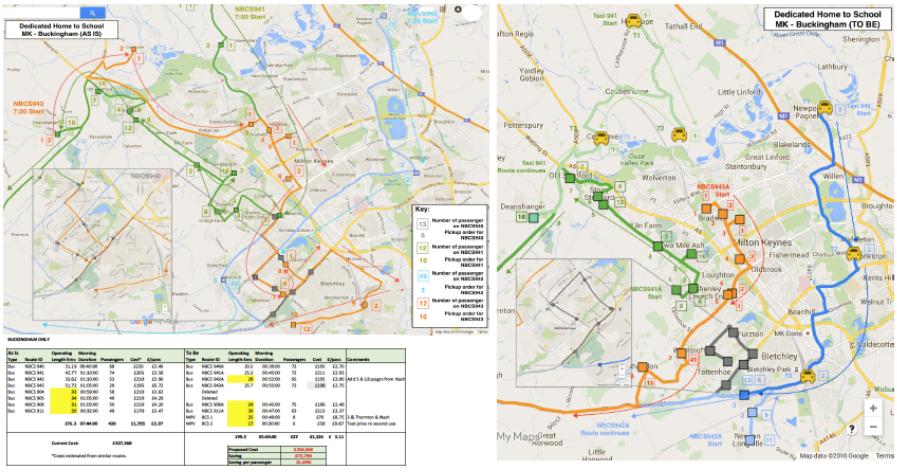


This map shows routes after redesign, the original designs had 41 routes, this has 25, this enabled a £200K cost saving (30%) from one afternoon's design time, once the maps were produced.

The new routes are generally shorter & quicker than the original, all constraints and requirements for individual

passengers were complied with. Some routes were designed as 'wheelchair only' which is why two routes cross over in the SW corner.

The existing mainstream passenger routes into a school at another authority were exceptionally long, with needless distances to school for many passengers, who travelled as much as 8 miles away from their school, before starting to head towards it. (Based on one bus – one journey)



Mainstream H2S routes, left 'As Is', right 'To Be'

As Is Type	Route ID	Operating Length Kms	Morning Duration	Passengers	Cost*	£/pass
Bus	NBCS 940	31.19	00:40:00	68	£235	£3.46
Bus	NBCS 941	42.77	01:10:00	74	£265	£3.58
Bus	NBCS 942	32.62	01:10:00	53	£210	£3.96
Bus	NBCS 943	51.72	01:05:00	29	£195	£6.72
Bus	NBCS 904	33	00:59:00	58	£210	£3.62
Bus	NBCS 905	34	01:05:00	49	£210	£4.29
Bus	NBCS 906	31	01:03:00	50	£210	£4.20
Bus	NBCS 911	20	00:32:00	49	£170	£3.47
		276.3	07:44:00	430	£1,705	£3.97

To Be Type	Route ID	Operating Length Kms	Morning Duration	Passengers	Cost	£/pass	Comments
Bus	NBCS 940A	20.5	00:30:00	72	£195	£2.70	
Bus	NBCS 941A	25.3	00:45:00	72	£211	£2.93	
Bus	NBCS 942A	28	00:52:00	65	£195	£3.00	Add 5 & 18 pssgrs from Nash
Bus	NBCS 943A	25.7	00:55:00	72	£198	£2.75	
	Deleted						
	Deleted						
Bus	NBCS 906A	24	00:45:00	75	£186	£2.48	
Bus	NBCS 911A	30	00:47:00	63	£213	£3.37	
MPV	BCS 1	25	00:40:00	8	£70	£8.75	3 & Thornton & Nash
MPV	BCS 2	17	00:30:00	6	£58	£9.67	Test price re second use
		195.5	05:44:00	427	£1,326	£ 3.11	

Current Cost: £327,360

*Costs estimated from similar routes.

Proposed Cost	£254,566
Saving	£72,794
Saving per passenger	21.69%

These simple changes saved over 21% of costs and largely reduced passenger journey times and distances. That's a £73,000 annual saving from a few days work.

According to the service, those buses were designed to arrive 98% full. (If everyone travelled) However, looking at the route from depot, to first pickup, to school and back to the depot, only 18% of the seat/km capacity was used.

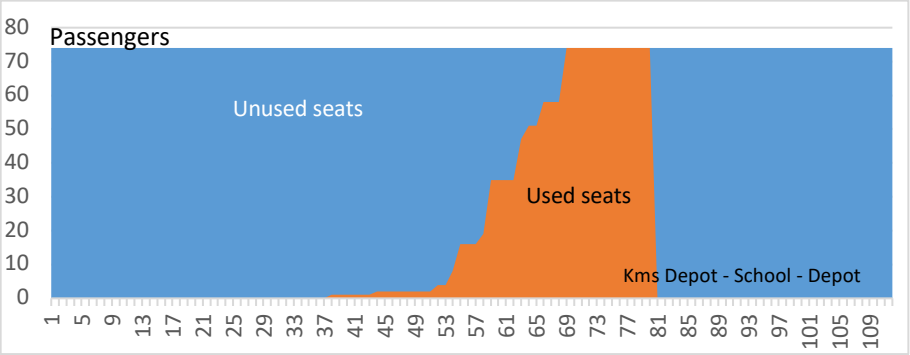


Diagram showing seat usage depot to school to depot.

Both redesigns above result in: Reduced journey times for most passengers, fewer miles covered per vehicle, fewer vehicles needed, less congestion, less CO2.

Map based redesigns enable easier savings and better routes, with a minimum whole authority saving of 15% so far. More complex designs, transitioning to pick-up-points and other solutions save considerably more, while generally reducing journey times.

4. Pick up Points.

A fundament of SEND support is to enable a child to become as independent as possible for future life. If from the age of four to sixteen, a vehicle arrives outside the door to take them to the school and back each day, how 'real-life ready' will they be by the age of sixteen?

PuP's are useful in many ways, the locations should be risk assessed, in terms of location and ease to get to.

Many Local Authorities use PuPts routinely for Home to School (H2S) transport. There are many advantages for these compared to a collection from the actual home address, which includes:

- ✓ ***For the passengers***
  - Children get used to the discipline of being at an assembly place on time
  - They learn life-skills about getting to a place, traffic and safety issues, initially assisted by a responsible adult
  - Route times become faster, with less circuitous routes, more reliable for timing
  - Delay times (waiting for people) are reduced for those on the vehicle.
- ✓ ***For the service providers, (vehicle owners)***
  - Minimal distances on minor roads
  - Fewer U-turns and parking issues
  - Less delays awaiting people to come out of their homes
  - Fewer stops, with more people loading at each place (reduces safety risks)
  - Less wear and tear on the vehicles
  - Reduced probability of issues with passengers

✓ ***For the school***

- Children become more life aware, prepared for the future
- Speedier, less disrupted journeys, enable less distracted pupils (easier to teach)
- Fewer vehicles to marshal at school, (loading & disembarking)
- Less immediate congestion & marshalling demands, thus safer

✓ ***For the parents / carers***

- Their children become life aware, easier to support
- Opportunities created to meet other parents for local support and discussions

✓ ***For the council***

- Fewer vehicles, travelling less distance, faster
- Less congestion (especially around schools and major routes)
- Less cost, and improving air quality
- Easier transitioning; i.e. for change of school or post 16
- More 'ready for life' after school age, less lifetime support.

PuPt explanation:

Example: How boarding is currently carried out at a typical house in a housing estate:

✓ ***Without a pick up point***

- Vehicle turns right into 'Acacia Avenue'
- Drives past pick up address
- Achieves three point turn at a safe location
- Drives back to pick up address, & finds suitable waiting space
- Waits for passenger and carer to come out of the house
- Embark passenger, including assuring belts and harnesses correctly used
- Drive back to main road, turning right into it when safe
- Resumes journey to school.

(Delay per passenger approximately six minutes)

✓ ***With a pick up point for one person***

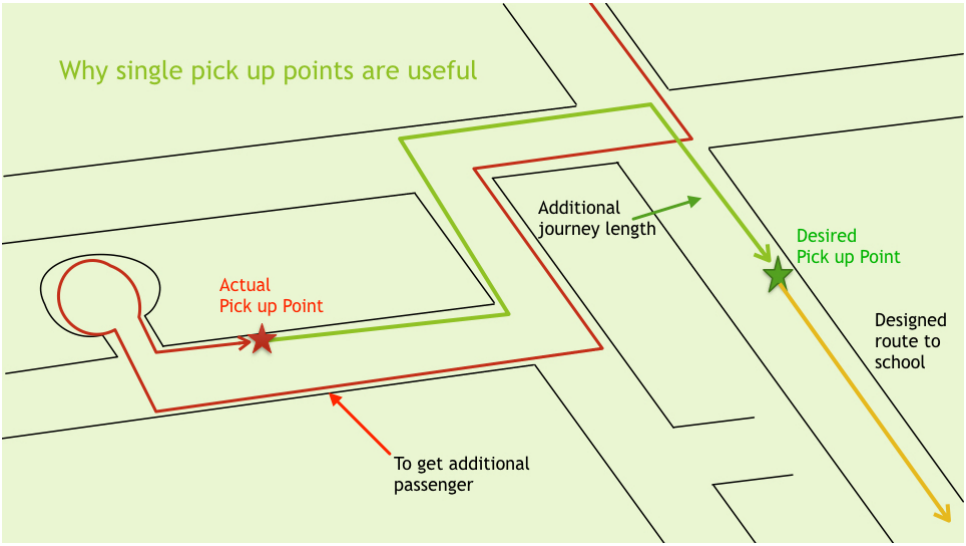
- Vehicle slows down and pulls into the pick-up point (Not going off the primary route)
- Embark passenger, including assuring belts and harnesses correctly used
- Resumes journey to school.

(Delay per passenger approximately three minutes)

✓ ***With a pick up point for three persons***

- Vehicle slows down and pulls into the pick-up point
- Embark passengers, including assuring belts and harnesses correctly used
- Resumes journey to school.

(Delay per passenger approximately 90 seconds)



<u>Sketch showing an off-route collection compared to an on-route PuPt</u>

Example of vehicle capacity and indicative costs if maximum journey time is one hour:

Option	Capacity in hour (based on a similar route to school)	£/passenger /year	Comments
1	5 passengers	£7,000	Allowing up to six minutes per passenger not on the major route (30 minutes collect, 30 mins positive mileage.)
2	7 passengers	£5,500	Allowing 3 minutes each. (21 minutes collect, 39 mins +ve)
3	9 passengers	£4,700	Perhaps larger vehicle than in 1, travelling less distance (14 mins collect, 46 mins +ve journey)

Summary

PuPts are useful for virtually all people in the system, creating shorter, quicker and less disruptive journeys that cost less per person, while increasing the life-skills of the passengers.

PuPt maximum distances from home should be set, perhaps with some dual standard, for moderate condition passengers at say a maximum 800m distance from home, and for severe conditions at 400m. (Accepting that a select few very severe condition people / specific locations, may still be collected from home).

Typically; passengers on a PuP vehicle will cost 25% less than traditional home collections, students arrive at school more ready for education, while being more life-ready as a whole.

5. Managing the whole system.

We created the diagram below while conducting an ICT PT review for a large county council. Effectively virtually any ICT Database can interface with any other, even if it is via simple 'middle-ware' to achieve that.

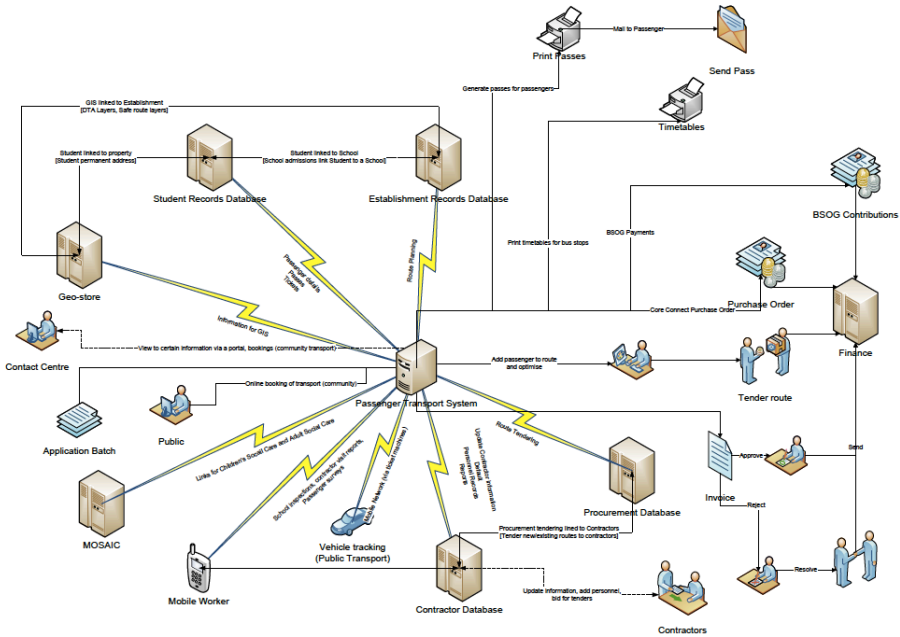


Illustration of current ICT integration potentials.

It's not unusual for the same, or similar information to be input many times, with every data input being an opportunity for minor typographical errors.

The elements that may be involved for SEND H2S transport include: Education authority, School, School Placements, Social Care, PCT, Travel Assessors, Transport Unit, Transport Provider, Procurement, Finance … Each may have their own ICT, all will have the (Passenger) Name, Address,

DoB, Parents details (Guardians), Contact details, + EHC Plan details, travel needs, …

Some systems deal with simplicity well, but can't handle complex requirements, (such as multiple school attendance, different drop off locations through the week) many systems (apparently) will not link with other systems, but there's always a way.

The 'Transport unit' will need the EHC Plan, Personal travel needs, home address, school address, +++ Then be able to map requirements to delivery, enabling routing, tendering, contract delivery / legality / monitoring (Licences, DBS, MOT's, Operator Depot ++) and financial control.

Having five or six systems access each with their own peculiarities reduces capacity to deliver work and sub-optimises potential value-adding for the team.

The mantra of 'Enter data once – use many times' is very sound, so long as it is reliable data.

Data cleanliness is imperative, we have often seen a record saying 530 people travelling then cleanse it to 505. Incorrect data needs to be eliminated at source.

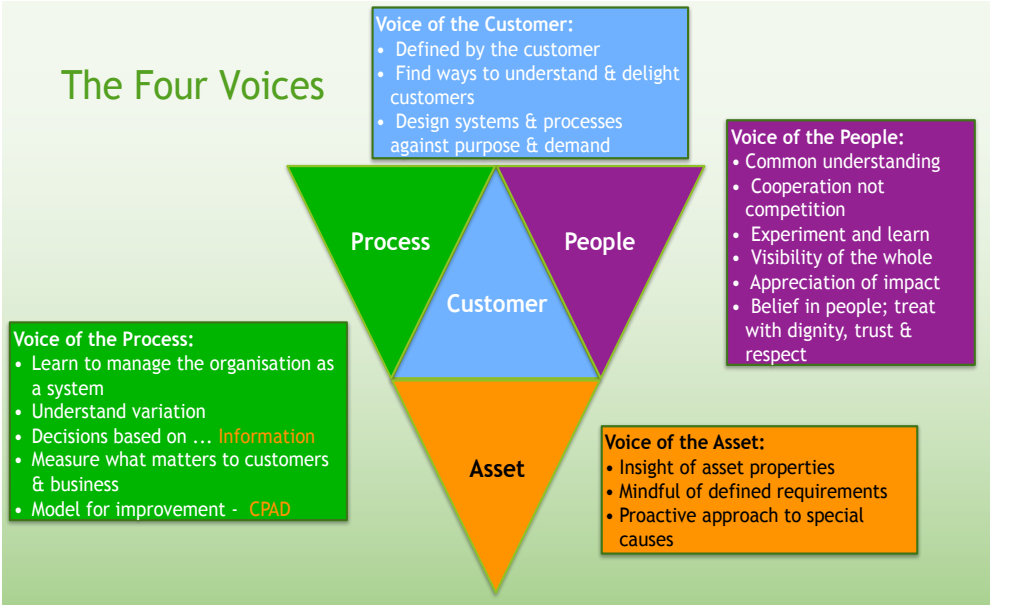
Knowing exactly what assets you have, their commitments and capacities at any time, their operational status and what those vehicles '*Could do – rather than what they do-do'* is incredibly useful.

6. Voice of the Asset (VotA)

VotA is not a 'normal' thought for any council service, yet alone Passenger Transport.

A large part of systemic thinking is around considering the whole system. Simply taking a financial or operational viewpoint will give you sub-optimal outcomes, as would only taking a Customer view-point.

Everything is connected, traditionally the Joiner Triangle considers Process, Customers and People, where people refers to the people working in the system. Adding assets to this will lever in some opportunities invisible otherwise.



Voice of: Customer, People, Process and Asset.

So what assets are holistically considered for PT? Vehicles, drivers and PA's? What about the transport unit, and their ability to add value? How about 'Route optimisation tools' that provide 8 solutions for a whole school in 30 seconds?

Then using automated 'Dynamic Purchasing Systems' (DPS) to take route designs to market, enabling provider bidding for optimal service delivery, that uploads to route manifests for the provider, and parent contact forms for their child.

Within passenger transport most services are performed in neat silo's eradicating any possibilities of multiple usage of a vehicle within the council, before considering the NHS and Voluntary sector activities.

The 60 page A4 book on ***Total Transport*** (Which is very detailed for higher level practioners) shows an eight point plan to save money, improve service delivery and invest in the next stage of improvement, where the first stage may save over 12% of total costs.

Most councils fail to achieve a coherent alignment between Home to School transport for SEND pupils with Mainstream transport, yet alone align in five other ways.

Being aware which vehicle is where in real time isn't hard, however, knowing what the committed unmet demand is, against the flexible capability of the vehicle, the traffic congestion and secondary options gets more difficult.

Total Transport will be unleashed by great, fully integrated ICT systems, akin to 'Air Traffic Control' such that full 3D awareness connects to the assets. (3D being Eastings, Northings and Time)

We have suggested that 15% costs could be eliminated via Map Based Routing, with those passengers moving into PuP arrangements saving up to 35%, (for those routes), but now let's consider multiple usage of vehicles through the day.

Traditionally route planning for SEND & Mainstream H2S

transport are achieved separately, with little or no linkages to public transport, none-emergency health transport, Social Care and Voluntary sector transport.

Effectively, every one of these is designed separately, with zero thought about connectivity.

If a 'school bus' is used for the school run only, then its' whole existence costs are charged to the school run, forward and back, 190 times a year.

Let's compare the provision of a dedicated school bus for mainstream, compared to being given a bus-pass. People with a bus pass will have to travel with other passengers, sometimes changing buses, or from a train to a bus, not necessarily having a seat, and definitely traveling with other 'un-vetted' members of the public.

The mainstream bus will be a unique route, seats guaranteed, with a seat belt, with no members of public.

The only selection difference between those options being where a person lives. The literal post code lottery.

So why can't (selected) members of the public travel on school buses, or pupils use more than one school bus to get to school?

Why can't specialised SEND vehicles collect selected mainstream passengers? Why shouldn't the planning and procurement of specialised SEND vehicles 'tie contracts together'? So that a drop off at a school occurs by 9:00, then starts collecting adults to go to a day-centre, then non ambulance passengers to an out-patients, …

Linking uses reduces down-time mileage and costs, while making accessible transport affordable for many more.

If mainstream H2S transport was considered as two elements, Collect then Deliver, in rural areas, smaller minibuses could go from villages to main roads bus stops, then larger vehicles could take people to their schools.

Village transport could be open to paying passengers with ID passes, who could be going to nearby schools, or to work for instance, thus invigorating rural transport.

This two-phase 'Collect then Deliver' design would quite often reduce the overall travel time and enable choices for breakfast clubs and after school activities.

7. Cooperation and collaboration

Where passengers travel from and to; varies with an almost daily change of needs across several hundred passengers. To get the most out of schools and transport providers it is best to have a good level of 'give and take' across the whole provision.

For instance, an SEND route that makes perfect sense when designed can have two minor changes and start to look very wrong indeed.

If sensible, controlled changes occur, it's possible to swap passengers from route to route to avoid conflicts, journey time issues or simply to make both routes shorter.

To do that the teachers, parents and passengers all need to be properly engaged, not fearing 'cast in stone' decisions that cause more problems than they solve.

Travel for some SEND passengers is worrying; or leads to sickness / anxiety. Minimising issues; is just as important as minimising costs, as the prime need is to enable the development of that child for useful long-term life chances.

The underlying 'contracts' with parents and providers must allow sensible change, to deliver best outcomes on a win-win-win basis. Too much change is usually difficult for the children, too much rigidity simply builds in future costs and longer journeys.

8. KPI's and PI's

Continual improvement needs some measures to help long term monitoring. It's often useful to think of a purpose for change as well.

Key Performance Indicators (KPI's): *^ increase, v decrease*

Rate of improvement of CI. ^

Total cost of transport v

Cost per passenger v

Cost per passenger mile v

Complaints regarding: Providers, Transport Unit

Number of passengers receiving shared transport

Number of children achieving Independent Travel Training.

Performance Indicators:

Average cost per vehicle by type:

Minibus, MPV, Taxi, Solo transport (With /without PA/ Wheel chair carrying)

Average numbers of children by travel type:

Shared transport, PuP transport, Travel Allowance, ITT'd

Average start to finish distance by travel type.

Percentage late / failed transport by Provider.

Average days elapsed from request to travel, to travel provided.

Average number of passengers per vehicle type.

9. Asking better questions

For a councillor to be able to add value, especially via scrutiny for instance, being able to ask incisive questions, and ensure the answers are credible requires awareness of the service, as well as contact with the public.

Here's a few questions (with some model answers) to assist.

- Q. Why are there so few passengers collected via Pick up Points? A. We are gradually implementing these one school at a time, starting with the most appropriate passengers and amenable schools.
- Q. Why is there only an average of 5.3 passengers in Minibuses when they could have 13 passengers? A. We are complying with council guidance to take no longer than 45 minutes, congestion is bad between 7:45 and 9:15 greatly reducing the amount of people per vehicle.
- Q. Why have so few passengers been trained to become independent? A. …
- Q. Have you thought to link mainstream H2S transport with public accessible transport in more remote areas?
- Q. What would the cost differences between single bus routing plus bus passes compared to 'Collect then Deliver' route designs?

10. Some achievements via Lean & Systems Thinking.

With sixteen PT assignments to call upon, there are many similar sets of issues and outcomes, virtually all of them have addressed: Office procedures, ICT, Safeguarding, Route designs and contract management.

The following scenario is based entirely on real interventions, with a mild mix of assignments into a single Case Study.

A large County Council was in a continual reorganisation of passenger transport management arrangements, always following the advice of the last 'Big consultancy intervention plan', flavoured by a constant change of Corporate and Service Directors with their own ideas.

Their 'Intervention Plan' was being project managed via a senior project manager, (who was then changed due to office politics) utilising Prince 2 methodologies. Service demands were increasing, whole service awareness was non-existent, no senior management or directors had in depth knowledge of Passenger Transport.

Within the service, everyone was conditioned to comply with the Prince 2 intervention plan.

SSD were appointed by two 'Interim Directors' who knew there were significant financial and operational issues, which had not been incorporated in the intervention plan.

There were two main objectives, i) Design and deliver a methodology for co-production working approaches for four defined trial areas, and, ii) Gap analyse the current plans, and build in what else needs to be done.

Soon after that appointment, one Director was promoted to Corporate Director, while the other was co-opted to another project entirely.

The gap analysis was relatively easy, all the elements of service were in small silos of interest, with no, or little linkages in reality, their use of existing passenger transport management ICT was poor, with many systems in place which didn't interface, they had low route planning skills, often relying on providers to design solutions, procurement advice was missing the point for adding value. Three separate PT units worked for the Council plus two outsourced contractors.

The co-production working approaches aspects were harder, the concepts had been described by previous consultants, with no tangible ownership within the services. Effectively it was a task to complete within the Prince 2 plan, but no one knew what it meant.

Background reading and standard R&D both failed to identify how this could be interpreted within the realities that existed, to achieve the outcomes that were forecast.

A neighbouring county apparently had 'done something similar', while meetings with them provided some great 'other ideas' for our client, they were nothing like our client thought they wanted (for co-production). The clock was ticking; and the programme management board needed some agreed dates to monitor and forecasts to scrutinise.

We added some GIS expertise to produce maps to represent current SEND routes, to demonstrate distance, time and capacity issues, then redesigned routes to be shorter and simpler, saving on average 16% of current costs.

We then designed some with pick up points and linkages between more than one school where opening / closing times plus proximity allowed.

Total savings across SEND were forecast in excess of 21%. In all cases we compared average and worst travel times, with a focus on numbers of people over 45 / 75 minutes.

Similar exercises were conducted for mainstream routes, enabling savings of 17 to 21% of costs, plus reduced travel times, prior to designing the mixing of school passengers and starting 'Collect then deliver' designs.

Having savings reducing costs by over 20% of £24M caught the eye of the Directors, while Prince 2 project management inhibited people from working with us, as their plan was 'sacrosanct'.

The service wanted to transition some dedicated mainstream routes over to public buses; but couldn't align and compare public bus routes with existing H2S demands. The data for public buses routes with times was held in massive data set, which needed analysing and stripping out of needless data.

We were able to strip out 97% of the data, and upload supply and demands of the two different services into one GIS package, enabling six months of previous work to be conducted in three weeks, saving £250,000 a year, a year earlier than planned.

This transitioning also started to inform the co-production working approaches, with prior benchmark details being replaced by far more useful information.

Understanding and designing the current services, then mapping how the new approaches could be achieved required 23 linked mind-maps, to start the germs of a Total Transport solution which would probably save a third of the £24M budget, while stimulating public transport and reducing congestion 'pinch points' in the highway network, which would further reduce future transport costs.

The bureaucracy of the Prince 2 programmes, led by well meaning practioners, constantly frustrated the capability to add value.

Officers were given several 'Iron Clad' £60,000 annual savings which would take less than an hour to implement, and simply ignored them due to the P2 demands.

The co-production baselines and initial design concepts were taken to a series of local community panels, who all could grasp the disparate nature of current services and some of the opportunities that may now be possible. Data gathering from dozens of interest groups had been performed by 'Communications' who then had no idea how to analyse the feedback, nor contextualise it across the four areas.

We produced some simple analysing masks in Excel, then reviewed feedback from several community view-points, by age, mobility, interests… That then under-pinned the alignment of modular solutions against varying local ambitions.

The council created a single PT Unit, all within the council employment, aligned ICT and standardised map-based routing, then procured our recommended routing system, to save many millions of pounds.