



Integrated ticketing to increase the use of Public Transport

Michael Milne

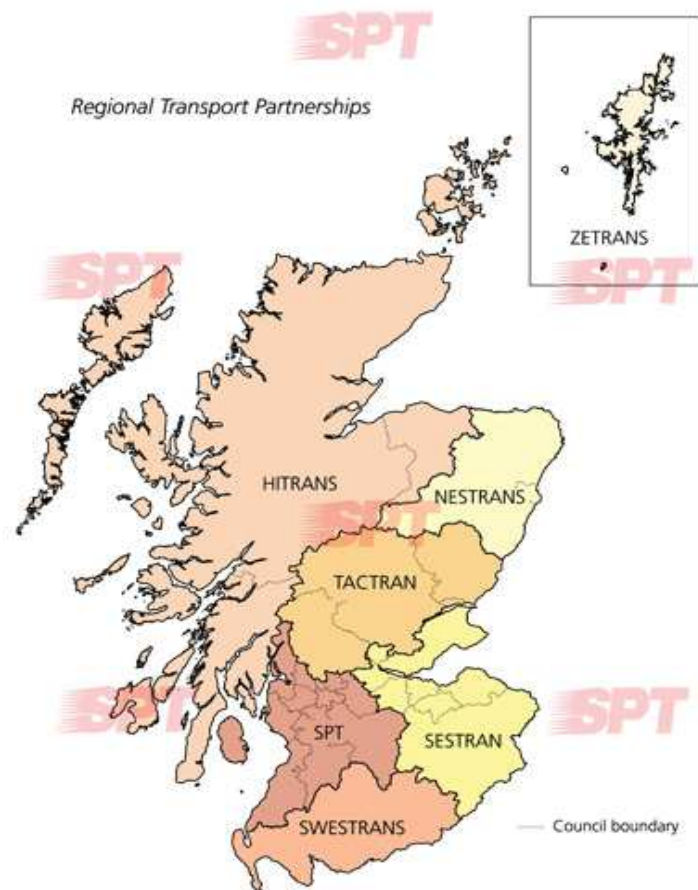
Head of Integrated Ticketing

Strathclyde Partnership for Transport, Glasgow, Scotland.

START Transnational Forum

27 October 2011

Strathclyde Partnership for Transport



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Annual Trip Volumes - SPT area Twelve Local Authorities



235m	Bus	79%
50m	Rail	17%
13m	Subway	4%
<u>0.1m</u>	Ferry*	0.1%
<u>300m</u>	Total Public Transport	
<u>700m</u>	Car	
<u>85m</u>	Goods	

*Including larger SCTS area, Ferry trips = 6m.

Source: SPT estimate for indicative purposes only.



Why Integrated ticketing?



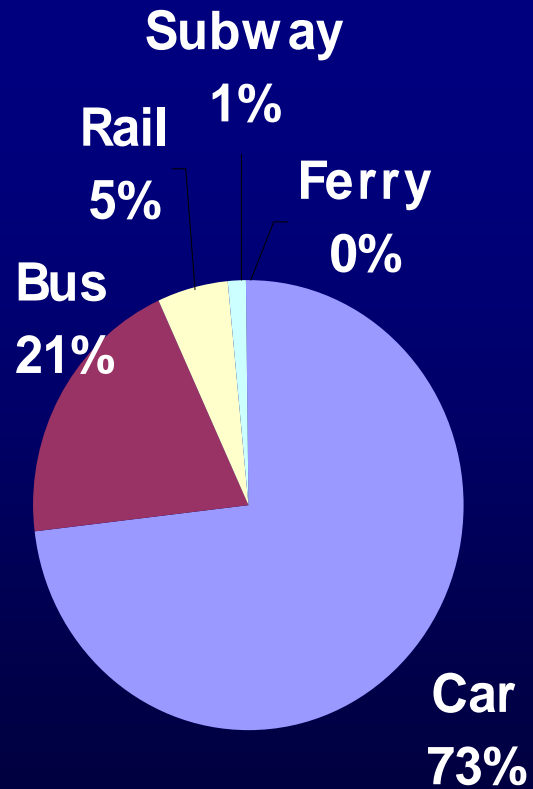
Sustainable transport for *the future*.

Promote *Modal Shift from the car to public transport*.

Eliminate the *barriers to using public transport*

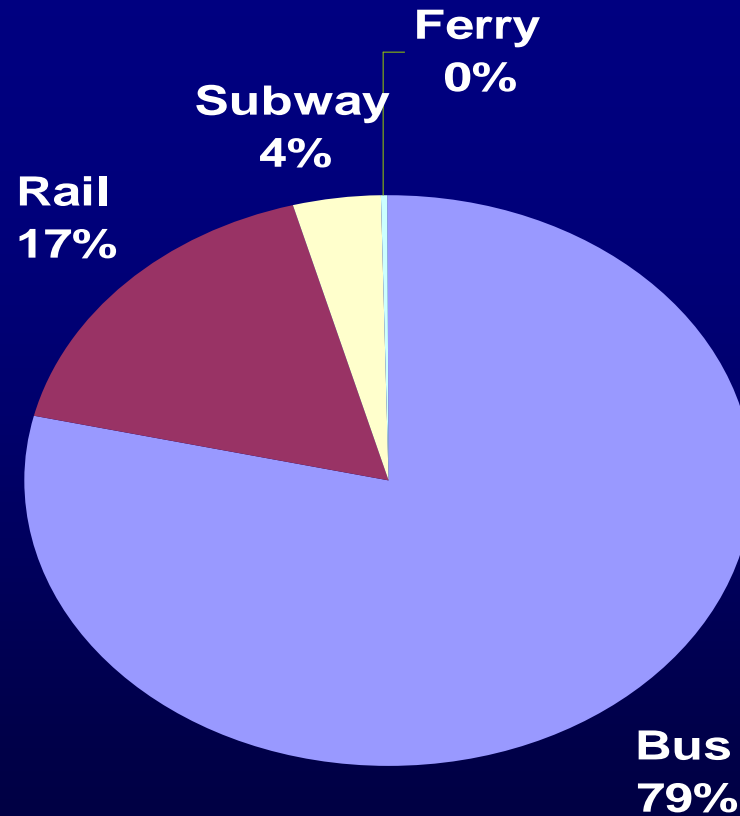
- ***Shortening journey times.***
- ***Simpler, accessible travel information, linked to ticket.***
- ***Simpler fares.***
- ***Seamless ticketing across modes.***

Trips by Transport Mode UK, 2010



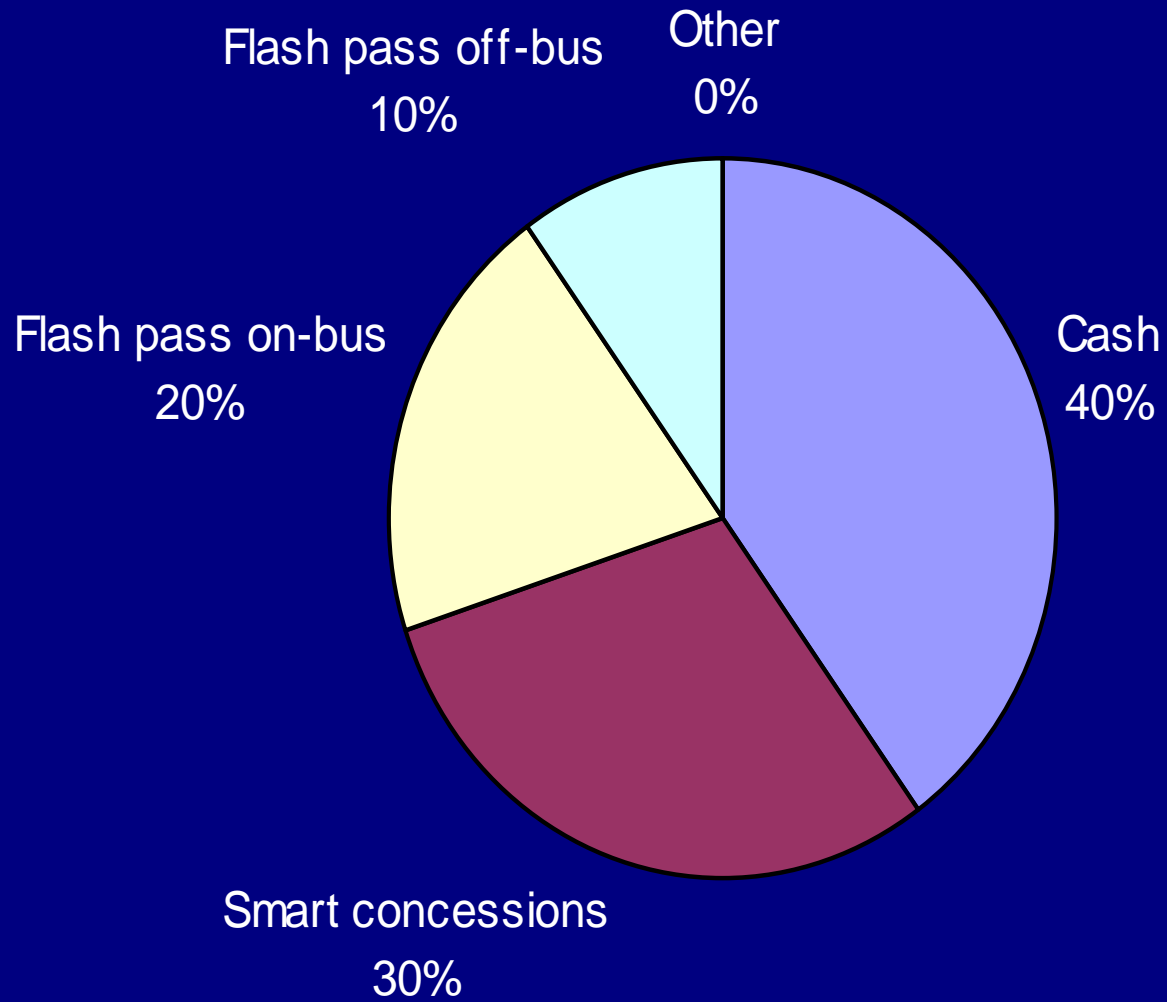
Source: SPT estimates for indicative purposes only

Public Transport Passenger Trip Mix Across Modes in SPT area



Source: SPT estimates for 2010, for indicative purposes only

Bus Ticket Types, 2010



Why Ticketing - with a payment every trip?



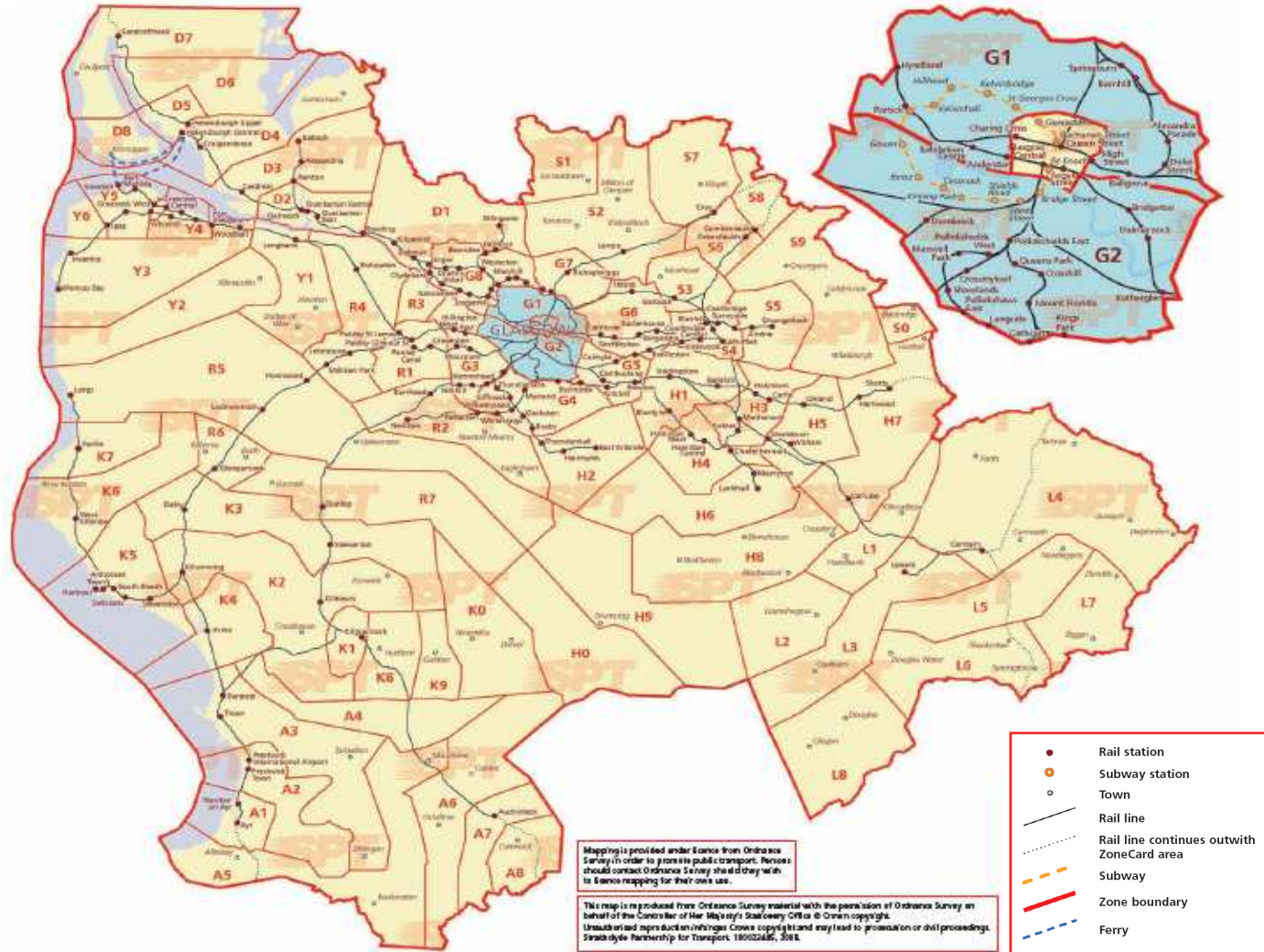
Really?

No eliminate 90% of these transactions – 1 payment per 10 trips?

And do we *need* to buy a ticket at Subway or rail stations or on a bus?

Would we not instead *trust* a system to charge us, as we *transit seamlessly* through to our destination and return?

75 zones on the ZoneCard Map



Four modes on *ONE* Smart Card !



A true

Multi-Modal

Multi-Operator

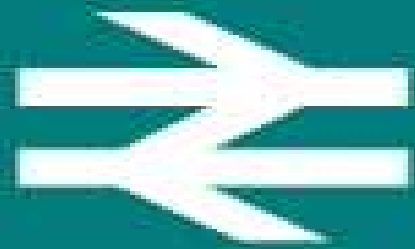
ITSO specification

SMART

card to be used on

Rail, Bus, Metro & Ferry

Flexible Travel



ScotRail Smartcard Trial Route Edinburgh - Glasgow



ScotRail CARD



Gate Readers



Validator

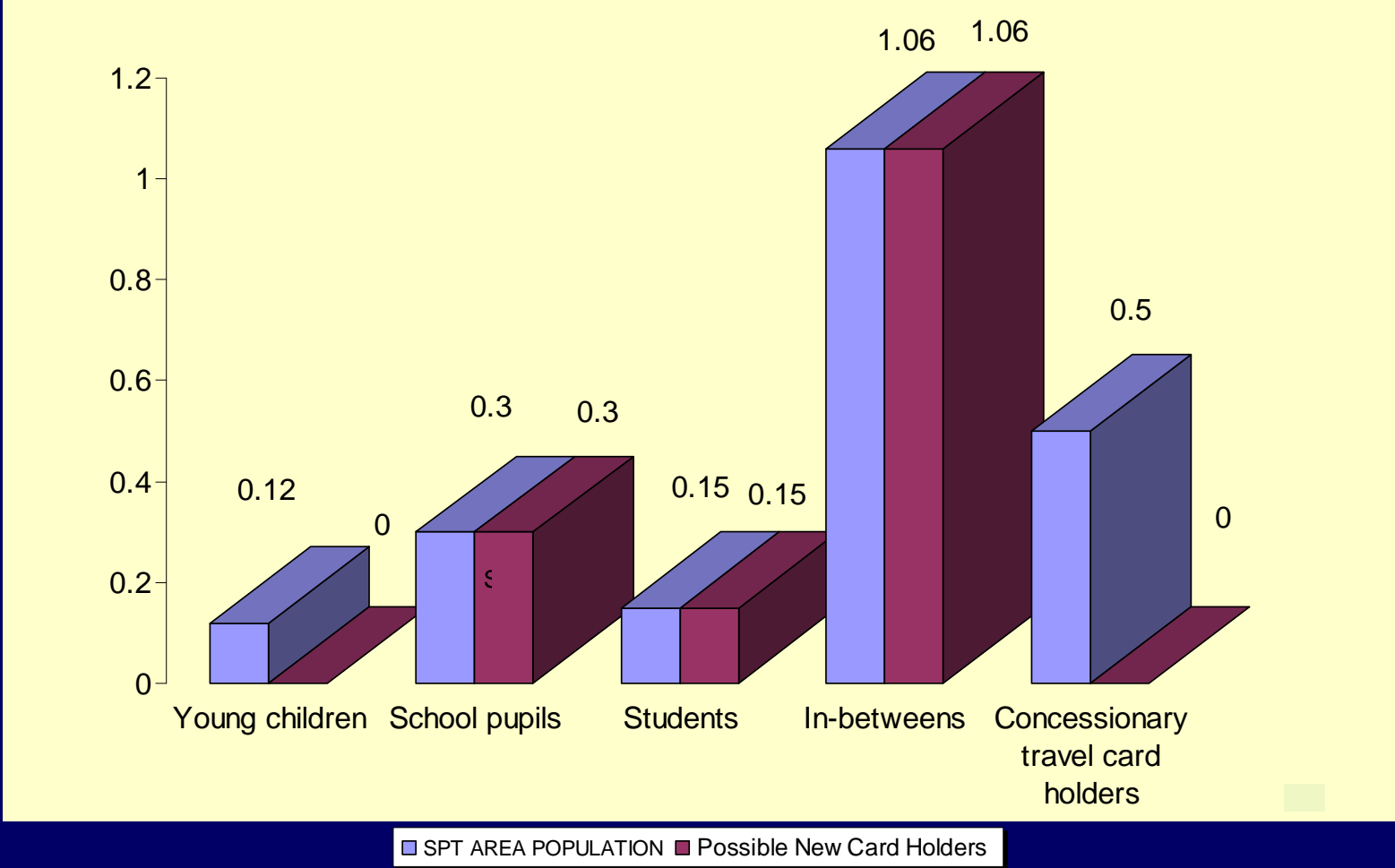
Why Smartcard ?



- Pre-loaded value/trips
- No need for change, coin, knowledge of fares
- Seamless travel
- Rapid bus boarding or transit through stations
- Multi-modal travel
- Easy top-up
- Anonymous or registered cards

SPT area population (millions)

Possible new card holders





Join up my journey



Why so few commercial smartcard ticketing arrangements outside London ?



De-regulated public transport in the UK (outside London).

Free, competitive market: passenger loyalty counts.

Little infrastructure for smartcard ticketing, apart from on-bus in Scotland.

ITSO specification increasingly being tested - in Cheshire.

Strong passenger attraction, but funding needed to drive commercial case?

Flat fare systems, or those with minimal zoning, are simple.

- TfL operate a system where revenue does not have to be distributed.

Fixed ITSO terminals on Subway and Rail do not have the additional complexities of *bus-to-depot* data transmission.

Glasgow Subway



Strathclyde Partnership for Transport

Glasgow Subway



Strathclyde Partnership for Transport



Smart media ticketing and payment system:

- **Development of a smart ticketing and payments system including an AMS, HOPs and CMS to provide hosted services for:**

The Subway

ZoneCard

Strathclyde Concessionary Travel Scheme

E Purse for pay-as-you-go travel or low-value retail purchases

Operators' own branded ticketing products

Commonwealth Games 2014 transport ticketing

Any other suitable product or media developed

Glasgow Queen Street Station



GLASGOW
Queen Street Station
Gates





Population of 2.13m in the SPT area:

- 1.51m currently do *not* have a transport smartcard.
- 0.50m NEC cards already issued - used in SPT area by Elderly and disabled for free national concessionary bus travel.
- 0.12m are young children under five.
- 0.37m households have no access to cars.

Trips:

- 700m car trips – how many modal shift trips will smart generate?
- 140m bus trips (excluding concession and ZoneCard patrons).
- 50m rail trips.
- 15m school pupil trips daily on school or local service buses.
- 13m Subway trips

Introduction of smartcards.



The Public Sector will *kick-start* the working solution.

How do we progress Smart technology

- **for ZoneCard and**
- **wider commercial use**



Two methods of revenue distribution:

- **Passenger Diary Travel Questionnaire surveys are conducted in Spring and Autumn .**
- **On vehicle passenger surveys.**

Method determined by the number of diary entries for the operator (>30 triggers use of the passenger diary survey data).

Moving to ticket machine recordings in 2011/12.



Subway:

- 2011 contract award
- Implementation in 2013 of:
 - Gates
 - TVMs
 - and Handheld ticket machines



Procurement in 2011 of an AMS/ HOPS & CMS

1. ZoneCard paper photo ID replaced with a smartcard for all modes:
 1. Bus - Introduced for *passenger* (not trip length) validation 2011/12;
 2. Subway – separate Mag Stripe Paper ticket remains until 2013;
 3. Ferry – introduce smartcard pilot in 2011/12;
 4. Rail – keep on mag stripe until Central ‘smart’ (Ed/GL ongoing);
- ZoneCard smart photo ID loaded with a transit *pay-as-you-go* and *e-purse*. (ticket remains)
1. Full Zonal ticket product loaded on ZoneCard photo-ID after:
 1. Bus ETM tested for validation of zonal eligibility *on boarding*;
 2. Zonal capability on exit – Bus exit readers?



- **Tourist transport ticket – over 5m visitors for 22m nights p.a.**
- **Conference transport ticket- 50,000 visitors to SPT area p.a.**
- **Cultural Transport & venue entrance tickets (e.g. Charles Rennie Macintosh)- 0.5m delegates to SPT area p.a. .**
- **Commonwealth Games 2014:**
 - Transport:**
 - **Contracted buses boarding control (from P&R + venues),**
 - **Local service buses & Subway, rail and ferry,**
 - **Passenger boarding access and**
 - **Operator reimbursement**
 - Venue/Village gate access:**
 - **Athlete security;**
 - **Spectator access:**
 - **Venue & event date & time specific?**



Improvements and maintenance of existing infrastructure:

Bus – Fixed infrastructure:

Bus Stations (Buchanan city centre & others)	6
Bus stops (£5m spent 2003/05)	10,000
With shelters (£6m spend ongoing 2009/12)	3,000
Information panels at stops	17,000
<u>Buses</u> local registered service buses and coaches	3,000

Stored Travel Rights v Transit Purse ?

- *Stored Travel Rights* managing 75 zones:
Complex ticketing but solid, established business rules.
Onerous validation on ETMs if operator fare stages mapped to zones.
Data volumes high-ITSO capable of recording card eligibility.
For revenue distribution, trip volume data is gathered, but
Surveys on journey length still needed if no exit readers.
Card loading- bus, rail, subway, ferry must be nominated.
- *Transit Purse:*
Pay-as-you-go is straightforward
Capped by Day or Week in a back office function?
But which operator(s) accepts the discount on their full fare?
- *e-purse.*
Ticket agencies/product loadings-ITSO terminals needed.