



UTMC and the Bus Industry

What is the future?

Pete Bond

Bus Strategy Implementation Manager
for Centro-WMPTA



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The role of Centro



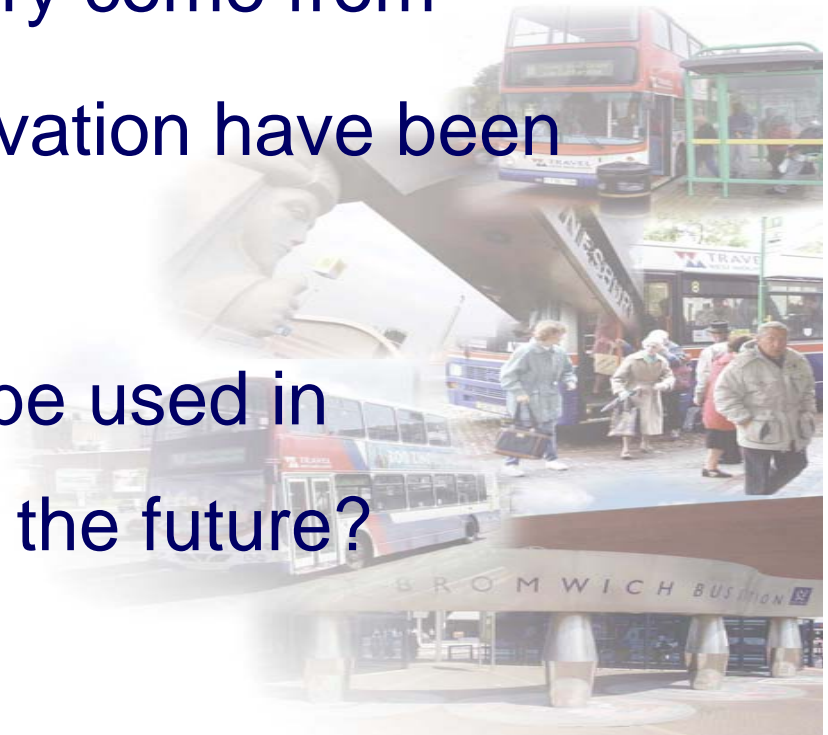
Centro's (The West Midlands Passenger Transport Executive) role is to promote public transport within the West Midlands through partnership with Bus Operators, local authorities and other stakeholders including West Midlands Police



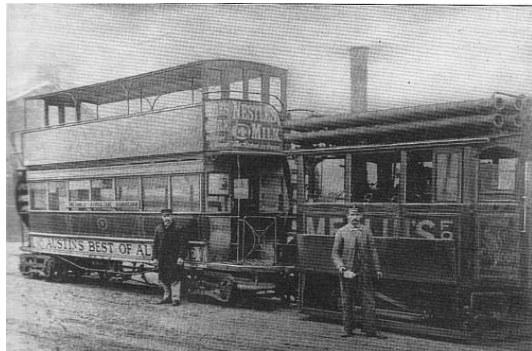
What will I talk about today?



- Where has the bus industry come from
- How technology and innovation have been used by the Bus Industry
- How can this technology be used in association with UTMC in the future?



Where have we come from?



1884 - Birmingham was the main centre for steam trams in the UK



1888 – There was a trial of an Electric tram in Birmingham



1920's - Trolleybuses started operating in the West Midlands



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Where have we come from?



1950's - Diesel powered buses were the norm



1980's - Tracline 65 in Birmingham

- UK's first guided busway
- One man operation
- Beacon based Real Time Passenger Information



Today - Modern buses in the West Midlands



Bus is big business in the West Midlands

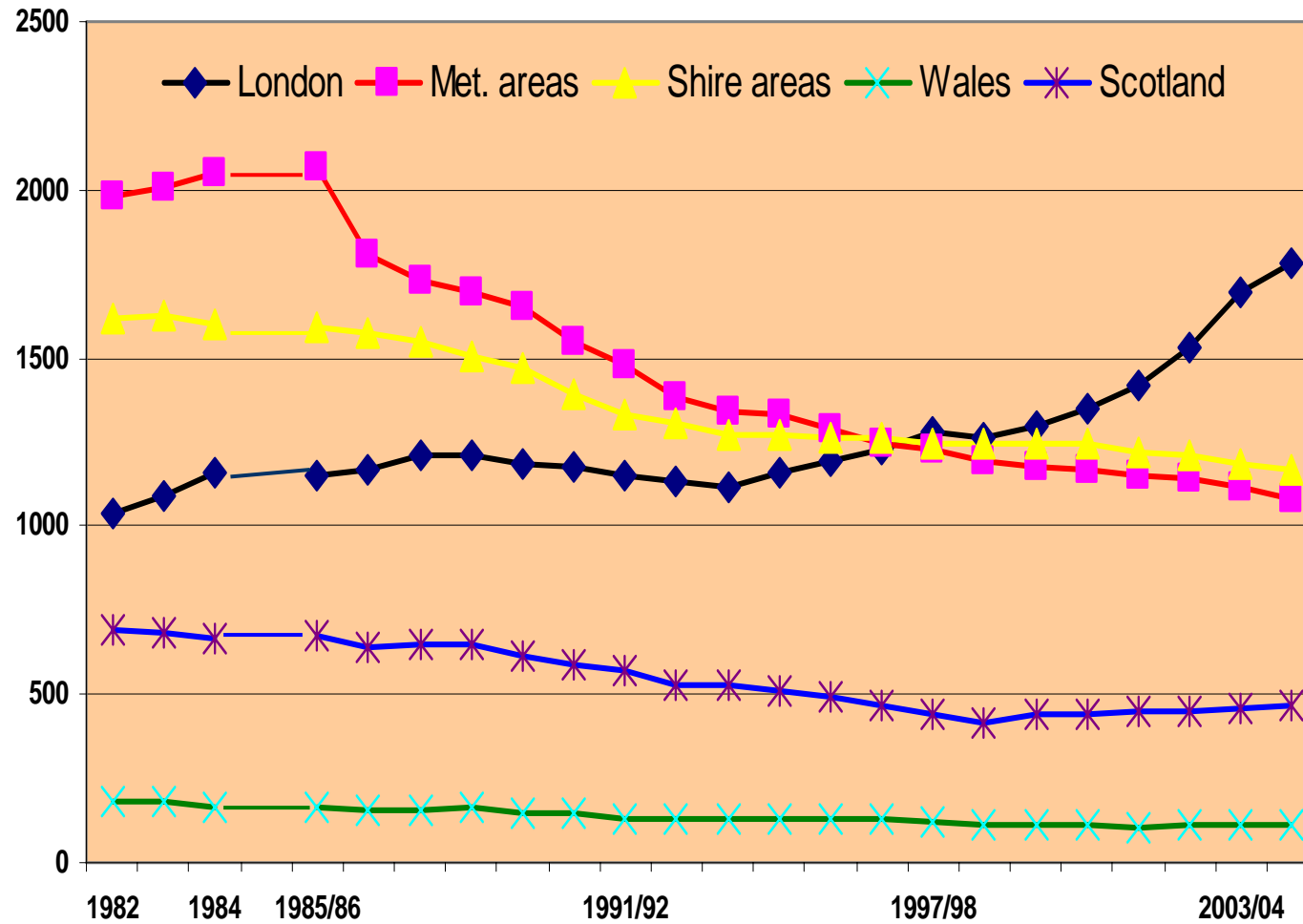


- Over 300 million journeys every year
- 90% of all public transport trips
- 36 private bus companies offering over 400 route variations
- 4,200km (2,600m) total network length
- 40km of bus lane (0.7% of network)
- Over 13,000 bus stops including 5,000 bus shelters
- 12 Bus Stations managed by Centro



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Bus Patronage in Great Britain



Patronage changes since 1985/86

+55%

-27%

-48%

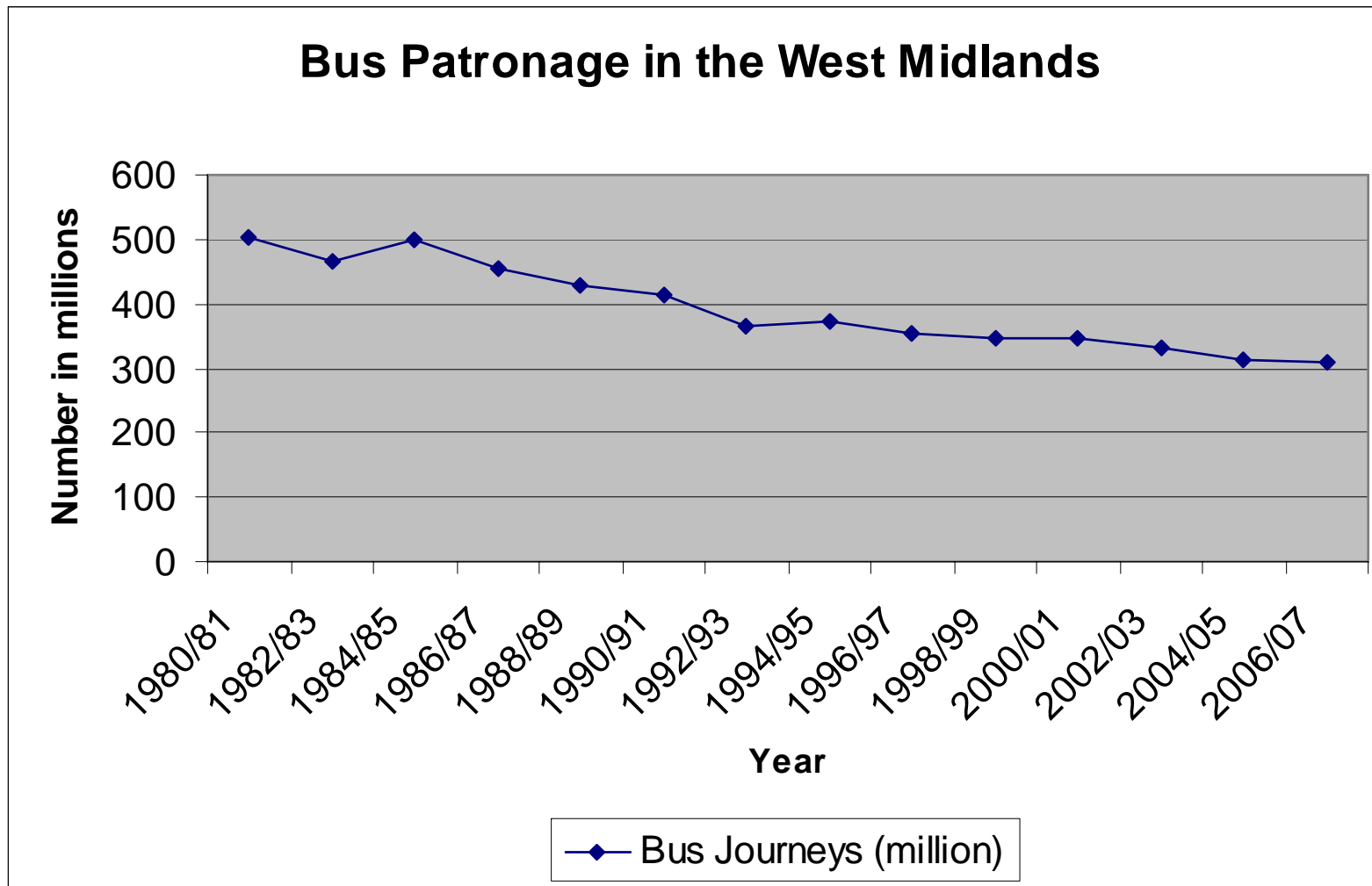
-31%

-31%



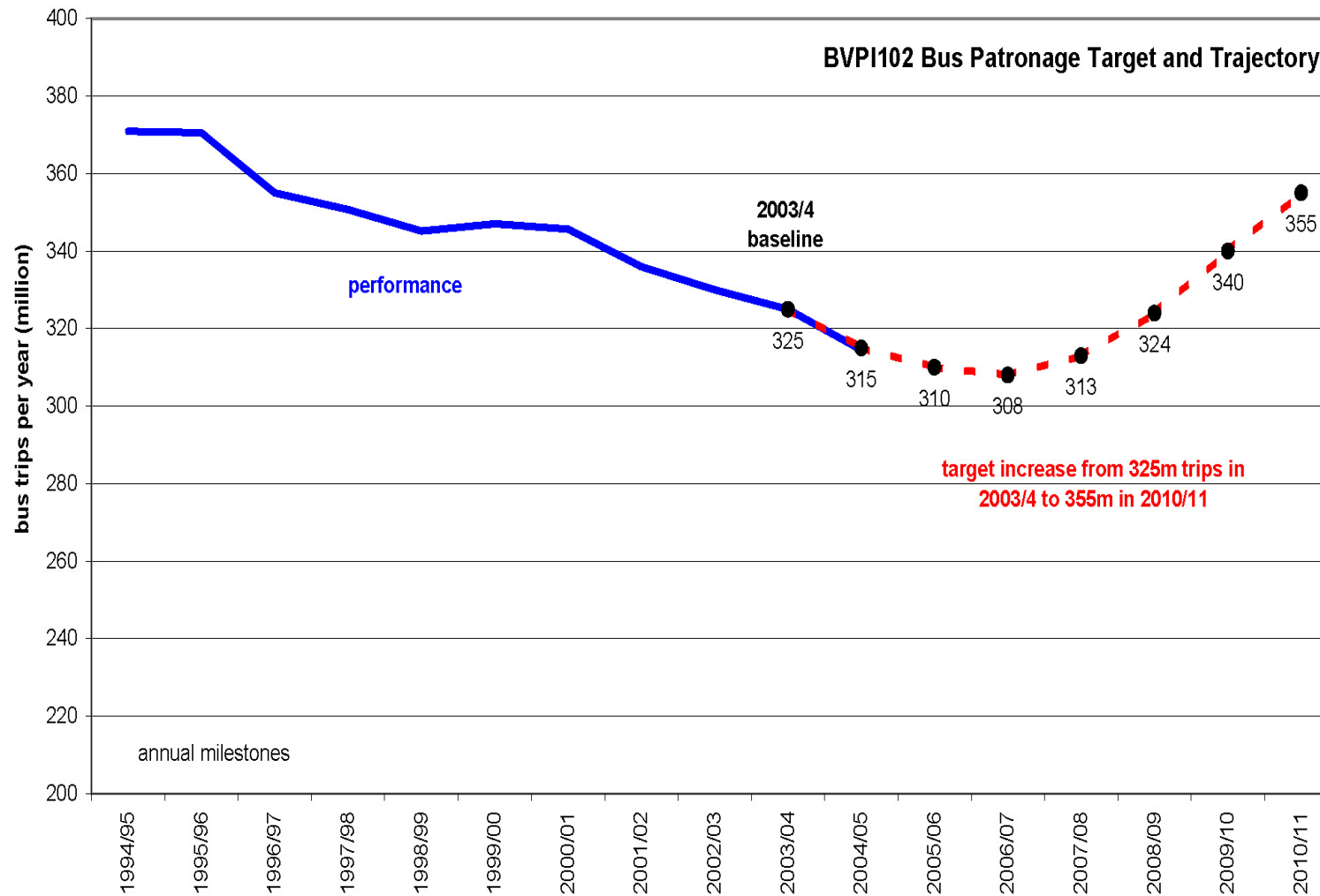
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Bus patronage



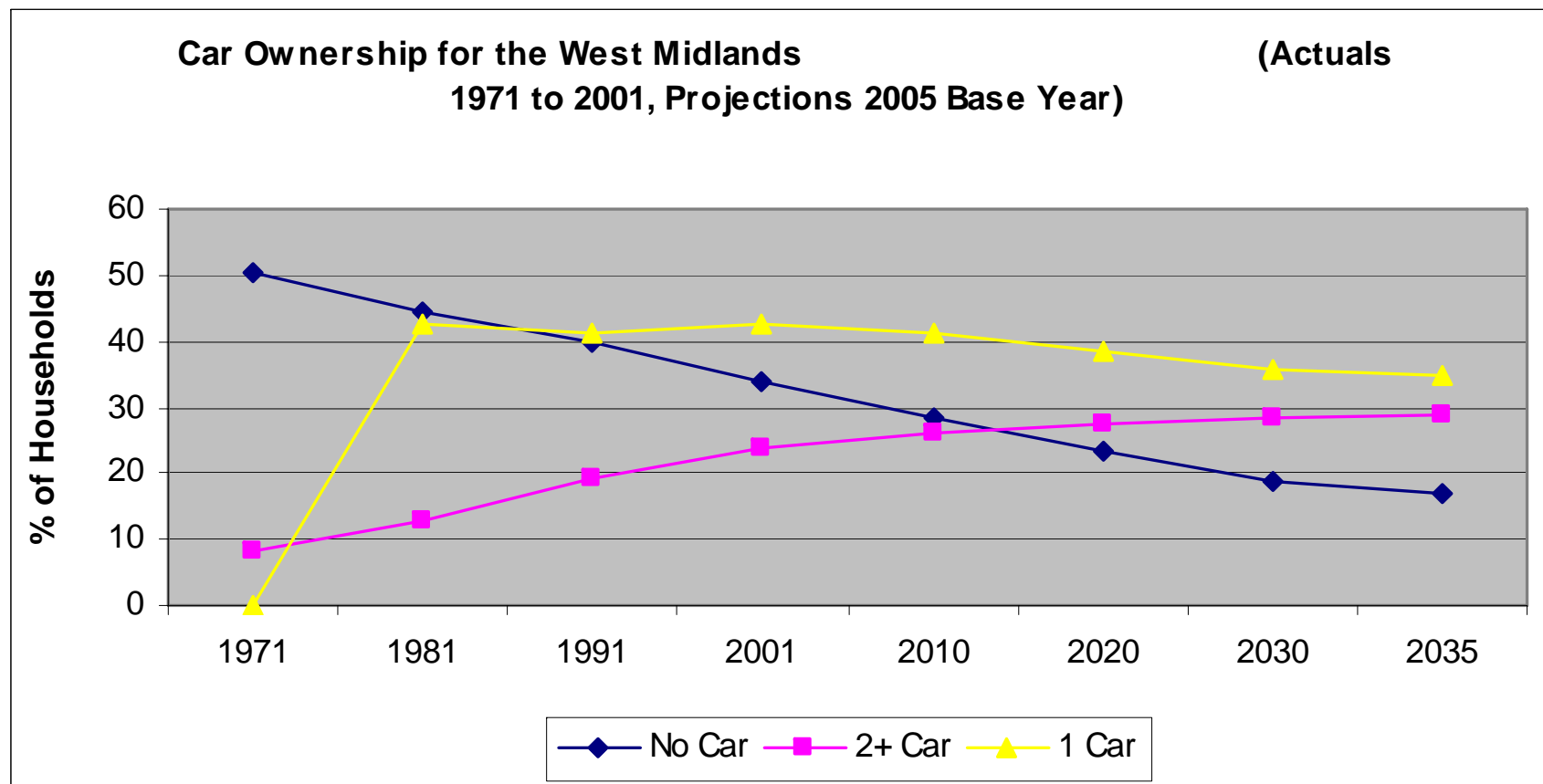
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Bus Patronage



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Car ownership



What do existing and potential passengers want and expect?



High frequency accessible services

Reliable and punctual services

Easy-to-understand information

Easy-to-access information

Simple ticketing

Value for money fares

Safe and Secure journey

Centro Critical Success Factors (CSF): very high passenger priorities



What does the bus offer



- Mass movement of people – not buses
- The potential to free up limited road space
- Efficient and environmentally beneficial mode of transport
- Opportunity to work or communicate on the move for time constrained customers
- An opportunity to market goods or services



What technology is on the bus?



Registration: YN044M ID: 703
Camera 1 (FileName: 1428482106.avi)
03 May 2004
18:07:16

Have you ever thought about what is powered from a bus battery apart from the engine on a modern bus?

- Radio
- Ticket Machine
- AVL computer unit
- Printer
- Cash box and vault
- CCTV cameras
- Smartcard readers
- Information screens



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Smartcard



- Contact-less Smartcard technology is being developed in the West Midlands
- Integration and compatibility with current on bus systems is essential
- Moving towards cashless travel by bus in the future





- NFC technology?
 - Downloading information
 - Paying as you go
- MESH technology
 - Coventry proposals



CCTV



- CCTV cameras are fitted to most new buses in production
- Centro has its own CCTV control centre with over 100 cameras on the network
- Centro has 43 cameras installed inside bus shelters to detect vandalism and damage



Electronic Passenger Information (EPI)



- Centro has EPI in 6 bus stations across the West Midlands
- Currently a stand alone system
- Integration to RTI and CCTV systems desirable within the next two years



What is AVL / RTI



- Some call it AVL , some call it RTI
- AVL is an external component to the UTMC
- The data collected from AVL for RTI outputs contains a vast volume of information
- How people access data from RTI can tell us even more!





- On bus computer device
- The World's second largest Bus GPRS system
- Fleet management
- Pioneering investment from private operators



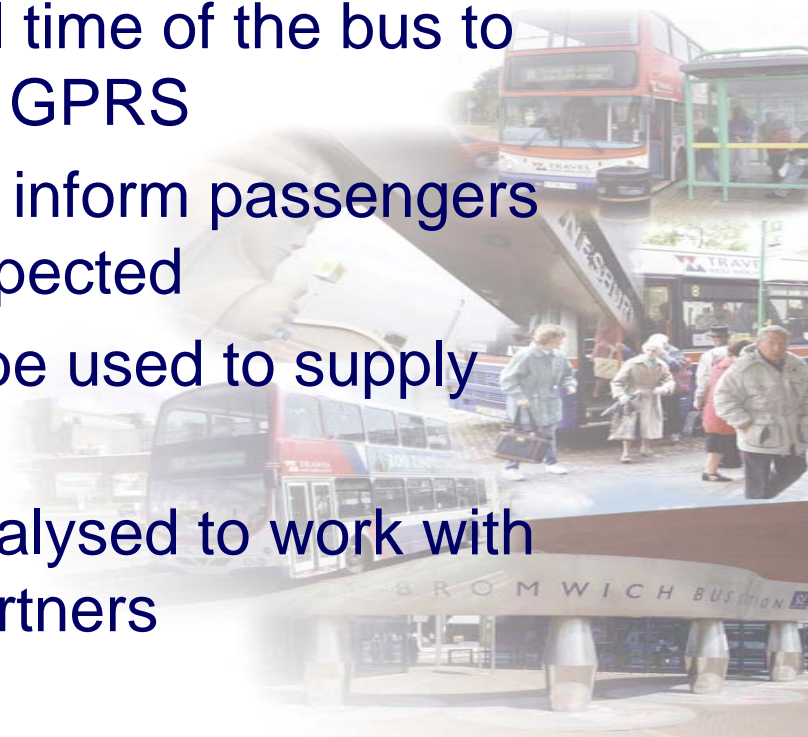
Real Time Information



Service	Operator	Destination	Stand	Time
9	TWM	Stourbridge	AE	Due
22	TWM	Kitwell	AD	Due
103	LYX	Four Dwellings	AB	at 14:37
103	GOB	Four Dwellings	AB	at 14:37
22	TWM	Kitwell	AD	at 14:37
139	TWM	Merry Hill	AE	in 2 min
23	TWM	Woodgate	AD	in 2 min

Colmore Row Page 1 of 1 The time is 14:36
Sign Under Test

- Enables Centro to predict the ACTUAL arrival time of the bus to passengers via GPRS
- Can be used to inform passengers if delays are expected
- Data can then be used to supply other systems
- Data can be analysed to work with our highway partners



Real Time Information challenges



- Keeping up with technology and making communications easier and cheaper
- Analysing data without becoming bogged down in it!
- Integrating RTI communications with other systems where possible
 - On bus
 - Off bus





- RTI is still developing
- Understanding what data is being recorded
- Understanding how it can be accessed
- Understanding what it can be used for
- Understanding who can have access to it
- Really is about partnership!





1. RTI represents an opportunity to know customer behaviour and expectations en-masse
2. Knowing peoples expectations and behaviour allows you to plan for their requirements
3. Planning allows best use of limited road capacity and integration





Key Data potential:

1. When & for which locations information is accessed via SMS by the customer
2. Bus journey times & 'dwell' times at stops
3. Reliability of service and recording 'Lost miles'
4. Enables understanding of both bus and road network performance.



SMS by mobile phone



- Server to Server feeds to provide bus times via SMS
- Combines Real Time Information with scheduled data
- 13,000 stops equipped with unique SMS code by the end of 2007
- Future use for us to contact our customers
 - Capturing information
 - Being smart with messages



SMS by mobile phone



- Now have 6,000 texts per month and we identify where they have come from
- We now have plans to text users and ask them to sign up to information alerts



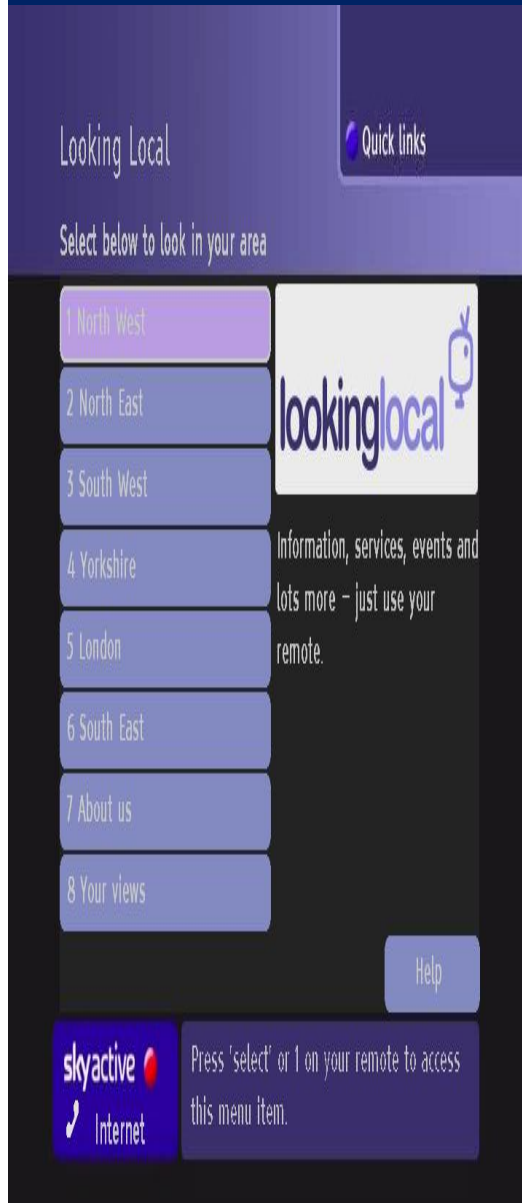
Internet Access by PDA



- A dedicated .mobi website for 13,000 bus stops in the West Midlands
- Stop finder facility for non-users and occasional users
- Uses Real Time predictions where available and scheduled predictions for other services
- Other services – DIGI tv.



Digital TV



- Accessed via the red button on the television handset
- Promoted through the looking local feature
- Targeting new and existing users
- Offering Real Time and scheduled information + alerts



Traffic Light Priority



- Using GPRS and PMR loops to provide TLP at 80-120 junctions in Coventry over the next year
- Using I.T. based solutions to get the bus to the front of the queue or keep traffic flows moving
- Enforcing priority is important to delivering what is expected when the investment is provided



Bus Priority



This type of priority gives the bus the constant journey time prediction to allow the reliability that the customer's require.





If we provide customers with this;



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Or this;



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Then will they continue to choose this in growing numbers?



...it's about meeting the needs of the customer!



- we need to make bus services more attractive for those who *do not* currently see them as a realistic alternative to the private car,
- and continue to improve the quality of service for those who do.”
- UTMC has a major and continually growing part to play in achieving this goal.



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Can public transport continue to develop and innovate?



...yes!

But as part of a comprehensive package that improves all aspects of the bus and public transport offer;

- Improved services and product
- Improved and enforced priority
- Providing a real alternative to the car

Providing a World Class Public Transport system for the 21st Century



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UTMC

We have;

- New delivery channels for information through mobile, web and Digital TV
- Masses of data – bus journey times, priority requests, real time, customer use
- We need a joint approach to make the best use of the data
- In theory UTMC can help – can we make it happen in practice?





If road charging is introduced tomorrow, how far away would we be from providing a reliable and attractive alternative to all of those people who have become used to daily car commuting?



Could this be the Traffic Manager's Vision?



- To know where the population needs to get from and too each day
- To have the ability to influence the public use of modal transport
- To navigate people to a highly reliable and intelligent public transport system under the control of his and neighbouring authorities
- To free up capacity on the available road space required for essential car journeys





Thank you



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