








PEPTRAN
IST-1999-10391
Public Transport & Pedestrian Navigation




**Multi-modal journey planning with PEPTRAN:
Pedestrian and Transport Navigation**


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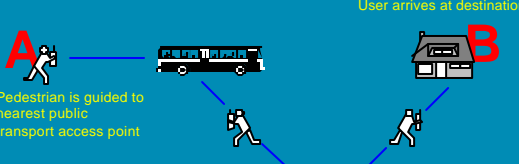
PEPTRAN Project Summary



- PEPTRAN has developed software to guide end users from point to point within a city or district in most efficient manner using a combination of both pedestrian and public transport modes.
- System to be implemented on hand-held and car-based devices
- Hand-held and car-based systems co-operate to deliver Park & Ride routing.




Route-Planning with Hand-held


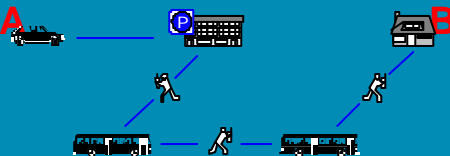
User arrives at destination

Pedestrian is guided to nearest public transport access point


User follows public transport route, including further pedestrian routing between access points




Route-Planning with Car


User is guided by the in-car navigator to a suitable Park & Ride point. The subsequent public transport route is transferred to the user's handheld device.




What do public transport users want?



- "What is the best route from A to B - setting off now?"
- "What about for tomorrow morning?"
- "I know the route, but is the train on time this morning?"
- "I hate using buses - I never know when to get off"
- "I'm lost! How do I get back to the hotel?"



The visitor



- Wants full point-to-point information
- Doesn't know where bus routes etc. go
- Generally uses car, taxi, trains/underground, but not bus/tram
- Probably less concerned about speed, but reliability may be important



The commuter



- Doesn't want route information, and may know walking times better than our software
- Does want to know if transport is running on time - when do I leave home? Do I need to take the car?
- Will run the same query every day - a preset route would be useful.



The park-and-ride commuter



- Like the commuter, but wants to know if there's a delay on one line, so he can set off early or park somewhere else
- May be interested in transferring routes from the car to the hand-held.



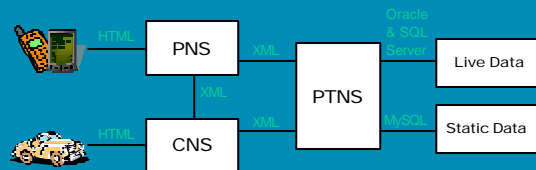
Basic User Requirements



- **Timetabling**
 - For advance planning
- **Route Planning**
 - Including storing favourite routes
- **Stored-route Checking**
 - Checking regular commuting routes
 - Checking pre-planned routes



Overview of PEPTRAN system

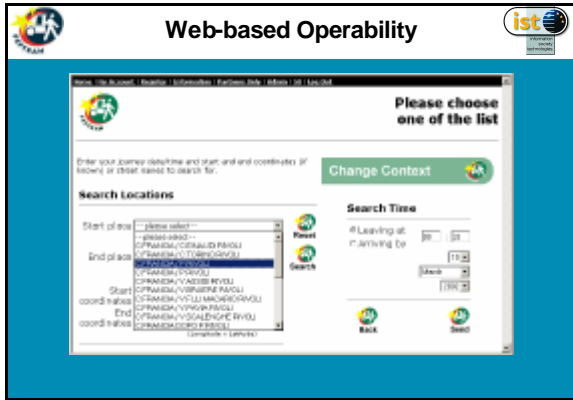
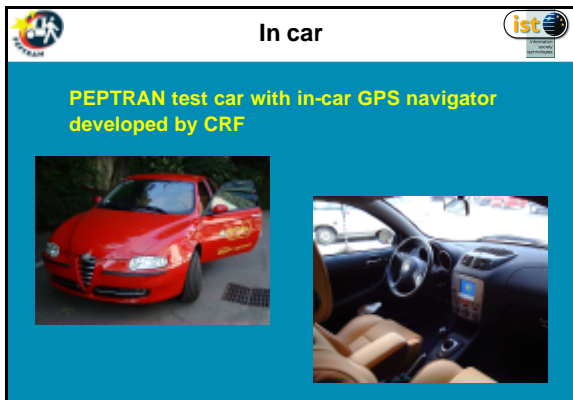
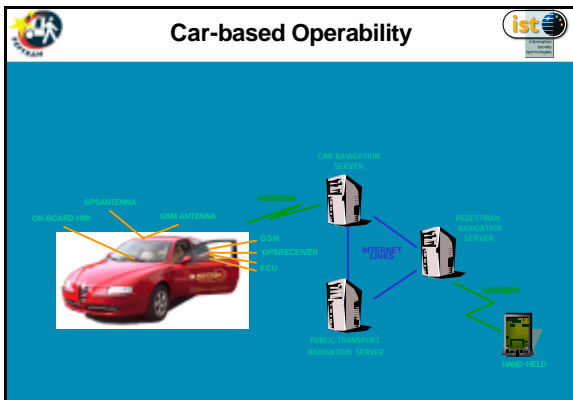


Hand-held Operability



Handheld Delivery





Web-based Operability

Solutions

#	Search	Departs	at	Arrives at	at	Journey	Time	SELECT
1	CIPRANCIA / P. REVOLI	10:49		C. VITTORIO BR. II - PORTA NUOVA F.S.	11:13	24 mins		
2	CIPRANCIA / P. REVOLI	10:49		C. VITTORIO BR. II - PORTA NUOVA F.S.	11:07	24 mins		
3	CIPRANCIA / P. REVOLI	10:49		C. VITTORIO BR. II - PORTA NUOVA F.S.	11:16	32 mins		

View Details

Store Journeys

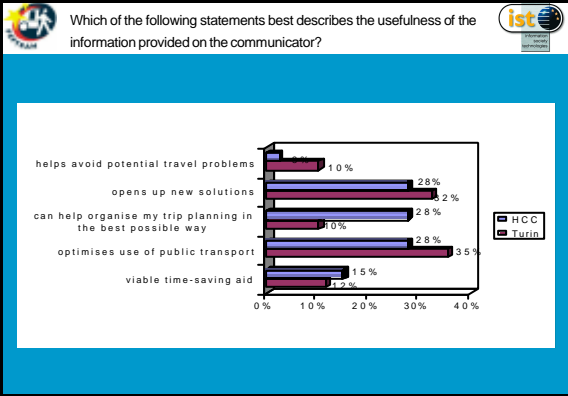
Plan a New Journey

My Account

Earlier

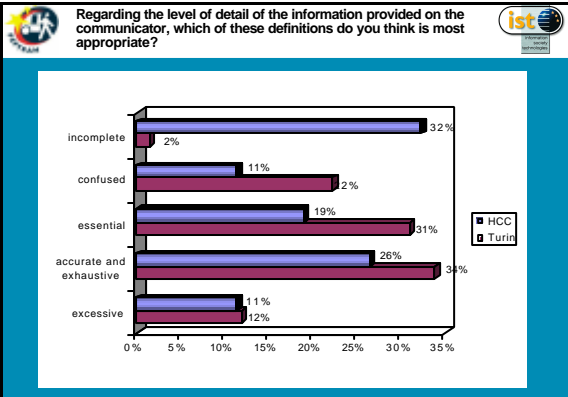
Later

- ### User Trials
- Torino – Italy**
 - 5T Consortium - Complex traffic and transport management system.
 - Manages the urban and suburban public transport services of Torino and the 25 surrounding municipalities.
 - Hampshire – UK**
 - Provide essential services for 1.2 million people across Hampshire – 3 cities, Southampton, Portsmouth and Winchester
 - At forefront of advanced telematics and ITS
 - Fully operational traffic and travel information centre.
 - Provides a model test site for intelligent transport systems.



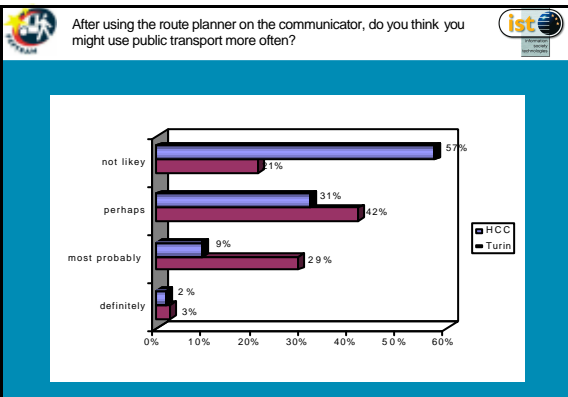
Usefulness of PEPTRAN

- The main usefulness of the information provided was for optimising the use of public transport and for finding new solutions to routes travelled.



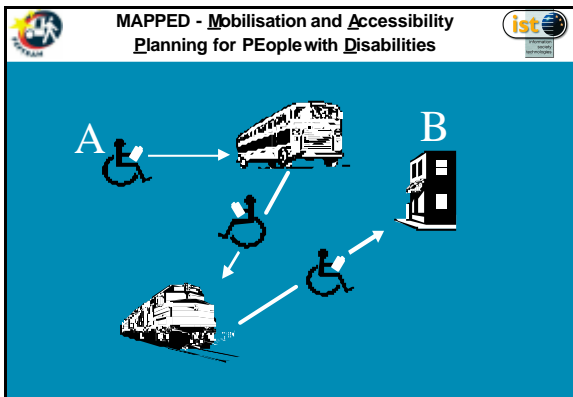
Information

- There is a vast difference in the feeling that the data was complete or not between the sites.
- This is due to the data origin being very different at each location.
 - In Turin a live real-time database is queried, thus all possible routes are available for every query,
 - whereas in Winchester it was mainly static data that was used, and whilst every effort was made in the production of this data it still did not include every possible route on the network.

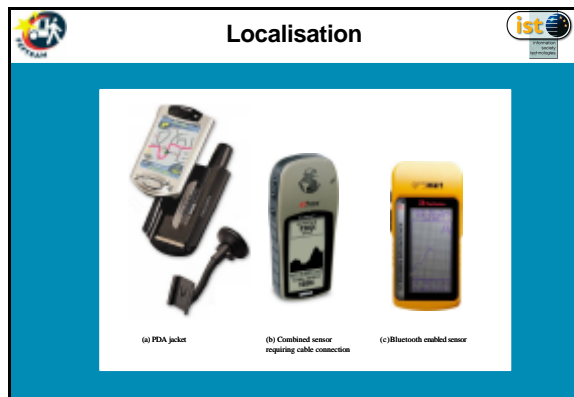
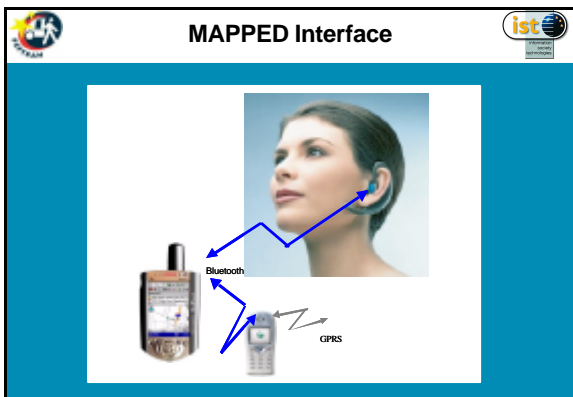


Outlook for Public Transport

- All of the users involved have had the opportunity to trial PT and some may use it more often now.
- The 2 and 3% definitely is very encouraging as it is annual growth of this order of magnitude which Hampshire in particular are aiming to achieve.
- These results also show that information provision is only part of the solution to encouraging more passengers onto PT. Other studies external to PEPTRAN have shown that it needs to be combined with other initiatives such as newer and cleaner bus fleets and improved services and routes.



- MAPPED**
- a multi-modal route planner that allows for disability specific routing information and reservation of accessibility services
 - geographically indexed accessibility information
 - disabled friendly mobile user interfaces



- MAPPED Issues**
- Wheelchair access to services
 - Assistance
 - Announcements of which stops have been reached for visually impaired
 - Steps
 - Steep gradients
 - Workmen are digging up the pavement at a certain point on the street which makes it impassable for a wheelchair
 - Reserving

- Policy**
- Real-time information
 - Test site satisfaction
 - Delays
 - good thing
 - Informed
 - less waiting
 - increased satisfaction
 - Real-time information more important than timetable information



Policy



- **Image**
 - Dirty
 - Overcrowded
 - Unreliable
 - Inconvenient
- **Parking**
 - Security
 - Reservations
- **Convenience**



Policy



- **Standards for electronic Public Transport Information**
 - Some exist
 - Currently poor uptake
 - Commercial reality
 - heterogenous



Conclusions



- **PEPTRAN has been successfully trialled in Hampshire and Torino.**
- **MAPPED will extend PEPTRAN to cater for the accessibility needs of disabled users.**
- **Our Life would have been easier if**
 - electronic standards for Public Transport information were available
 - public perception of public transport was improved
 - real-time information on public transport was available