Public Private Partnerships around Urban Rail Transit

EU Project PPP-TRANSIT

PART II   CASE STUDY REPORTS

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AUSTRIA
LINZ MAIN RAILWAY STATION “DREHSCHEIBE LINZ”
Austria

Project: rebuilding of main railway station under PPP with associated developments of a new county authority headquarter, bus station and office tower

Terms and abbreviations:
- ÖSTERREICHISCHE BUNDESBahn (ÖBB): Austrian National Railways, state owned
- OBERÖSTERREICH (ÖÖ): one of 9 federal state authorities in the Federal Republic of Austria, which all share responsibilities with the local authorities they encompass
- PROBAT: a development company created specifically to organise and supervise an urban design competition for the new development (ÖBB and private investors each had 40% share and the city of Linz 20%) the company has been dissolved again but among other things it was a means to ensure the early involvement of the City of Linz
- Nahverkehrerrichtungsgesellschaft ‘(NAVEG): regional public transport infrastructure provider (public operator co- financed by the City of Linz and the county of Oberösterreich)
- Linz Linien AG: Linz public transport operator
- Raiffeisen Landesbank Oberösterreich: private bank
  LVV GmbH: daughter of the Raiffeisen Landesbank Oberösterreich
  Real Treuhand: daughter of Raiffeisen Landesbank Oberösterreich

1. DEMOGRAPHICS
- Area size overall / district served by facility:
  - Linz: 9,610.5 ha

- Population density overall / in districts served by facility:
  - Linz: 207,489 inhabitants = 21.6 people per hectare (January 2001)

2. EXISTING CHARACTERISTICS
- central and accessible location in Austria
- Linz is an urban centre with significance beyond the boundaries of its own region; it is also the employment centre of the region, more than half the workforce commute into the city
- Linz is aiming to re-orient itself from the industrial to the trade and service sectors
- “in spite of the economic recession it was possible to almost maintain full employment in Linz” (unemployment rate of 4.3% in 2002) through orientation towards small and medium sized businesses
- well qualified workforce
- tourism is increasing (4,050 beds in 2001)
- 6,219 businesses in Linz in 2001
  - 854 businesses in the industry and manufacturing sector
  - 1,521 businesses in trade
  - 3,278 businesses in the private and public service industry
  - 543 hotel- and catering businesses
  - 23 agriculture and forestry businesses

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- Linz experiences high traffic volumes and heavy congestion on the main traffic arteries coupled with - and partly caused by - insufficient public transport services; noise and air pollution problems occur daily on the main routes into the city
- Especially commuters using the private car are to be targeted to encourage them to switch to alternative modes
- Linz lies on the motorway A1 to Salzburg, Munich, Vienna and Budapest as well as A25 and A7 (Prague).
- Intercity train connections to Vienna and many European cities
- International airport Linz-Hörsching.
- 1991: 95,035 professional commuters
- private cars registered in Linz (2001): 92,497
- journeys to Linz (2001): 159,000 daily, of which 107,000 with the private car.
- Modal share of the private car: 49%
- Parking spaces in Linz:
  - 5,109 short stay in the city centre (with charge)
  - 607 short stay in shopping centre (with charge)
  - 5,852 in parking garages
- main aim of the transport strategy and land use planning is to improve local accessibility
- to improve PT the main measures are to extend a tram line and to improve the facilities in general (e.g. by taking the tram underground directly to the station, which it currently does not reach) and to the turn the station into a main local and regional public transport interchange

4. EXISTING RAIL TRANSIT FACILITIES
- 5 regional train lines all at 15 min. intervals (Westbahn (Wien - Salzburg), Pyhrnbahn (Linz – Graz), Summerauerbahn (Linz – Summerrau - Prag), Linzer Lokalbahn (Linz – Eferding - Waizenkirchen), Mühlkreisbahn)
- several Intercity Express, Euro-city and Intercity connections
- number of travellers (boarding and alighting on 26.6.1997) at the main station:
  - train: 37,379
  - local train: 1,762
  - regional bus/coach: 4,218
  - local buses: 5,633
  - tram: 9,288
  - TOTAL: 54,280
- Tram network from autumn 2001: 18.9 km
The figures from 1997 have increased to about 62,000 people boarding and alighting every day; of these 20,700 are changing between different modes of PT and 21,400 get to and from the station without PR (13,600 on foot; 700 by bike; 1,700 by taxi; 5,400 by car, driver or passenger).

- 1992: 25% of all travellers commuters, 12% students; 16% shoppers, leisure or other
- between 1992 and 1995 the local PT operator registered an annual increase of passenger numbers of 3%.

5. EXISTING REAL ESTATE ISSUES
- the Linz development plan of August 2001 assumes that there will be demand for 10,000 new flats/houses in the next ten years, half of these within the next five years.
- January 2001: 21,458 buildings; 100,479 flats, of which 12,800 were built between 1992 and 2000

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - developers: ÖBB, NAVEG (County Oberösterreich and the City of Linz)
  - Linz Linien AG

- **Private**
  - developers: Linz AG, Real Treuhand, LVV GmbH
  - investors: Linz AG, Real Treuhand, LVV GmbH

**Central co-ordination office of the four developers:** Real Treuhand (daughter of Raiffeisen Countybank Oberösterreich), department of the Linz municipality for the trams and development of the inner city highways, ÖBB for the station building, NAVEG for project management; there are monthly progress meetings during which the latest developments and problems to ensure that the project will remain a realistic undertaking overall

7. PPP PROJECT
- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - Existing main station
  - Public park on the station forecourt
  - 7,000 m² retail floor space, 13,000 m² operational uses

- **(Planned) new facilities / land uses (see above):**
  **ÖBB-main station and office tower**
  - main station building: main concourse on ground floor, first floor for restaurants 2 lower ground floors (1.: 540 m² service area of the ÖBB, as well as retail space, 2.: 7,775 m² interchange with the tram)
  - new local rail service track and platform
  - retail area will comprise station typical retailing as well as shops to serve general local demand
  - office tower: 23-storey building sitting on a 2.5-storey base, which reaches from the station building to the entrance of the ÖBB multi storey car park in the south. It will comprise the main technical and supply services for the office tower. There will be 17,000
m² for rent or sale to private companies. The uppermost three floors will comprise conferences facilities and a gallery. (retail/exhibition area: 4,360 m²; office area: 19,000 m²)

- the public park in front of the station will be 1.5 m below the level of the station concourse and will be designed as a relaxation space.
- Car parking: an above ground two storey car park for 344 private cars and 8 motorbikes has already been opened in February 2001 and it is linked to the platforms so that these can be reached under shelter; the office tower will offer 195 spaces; 120 short-stay spaces are planned in the drive leading to the car park directly in front of the station entrance and there will be Kiss & Ride-Zone as well as disabled parking.
- Cycle parking: 5 large bicycle parking areas (total: 1,500 non-sheltered spaces) will also be created around the station.

Interchange facilities

- All PT services (local as well as regional tram and train services as well as all bus operators) will be brought together at the new station, including a new main bus station
- Three tram lines will be taken through the tunnel leading to the stop under the station
- The railway track infrastructure will be improved

New head quarters for the Oberösterreich County Authority

- All administrative services and offices, which are currently spread throughout the city of Linz will be brought together under one roof (start of construction: April 2001, intended completion: summer 2004)
- The county authority will utilise about 57,000 m² for 1,850 employees, as well as one level of the two-storey underground car park underneath with 1,000 parking spaces (of which 800 will be reserved for employees and 200 for rail passengers)
- Ground floor of the building will house the new bus station
- Re-design of two streets; Kärntnerstraße and Bahnhofsstraße

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - Land is owned by GWP;
  - Air rights conveyed to private investors for 80/90 years

County Authority headquarters:

- Developer: Real Treuhand
- There was a preliminary contract between ÖBB and LVV GmbH in 2000 securing purchase rights for ÖBB land because the development and letting of the office building was not yet certain; the contract also reserved the LVV a retail space for the operation of a bank in the new station; the final purchase contract was signed in 2002
- County Oberösterreich will rent the building with a right to buy after 10 years

Station building:

- ÖBB is main developer
- Maintenance will be provided by a building management company, which is to be created for this purposes
- ÖBB will manage the floor space inside the building including the circulation areas
- City of Linz will be responsible for the public spaces outside the building (public park, station driveway, forecourt) and therefore needs to be consulted on the choice of materials and construction specifications to ensure that the maintenance will
be financially realistic

- Transit Oriented Development / Transit Joint Development?:
  - TJD/TOD

- Stage of development (proposed, planned, in progress or implemented):
  - for the station building the planning application process has not yet been completed and the contractor not yet been selected, the construction of the county headquarters and bus station have begun and the office tower is still at the planning stage
  - construction began 1999
  - completion of rail station, bus station and county headquarters expected 2004;
  - completion of tram tunnel and external urban spaces expected 2005
  - Office tower expected 2006
  - new rail track construction: 2003-2005

- Was there a bidding process, if yes, what was its nature?
  - PROBAT ran an international urban design competition in 1997 for the whole scheme, with a brief to create new land use and urban space structures for inner city development through the (re-)development of the station and surrounding area; 34 companies provided proposals;
  - 1999: OJEC notice issued for planning concepts for the new station; 5 architects and their developers were selected; the final decision will be taken at the end of the 2nd quarter of 2002 and will be based on economic criteria
  - there was an EU-wide invitation to tender (OJEC notice) for both the development of a new ÖBB service building (to incorporate administrative functions currently contained in the old station) and the demolition of the old station

8. PROJECT COST (PLANNED / ACTUAL)

- Total
  - Rail station: € 51.6 million
  - new local rail service track: € 10.9 million
  - County headquarters: € 130.8 million
  - Tram tunnel: € 67.6 million
  - Bus station: € 6.5 million
  - Office tower: € 35 million
  - TOTAL: ca. € 305 million

9. PROJECTED IMPACT OF THE PROJECT

- intensified urban use of the 60 ha the project comprises
- better PT connections
- increase of pedestrians passing through the station to 59,000 / working day (from 31,000 / working day)
- improvements of the regional employment situation through the improved PT connections and resulting increase in accessibility
- re-creation of the service/shopping centre near the city centre (there a number of out-of town shopping centres)
- redimensioning of the facilities to match the forecast increase in passenger
the changes brought about by the improved PT facilities are expected to increase the interchange activity by 120% (to 126,000 people per day) measured against 1992 levels (PROGNOS). The share of passengers arriving by ÖBB train is expected to be over 30% of this new figure (40,300 travellers per day).

It is also forecast that the share of passengers who come for shopping, leisure and "other“ activities will rise from 16% (1992) to 21% and the share of professional commuters will decrease from 24% to 20%

10. FINANCING MODEL(S)
- Contribution by each partner (amount and source)
  - Rail station: € 51.6 million
    o € 23.3 million federal government of Austria (via Rail Infrastructure Financing Act, SCHIG)
    o € 22.9 million ÖBB
    o € 5.5 million NAVEG
    o amount to be confirmed for private investors
  - new local rail service track €10.9 million
    o € 8.72 million (80%) federal government of Austria,
    o € 2.18 million (20%) County OÖ and local authorities
  - County headquarters: € 130.8 million
    o 100% private financing via Real Treuhand
  - Tram tunnel: € 67.6 million (channelled through NAVEG)
    o € 33.8 million County Oberösterreich (from EU investment)
    o € 33.8 million City of Linz
  - Bus station: € 6.5 million (channelled through NAVEG)
    o € 3.75 million County Oberösterreich
    o € 3.75 million City of Linz
  - Office tower: € 35 million
    o Investor has not yet been determined

- Modes of evaluating investment risks
  - Travel and office space demand analysis and forecasts
  - Surveys of passenger numbers and customer surveys to assess expectations and retailing behaviour
  - Forecasts show that the accession of Eastern European Countries to the EU will convey a greater importance to Linz as a commercial location

11. RELEVANT LEGISLATION
- Schienen Infrastruktur Finanzierungs Gesetz (SCHIG): Rail Infrastructure Financing Act (see also http://www.bmv.gv.at/vk/7bahn/bahnpolitik/schig.htm)

12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- Linz Transport and Land use planning
- ERDF: European Regional Development Fund
- Bahnhofsoffensive: Railway Station Action Plan of the ÖBB, which envisages a total investment of € 232,48 Mio to redevelop existing stations and their surroundings; Linz is
one of the four stations, which top the list for action; the policy envisages the redevelopment of 20 stations in total, which form 2% of all ÖBB stops and stations but see 45% of the passengers and provide 70% of ticket revenue for the ÖBB

13. RELEVANT ORGANISATIONAL STRUCTURES

14. PLANNING PROCESS OF PROJECT

- 1997: Urban design competition called by PROBAT, winning scheme selected on 12.11.1997
- The competition was won by architects Neumann & Steiner; their concept suggested partial redevelopment of the existing station building as well as some new built; the results helped to determine the size, building density and floor space for the whole urban development project
- Begin of 1998 the different elements of the project were distributed among investors
- May 1998: ÖBB contracts Neumann & Steiner, to develop a structural concept and preliminary master plan for the main station building
- September 1998: ÖBB board ratifies an investment of ca. € 47.3 million for reconstruction of the Linz main station
- 1998: ÖBB issues OJEC notice for construction of a new service building to house ÖBB functions currently incorporated in the station
- 1999: PROBAT issue OJEC notice for planning concepts for the new station; 5 architects and 5 developers selected to submit more detailed schemes; ÖBB issue OJEC notice for demolition of old station
- July 1999: ÖBB contracts the main partners „Real Treuhand Immobilien & VAMED“, to conduct a feasibility study of the preliminary master plan; the result was the proposal to optimise the project from a technical and economical point of view to keep within the budget; Neumann & Steiner were allowed to suggest improvements to their scheme; Architectural office Holzbauer was asked to develop an alternative concept
- December 1999: the design committee of the ÖBB favours Büro Holzbauer to continue with the project; their scheme suggests a complete rebuilding of the station
- January to October 2000: the substitution of the original architects is taken as an occasion by the Linz to pass the station project through the urban development committee of the council. It accepted the reconstruction proposal on condition of some changes. Ultimately, the wishes of many citizens of Linz are incorporated (there was a local lobby group) to maintain the park in front of the station rather than provide a new one after opening, which would lack a lot of the existing mature trees
- 2001: the area around the main station with retail and office buildings with a regional function is zoned with a total retail floor space of 13,300 m² (shopping centre)
- February 2001: the new ÖBB car park with 344 spaces was opened
- May 2001: Federal Minister for Transport, Technology and Innovation grants the necessary financial contribution for the project „Bahnhofsoffensive“
- 2002: land purchase contract between ÖBB (seller) and LVV AG (buyer) for new office building
- 26. February 2002: official begin of the main station construction project

changes to the plans

- there were initial difficulties with the Linz local authority regarding the number of parking spaces but eventually it was accepted that the PT interchange justified building less parking spaces than would normally be stipulated for a project of this size (including all the office and retail buildings); the city originally was trying to solve some of the inner city parking problems through the project
existing green spaces were originally to be reduced (parts to be taken away, some parts to be replanted) and an avenue of ornamental cherries was to be taken out, as well. In response to these plans a local lobby group formed and achieved the preservation of the avenue as well as the conservation of the park during and after construction; one of the results of these changes was the office tower as the office floor space, which was originally to be built on the site of the park would now have to be supplied in a multi-storey building.

### 15. PROJECT EVALUATION (FROM THE POINT OF VIEW OF THOSE INVOLVED IN THE PROJECT)

- ÖBB and investors have closer co-operation than in Germany; for example the private investor accepted a reduction of the retail area by 2,000 m² to ensure that the new track for local rail services could be built to improve the service.
- there was some successful lobbying from the ÖBB within the Linz municipality to get key people involved
- rent revenue was calculated according to the normal local rent levels; however, there is expected to be a slump in the market for office space and this will probably be compensated by giving office space becoming available over to the residential market
- in the office real estate market the office tower is seen as an independent project to the station, which can be built independently (or not)
- It was important that the local and regional authorities were fully behind the intentions of the project at all times and provided practical and financial support. Investors cannot be allowed to take over the planning process. The project in Linz is one of the few projects, which has been successful in this.
- It was very positive to have an important investor (Real Treuhand) for the development of the new county administration headquarters on board early on.
- It is important that the local authorities realise that not all risk can be laid onto the private investors, especially since the local administration will greatly benefit from the future use of the facilities, the taxes and the new work places.
TERMINUS OF SUBWAYLINE U3 EXTENSION, OTTAKRING,
Vienna, Austria

Project: the turn-around tracks for the subway line U3 are incorporated into a residential building with retail uses on the ground floor; the development is part of a wider project extending the subway line to Ottakring and developing some old industrial sites for modern urban uses

Terms and abbreviations:
Vienna District Authorities: Vienna is subdivided into 23 districts, which share administrative and strategic planning responsibilities with the Vienna municipality. Ottakring is one of these districts

1. DEMOGRAPHICS
- Area size overall / district served by facility:
  - Vienna: 41,495 hectares (1997)
- Population density overall / in districts served by facility:
  - Vienna: 1,615,438 (2000) inhabitants, projected to rise = 38.9 persons per hectare
  - Ottakring: 90,319 (2000), projected to rise slightly = 104.4 persons per hectare

2. EXISTING CHARACTERISTICS
- Gross regional product, 1998: € 51.373 Million, rising
- before regeneration and subway extension project started, the entire re-development area Ottakring Neu comprised 14.5 ha, used almost exclusively for commercial purposes with 732 employees in 17 businesses (1991) and only 9 flats with 27 residents (1995)
- area around the planned new terminus was used commercially by two large businesses (garage of Vienna bus operator; Austria Tabak, a federal government-owned cigarette manufacturing business), usage was extensive, the area was considered run-down, a “broken-glass neighbourhood”

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- Wiener Linien (= Vienna Lines, the only PT operator) total passengers in 1997
  - 698,700,000 journeys by bus, tram and subway; increasing
- in 2000 journeys by subway alone: 395,600,000 journeys (= 55% of all journeys 2000, the other 45% by bus and tram)
- modal split 1996 Vienna (with little change till 2000)
  - 26% pedestrians
  - 4% cyclists
  - 38% private car
  - 32% public transport
- plans for urban development measures sparked partly due to the relocation of Austria Tabak and other businesses to less central locations as well as the planned extension of the subway line to Ottakring

### 4. EXISTING TRANSIT FACILITIES
- existing: 2 tramlines (direct connection to Vienna city centre); 4 bus services; 1 suburban commuter rail

### 5. EXISTING REAL ESTATE ISSUES
- area around terminus and district in general was in decline and not particularly popular with potential developers, residents or business tenants

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - Ottakring District Authority: had great interest in the development and was also instrumental in getting the planned route of the subway extension changed to end in their district rather than a neighbouring one (which would have been more in accordance with the radial principle of the subway services coming out of the centre but would not have achieved the connection with the commuter rail service going out into the suburbs)
  - Wiener Linien – public transport operators: a company wholly owned by the municipality of Vienna but operating on an independent financial basis
  - federal government: provides subsidies for capital transport projects and helped finance the U3 extension
  - Austria Tabak: not a PPP partner as such but was instrumental in initiating the far sighted planning initiative for the large brownfield site (and some listed buildings) they would be leaving behind; helped to work out the concept for Ottakring Neu, the urban development project, which incorporates the PPP case study
- **Private**
  - Bank Austria Immobilien (BAI) – real estate development subsidiary of Bank Austria (private): developer of the building encasing the actual subway turnaround track beyond the terminus

### 7. PPP PROJECT
- **facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - bus and tram stops; commuter rail station; no subway service in the whole of the district
  - use of the redevelopment area: extensive commercial uses
- **new facilities / land uses (see above):**
  - **PPP project**
    - terminus turnaround facility for subway trains (the tracks on this part of the route are elevated above ground on a bridge construction)
building surrounding the subway turnaround track mainly for residential use (social housing, was originally intended for housing migrants who had just arrived in the country and there was expected to be a relatively high turn-around in a building, which might suffer from noise pollution; this does occur but it is not caused by the subway moving in the building but rather by the commuter rail which passes to the west of the block; most residents have nevertheless remained in the flats since they moved in)
- some office space and retail units on the ground floor
- underground garage beneath the building
- journey time to the Stephans Cathedral (Vienna City Centre) now 12 minutes, this is not possible with any other means of transport during the day time

other urban development measures, which are part of the Ottakring Neu package
- business school for 1,600 students (state run further education institute), which had to relocate from the 1st District (city centre)
- childcare centre (kindergarten, crèche)
- residential tower for staff of nearby hospital
- large public square in front of subway stop, under elevated subway tracks and in front of the residential tower
- shops in the stone archways under the commuter rail track bordering the public square, which at this point is also elevated and runs parallel to and west of the subway line
- further residential developments in the immediately surrounding area (both privately rented and social housing); a further 600 residential units (partly sheltered housing) are at the construction phase
- District authority also gave an interest free loan to a private hospice „Haus der Barmherzigkeit“, which is intending to develop a new building nearby in an area, which has not yet benefited from the new developments

Further information on the subway
- new extension of service U3 is 2 km long and comprises three new stations including the terminus at Ottakring; shortest service frequency: 3.5 min (school day mornings); longest service frequency 7.5 Minutes (evenings Sunday, mornings); public artworks have been integrated into the station building as well as the public open spaces in the vicinity

Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):
- land:
  - for urban re-development project in general: partly from Austrian National Railways (ÖBB, along the track of the commuter subway and some real estate adjoining the route: former coal stores); some from the Vienna municipality, some from the federal government (area of former Austria Tabak complex) > the real estate was generally paid for by the private developers involved in the Ottakring Neu project
  - for PPP: Ottakring District Authority
- building: BAI
- subway infrastructure and cost caused by associated changes to public spaces and highway network: Wiener Linien
- 10% of cost for urban space contributed by Vienna municipality via the district for works affecting district roads (main roads would be dealt with by the municipality directly)

Transit Oriented Development / Transit Joint Development ?:
- TOD
• **Stage of development (proposed, planned, in progress or implemented):**
  - Completed

• **Was there a bidding process, if yes, what was its nature?**
  - No

• **If not, how were partners selected?**
  - Wiener Linien automatically responsible for the subway service and infrastructure construction
  - BAI bought the land from the District

### 8. PROJECT COST (PLANNED / ACTUAL)

- **Total**
  - building incorporating the turnaround tracks cost in construction € 14,500,000
  - real estate acquisition for the entire U3 extension € 29.1 million
  - acquisition of new rolling stock to extend the service € 43.6 million
  - construction cost of entire extension: € 218 million

### 9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- the extension brought an additional catchment of about 150,000 people for the subway
- passenger numbers for stops within the vicinity of the subway terminus only known for tram stop
  - o 16. Mai 2000 6.00-20.00 (working day): 6,272 passengers in direction of city centre
- Wiener Linien only have figures for use of subway/passenger numbers at more central locations

### 10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - capital investment from Wiener Linien (funded through fare box revenue and government subsidies)
  - capital investment from BAI, privately financed

- **Contribution by each partner (amount and source)**
  - BAI: € 14,500,000
  - Wiener Linien: part of the € 218 million construction cost (precise figure just for the turnaround has not been calculated)

### 11. RELEVANT LEGISLATION

- as the Wiener Linien receive subsidies from the federal Austrian Government a contract between these two parties was necessary to secure funding for the construction of the subway extension

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES

- the strong desire of the district to redevelop the brownfield sites, which were to become vacant, to a high standard (quality of facilities and urban spaces, mix of uses) coupled
with the sustained efforts to convince the Wiener Linien that Ottakring would be a more suitable terminus for the planned subway extension than the neighbouring district
- the strategy of the Wiener Linien to extend its network and its readiness to respond to the arguments put by the district

13. RELEVANT ORGANISATIONAL STRUCTURES
- co-operation between BAI construction contractors and architects and the Wiener Linien to co-ordinate the two construction phases (first: turnaround tracks, second the surrounding building) > both used the same civil engineer for example to ensure that all calculations and supporting structure would be well co-ordinated

14. PLANNING PROCESS OF PROJECT
- the entire urban development project has been developed over a period of 10 years; many elements were added in the course of the planning process; not all of these had been decided upon from the beginning and the speedy planning and implementation was due both to the involvement of the private sector developers and investors (who were interested in a good return on their investments) as well as the efforts by the District Authority motivated by the wish to see improvement in the area as quickly as possible
- the District Councillor responsible for planning and urban development helped to prioritise the planning permission procedures necessary to allow the project to proceed quickly and ensure that construction could start as soon as possible
- Vice mayor of the District was the first to suggest that the elevated turnaround area should not be left standing „naked“ and during a district committee meeting on the Ottakring Neu project it was decided: “lets buy it and let’s build something” (or in this case sell it to somebody else to build something)
- 1991: Architect Czech presents a concept for the building around the U3 subway turnaround (Architektur Aktuell November 1997) as it was always clear that this particular development had to be planned in very close liaison with the U3 extension project
- 1993: Austria Tabak initiated a far reaching planning procedure for the future uses of the manufacturing sites in Ottakring, which were to be abandoned in areas; the project is named „Ottakring Neu“; a land use and planning potential study was commissioned and the recommendations contained within it were used by Austria Tabak and the ODELGA distributors to work up the concept for an urban development solution together with the district authority
- the open space between the subway station, the turnaround area and the residential tower for example gained the acceptance of Austria Tabak only after a while when they accepted that it would be an urban design element with district wide significance. In exchange it was accepted that the space lost to development would be made up by simply “tilting” the intended buildings 90 degrees and constructing the residential tower for the hospital staff (it is the highest building in the entire district)
- 1995: Austria Tabak ceased production in the area,
- early 1996: construction of the subway extension began
- the construction of the subway turnaround area and the building, which encases it are executed almost in parallel with each other, there are always only a few weeks delay between the completion of the subway elements and the associated elements of the building: the support construction of the elevated subway tracks within the building is the same as that of the subway bridge directly in front of it and the supports of the bridge have been co-ordinated with the pillars supporting the ceiling of the underground car park underneath
- 1997: the building around the turnaround tracks is completed („Ottakring Neu“)
- 1998 (Dec.): the new extension of the U3 subway line opens on time; the fact that the completion date had been fixed a long time in advance and was not moved back helped
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changes to the plans:
- U3 was supposed to run on a radial route into the 14th district; Ottakring managed to get these plans changed, which resulted in the line achieving a tangential connection with the commuter rail service; this also makes sense from a planning point of view since there is a general effort within the city to achieve connections between the outer districts and since there would only be a very small chance that another rail based PT service (such as for example subway U5) would be extended into the 14th district.
- the first master plan placed the public urban space underneath the turnaround tracks, but then district bought the land and designated it for residential development and it became clear that the square would make more sense situated in front of the subway station
- the subway trains used by the Wiener Linien and they wanted to construct a canopy over the entire length of the train, partly also to allow the driver to change from the rear to the front driver’s cabin without being affected by the weather. A visual impact assessment of the road the tracks cross at this point (just before they reach into the building) showed that this would have blocked the view to the forested hills beyond (Wiener Wald), which characterises the street for almost its entire length (it runs straight for over 2km) and a more open solution was adopted
- the “tunnel” underneath the rail tracks within the building was originally intended to be kept open as a pedestrian link between the two streets, which border the development to the south and the north (Thaliastr. and Ottakringerstr, both have important district functions); with shops bordering it on either side but because of revenue considerations, the BAI decided to let the entire floor space to a sports and leisure shop

15. PROJECT EVALUATION (from the point of view of those involved in the project)
- the Austria Tabak production site was originally an urban fringe location (when it was constructed in the 1800’s) but urban development slowly turned it into an inner city area; when it was decided to relocate production 20,000 m² directly adjacent to the planned new subway terminus became available; Austria Tabak was able to made substantial gains out of selling this land
- ODELGA Distributors land was also used well below the potential conveyed by its relatively central location (buildings structure was extensive and reached no higher than the first floor)
- the co-operation between the land owners and the district was very productive and would not have been possible without the commitment of the land owners
- similar processes have not always been similarly successful in other parts of the district because in some cases the actual companies showed a lot less urban development initiative and instead subdivided their real estate when selling in order to maximise profits and without any leading concept
- the extension of the subway has also increased patronage of the commuter rail and thus increased the value of the real estate along the route of the latter
- the area around the terminus has gained enormously in prestige and attractiveness, new flats are easy to rent and particularly young people with children are returning to the district, who had previously been moving out

DISTRICT AUTHORITY
- it would be difficult to replicate this process on another occasion as it was a product of many advantageous factors creating synergies: subway extension, available land (the large area vacated in such a central location presented a very significant chance for strategic urban development); land owners and public administration keen to plan together towards medium to long term goals; need for the business college to relocate,
the availability and suitability of some of the old Austria Tabak buildings (which are listed buildings)
- unfortunately it was not possible to convince the Austrian National Railways to end the lease on a filling station to the west of the terminus and to sell the land although this use is seen as obsolete and of low value to the neighbourhood
- it was intended from the beginning that all associated projects, including the building surrounding the turnaround area, should be completed with the opening of the subway extension to avoid the phenomenon of a permanent building site, which often blights such large scale projects
- the Western main rail station in Vienna is a project that has been in discussion for a very long time, there has been a succession of grand concepts but nothing has happened; in Ottakring on the other hand the planning units were kept small and there were several developers (through the planning was done according to a bigger concept); it is felt that the whole project would have taken longer if it had all been done by one developer alone
- District authority proud of having managed through very involved negotiations with the federal and municipal governments, who financed the project (lead for Ottakring by one of its district architects) to convince Wiener Linien to change its original plans for the route of the U3; this helped to set in motion several projects, which had already been planned for a while but which had lacked the necessary catalyst
- very positive that the contact between Austria Tabak and district authority had been initiated so very early on
- there were no local groups which lobbied against the project – otherwise the process could have been a lot more protracted; the lack of obstacles enabled a positive chain reaction
- the district authority wanted to keep the public square uninterrupted by traffic flow but traffic engineering measures made it necessary to maintain the highway cutting through it; they will however close it for special events on the square
- the flats in the building around the turnaround tracks have been well accepted, the subway itself creates no noise but the commuter rail does as it goes through a bend when passing the building’s western elevation; some residents have understandably complained about this
- the residential tower could have been 20 m higher (as it is not even officially fulfilling the definition of a high rise building) but “back then we weren’t ready for that”
- would do the same thing again in the same way, all parties involved were fully behind the project(s) and it was clear from the beginning that the subway extension would come and that all other construction activities should to be finished when it did; should always go like this
- increased attractiveness of the Thaliastraße as a local shopping street has not materialised (e.g. change of shops, increased footfall); The inner city has become even more accessible through the extension and many make use of this opportunity; there is also still empty retail floor space and restaurants and bars have not moved into the area in the way it was expected
- before the construction of the subway extension, Ottakring did not really have an urban centre, there was merely a sequence of minor squares along the Thaliastraße; the new interchange and the associated urban space have changed that
- the whole process only took 8 years (1992-1999), which is extremely quick for a project of this size; it is already hard to remember what the area looked like before
- though the project in general has met with a very positive public response, some people still prefer to use the bus or the tram, partly out of habit, partly because they prefer to travel above ground and partly because they want to avoid the escalators and longer walking distances associated with the subway stops themselves
WIENER LINIEN:
- the result of the development plan and the project itself was an unusually varied land use mixture, which is able to absorb the less valuable land uses such as the filling station without the concept becoming invalidated
- it was an advantage that not too many land use designations had to be changed
- the position of the turnaround track behind the actual stop - made possible by its incorporation in the building - a 90 second turnaround interval (= to 3 min service intervals), which could not have been achieved if the turnaround area had been placed before the stop
FRANCE
1854, the station of Massy-Paleseau is brought into service. Since the beginning of the century, the district of Champs Ronds presented an industrial activity with the factory of chemical COMART.

It is only in 1960, under the impulse of the city and the State, that the adjustment of the industrial park really starts in a sector ranging between the Carnot avenue and the RN 188, in the immediate vicinity of the RER station of Massy-Paleseau.

The Sixties mark also the beginning of the urban extension with the realisation of grouped buildings and private housing estates.

1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - Served zone: 943 ha

- **Population density overall / in districts served by facility:**
  - Served zone: 38,205 inhabitants (1999) and 40.5 inhab. /ha

2. EXISTING CARACTERISTICS

- Massy is located at the south of the Ile de France area.
- Departmental rate of unemployment : 5.6% (4th quarter 2000)
- Ile de France rate of unemployment : 7.7 %
- National rate of unemployment : 8.9 %
- tax rates:
  1. Tax voted in Massy into 2001 (in %)
  3. Departmental mean level in 1999
3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES

- Six car parks offering 1,152 parking bays.
- Connection to the road network (RN 20, 444, 118) and motorway (A6, A86, A10).
- International airport to 7 km (~15 mins).
- TGV: 40 trains/day towards more than 60 destinations.
- Synergy TGV-RER (700 000 travellers in 2000. SNCF Parks TGV of Massy).
- The RER (Network Regional Express train of the area of Île de France):
  - B : The Massy-Châtelet connection is carried out in 25 min.
  - C : The station of Austerlitz in 35 min (correspondence METEOR);
    - In the south, Juvisy in 35 min
    - In the West, Versailles in 20 min.
  - Urban transport : at the beginning of the stations the RER B and C:
    - Network the RATP (05 destinations).
    - Network Optile and Transessonne (11 destinations).

COLLECTIVE TRANSPORT:

The bus network:
- The Massy platform stations of comprises two road stations located each one on a side of the railway.
- **East Side:**
  - East side , there are 12 lines of buses which serve the stations platform. There exists on the whole 8 points of stop distributed:
    - In front of the car park " C " along the Carnot avenue (4 lines),
    - Near station the RER B (3 lines the RATP),
    - In end of car park B, in front of station TGV (4 lines).
  - Between these various stop points, the pedestrians connections are not easy just as the location of the stops for new users, this because of the insufficiency of the indication and a lack of coherence in the organisation of the drunk stops
  - These lines are exploited by the RATP and private conveyors of the APTR or ADATRIF
  - Lines and Interval in week at the peak hour of the morning
    - RATP 199 6 minutes
    - RATP 319 8 minutes
    - RATP 399 10 minutes
    - Bridet 20 07 30 minutes
    - Cars d’Orsay 06 02 9 minutes for Northern route
    - DM 11 10 minutes
    - DM 12 20 minutes
    - Albatrans 91 03 20 minutes
    - Albatrans 91 05 20 minutes
    - Albatrans 91 06 12 minutes
    - DM 153 15 minutes
    - CEAT 010 007 60 minutes
  - At the peak hour of the morning, the East side stations platform is served by more than 50 buses (on arrival and departure). This very significant volume cannot be organised in a satisfactory way because of overcrowding on three sites and a lack of coherence and equipment
  - Moreover, there is no space for prolonged parking for the buses; this situation generates significant obstructions at the stop points,
Western side:
- The whole of the lines of buses which serve the station have their stop on the square Pierre Sémard or in the vicinity. This square also accommodates 56 parking bays. Separation between trunk flows and particular vehicles is not marked in a precise way, which generates clogging at the peak hours.

- Lines and Interval in week at the peak hour of the morning
  - RATP 119 6 minutes
  - RATP 196 8 minutes
  - Bridet 220.495 30 minutes
  - Bridet 220.496 15 minutes
  - SALG 22 19 60 minutes

- At the peak hour of the morning, these are 26 buses which proceed through square Pierre Sémard.

Projects of the trunk network:
- The SDRIF registered the realisation of a public transport exclusive right of way -TCSP- by bus between Massy and Saint-Quentin-in-Yvelines.
- The preliminary dialogue concerning this project commenced in April 2000; the start-up of the exclusive right of way is planned for year 2004.
- The first 6 kilometres phase will make it possible to reinforce the connections between the pole of the stations and the Polytechnic School of Palaiseau, by:
  - an increase in the frequencies (a bus every 12 minutes) and a maintenance of the service during all the day,
  - a consequent reduction in the journey time between Massy and the Polytechnic School (15 minutes today, 8 minutes once the project is completed)
- Locally the way of the TCSP will be built at the height of the RER C. SNCF station between the ways of the RER C and the street Lucien Sergent.
- The characteristics of the exclusive right of way are right now defined in order to allow the evolution in the long term towards a guided system (standard tram).

The RER B
- The station of "Massy Palaiseau" of the line B of the RER is located on the branch in Saint-Rémy-lès-Chevreuse direction. At the peak hour of the morning the frequency 8 trains per hour.
- In the northerly direction, the line B of the RER puts Massy at 30 minutes of the centre of Paris –station Châtelet-the-Markets, and serves the airport of Roissy-CDG directly (at 55 minutes).
- It also serves the airport of Orly, via a correspondence with ORLYVAL at the Antony station (journey time: 30 minutes).
- Towards the South, the line has as a Saint-Rémy-lès-Chevreuse destination, with a service road of the University pole of Orsay (journey time: 23 minutes)

The RER C. SNCF Station "Massy-Palaiseau"
- This station accommodates the means of the line of the RER C (news service road to the 03/12/2000):
  - With the branch C2 which connects, with a frequency of two trains per hour all the day, Massy in Paris (time of course between Massy and Bibliothèque François Mitterand: 36 minutes),
  - With the branch C8, coming from Versailles-Chantiers sites and bound for Left Versailles-Bank, which allows, with a frequency of four trains at the peak hour, to join Paris via Juvisy (time of course between Massy and Bibliothèque François Mitterand:
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37 minutes).
- Line TGV Rouen-Lyon serves Massy-Palaiseau at the RER C station, with an outward journey and return per day.

**SNCF railway interconnection station of the of Massy TGV**
- The TGV station was brought into service in 1991. It allows the interconnection between Atlantic line TGV and the SOUTH-EASTERN and Northern TGV without obliging the travellers to forward by Paris.
- The traffic of this station strongly increased these last years, since it has practically tripled between 1996 and 1997. In 2000 the traffic represents forty TGV per day, serving about fifteen different destinations.

**Conclusion**
- The traffic of the RER B and the RER C stations is very significant, it represents 46,000 travellers per day (given 1995), among which only 21,900 travellers (47%) are entering users. The 24400 remaining users are travellers in correspondence (37% coming from the RER B and 16% of the RER C).
- The various modes of approaches towards the platform of the stations are distributed in the following way and show a preponderance of bus passengers, which translates the good quality of this service. The small number of approaches on foot is evidence of the position of the station as a pole with extra-communal radiation.
- The modes of folding back of the entering users are as follows:
  - by foot: 36 %
  - by bus: 50 %
  - by particular vehicle: 14 %
- Thus the Massy stations platform constitutes one of the principal elements of the organisation of transport of the Southern suburbs. It is an important public transport interchange by combining the regional and national network of many lines of bus.

**Working procedure for the multi-modal platform:**
- The dispersion of the services currently does not facilitate the exchanges between the various means of transport.
- It is often necessary to circumvent obstacles which lengthen the interchange between the services. For example the most direct connection between TGV station and the other stations obliges the users to leave the platform, to use the pavements of the Carnot avenue and to skirt several points of parking of the road station to reach the RER B station or the footbridge.
- The outdated buildings and the non-mechanised staircases do not give accessibility to the quays for people with reduced mobility in an autonomous way.
- The bad organisation of the road stations, fast demounting and the wild parking generate frequent congestion on the axes Carnot and Lucien Sergent.
- It should also be noted that the overall level of signage is insufficient, in the stations and the level of the footbridge, although it is better in the east side.

**4. EXISTING RAIL TRANSIT FACILITIES**
- Network Regional Express train of the area of Ile de France: Line B and C
- TGV: 40 trains/day towards more than 60 destinations.
MOVEMENT OF THE PEDESTRIANS TO THE VARIOUS ACCESSES OF THE MULTIMODE PLATFORM:

- The access to the multi-modal platform of the stations is done from two sides; in the West by the place Pierre Semard and in the East by several entries distributed on the Carnot avenue.

- On Western side access will be:
  - potentially via the RER C SNCF station directly the footbridge

- from the other side various accesses enter the platform:
  - The service building of the RER B
  - direct access to the footbridge from the road station
  - , provisional additional footbridge towards the quays of the RER B

- Counts carried out in February 1995 by the SNCF give the frequency of the various accesses of the multi-mode platform. These figures just take into account not just the users of the means of transport but also residents

- Daily circulation between the two sides East and West is of 18,000 users. The distribution entering the two sides is as follows:
  - 9,400 users / day in the West-east direction.
  - 8,600 users / day in the East-West direction.

- In the West-east direction
  - 50, 2% of the daily users either 4,719 people, come from the RER C and 42.8%, or 4,600 come from the Western city.
  - In both cases the RER B is the principal destination with 75%, the second is the Eastern city with 14.4%, the TGV with 0.6% is by far in last position.
  - The outgoing ones towards the East city continue their way preferentially drank some (15.8%), then conveys some (1.4%); the walking accounts for 6.7% and the other means 0.5%.

- The East-West direction
  - over the 8,600 users / day, 6,252 (72.7%) enter the multi-mode platform by RER B the flow of entering from the East city is 2,269 (26.7%), that of the TGV represents only 52 people (0.6%).
  - From the RER B, the outgoing ones towards the Western city account for 37.9% and the travellers towards the RER C 34.8%.
  - Flows of entering from the East city show a slight predominance towards the RER C with 15.5% and 11.2%vers the Western city.
  - Between the Western RER C and city, the destination of the travellers is distributed in a homogeneous way:
    - 4,360 travellers (50.7%) towards the RER C
    - 4,240 outgoing (49.3%) towards the Western city.
  - The outgoing ones towards the Western city continue their way by taking the bus (26.2%), walkers (13.6%) or by another means (0.7%).
  - The dysfunction of circulation are highlighted at rush hours
  - The traffic reaches its maximum at the peak hour of the morning, between 7h30 and 7h45, with approximately 1,200 users, that is 4,800 users / hour.
  - The periods of high usage exceeding 1,000 users / hour are:
    - The morning : 6h30 to 9h15;
    - And the evening : 16h00 to 19h15.
  - These peaks respectively account for 36% and 35% of total circulation.
  - At the peak hour of the morning, it is the passage by the footbridge between the eastern city and the RER B which records the most significant flows.
Over 1,800 passengers passing by the footbridge, 1,350 (75%) go towards the RER B and 450 (25%) towards the Western city or the RER C. The flow of travellers using the small footbridge accentuates this preponderance towards the RER B.

Note: The point of intersection, the footbridge and the staircases leading to the quays of the RER B are a black spot at peak hours. Indeed, the simultaneous arrival of the RER B and C causes "stoppers" in the zone where the footbridge narrows.

PARKING:
- Because of the cut existing in the road network, between two sides of the stations, the analysis of the parking will be done by considering each of two banks separately.
- In 1989, one considered that the zone of influence of the stations extended for the parking with 500-550 meters to the maximum. The observation of the site showed that the radius of influence of the stations on the parking increased; for the last readings taken since 1999, the distance was increased to 700 meters.
- Eastern side
  - On the East side of the railway, the car parks available and usable to users of public transport are 6. They are distributed along the axis of the railways and are made up of:
    - Car park A of a capacity of 160 places (free), located at the south of the site, along the access road to the motorway A10;
    - Surface PSR (126 places), near car park A, charged, accessible by the access ramp to A10 at South-west;
    - Car park B charged (158 places) located between the travellers’ building of the RER B and the railways; it prolongs the surface PSR, with the same access;
    - Car park C, located along the Carnot avenue (85 places), and accessible directly along the building from the RER B station;
    - Car park D paying during a few years but currently free (64 places) located between the square of station TGV and the RATP farm building;
    - Silo parco-train TGV (355 places) and PSR located on the floor (420 places); this unit is charged for.
  - Among these car parks, some are provisional (car parks B, C and D) and will disappear to allow the realisation of the project of platform stations structuring, and the development of operations of installation (ZAC Carnot TGV station).
  - Their occupancy rate:
    - Car park A shows a constant occupancy rate, about a 116-118% thus on-occupation due to parking in zones of release. It is also noted that the accesses of the car park (quay levels, gyrator) are occupied by vehicles parking wild.
    - Car park B was arranged temporarily in waiting of the reorganisation of the multi-mode platform. It was free in the beginning and began to be charged for in 1993. Whereas it was largely saturated before this date, its occupancy rate decreased, it is 91% into 2000, which is normal because of its proximity to the RER B station.
    - The surface PSR, was also free until 1993. since it is charged for, its occupancy rate dropped, since at the time of the statements of June 2000, it was only 16%. Thus this car park offers a reserve of about 105 parking bays.
    - The car park C is provisional and free. It is over-used since the occupancy rate in June 2000 was 146%. This is due to its position which allows a direct access to the platform of the stations.
    - The car park D is free, it is provisional because it is located at the site of future RER B station its occupancy rate is relatively stable, but very high since it is established to 147% into 2000.
    - The rate of frequentation of parco-train TGV (paying) shows a regular growth: it was 15% in 1993 and reached 68% in June 2000. thus, this equipment has a reserve of 240 places.
- The whole of the charged parking lots (car park B, surface PSR, parctrain TGV) have a system of subscription coupled with the season tickets of transport.
- This offer in parking is supplemented by the non-paying parking bays on the surrounding roadway system represented in a radius of 500 meters by:
  - The Carnot avenue which offers 113 places non-paying to less than 500 m of the station, like 21 places in restricted parking zone.
  - Their occupancy rate
    - the street Ramolfo Garnier, with 18 places.
    - the street Amp (8 places).
    - the street of Paris, with 41 places.
    - the avenue of the President Wilson (19 places).
  - The capacity of parking on the East bank is distributed in the following way: 1,368 places in the car parks (1,061 places in the final car parks, 307 in the provisional car parks) and 220 places with less than 500 meters of the entries of the stations - that is to say a total of 1,588 places.
- Western side
  - The "Western" side has three car parks accessible to the users of public transport and free.
  - The SNCF car park has a capacity of 65 places, it is located at the South-west of the place Pierre Sémard. Its occupancy rate since 1992 is constant at about 125%.
  - The car park of the place Pierre Sémard occupies the space located directly in front of RER C station it has a capacity of 56 places and shows an occupancy rate which is established today at 102%.
  - Finally the car park Lucien Sergent, which is a provisional car park, offers a capacity of 130 places. The occupancy rate of this last car park is 110%.
  - The offer in parking bays is supplemented by the parking on roadway system.
  - The capacity of parking on Western bank is established at 467 places and is distributed in the following way
    - 251 places are in the three car parks; they all are free.
    - 216 places on the roadway system with less than 500 meters of the entries to the platform.

5. EXISTING REAL ESTATE ISSUES
- the residential fabric occupies in majority the northern and western parts of the city.
- Between 1982 and 1999, the occupancy rate passed from 2.91 to 2.49.
- Objectives: to tend towards the objective of 42,000 into 2005.
- Note:
  - Between 1982 and 1990, approximately 99 residences/year were constructed.
  - Between 1990 and 1999, approximately 172 residences/year were constructed (town of Massy. Service town planning. Urban data).

RESIDENTIAL REAL ESTATE:
- demand for multifamily apartments and individual.
  - 1990 to 1999, the annual average is of 172 completed residences.
  - 1996 to 2000, the openings of building sites multiply to reach 223 apartment/year.
- ZAC Vilmarin N°1:
  - Over the last 20 months, the average of sale represents 14 apartments/month.
  - The average rate of sale/program is in a range of 2.5 to 5 apartments/month.
  - Customers:
- 50% single people coming from Massy.
- 40% from the departments “franciliens” bordering.
- 10% from Paris.
  - Over the period 1999/2000, the liveable average price/m² was between 1,800 and 2,200 € (except car park).

**ZAC Carnot-Parks TGV:**
  - 56 residences, from studios at 5 piece-rates. Prices 1,700 €/m² average (except car park)
  - + a building of 115 “studettes” (student residences).

**Quartier Massy Opera:** Building of 115 residences.

**Road of Orleans:**
  - on the edge of the RN 20, 22 houses of city (4 to 6 liveable parts of 80-120 m²).
  - Prices 1,900 €/m² average

### 6. PROJECT PARTNERS, THEIR ROLES AND INTERESTS

- under the label of “the Essonne Development Partners”
  - the Agency for the Economy in the Essonne;
  - the Chamber of Commerce;
  - the District of the Plate of Saclay;
  - Park of tertiary sector of Courtaboeuf;
  - Town of Massy

- Direct partners of the platform reorganisation project
  - RATP
  - SNCF
  - RFF
  - General Council of the Essonne
  - The state
  - Area Ile de France
  - Commune of Massy

- The Mixed investment Company of Massy was created in 1983. in 1986, the city decided to entrust to the SEM Massy the studies then the development of the pole of Massy around station TGV from the point of view worked out by the State and the area for the future European centre of scale of Massy-Saclay-Orly retained in the directing diagram of 1994. Its capital:
  - Commune of Massy 60.52%
  - Case of the deposits and consignments 14.40%
  - BNP 07.24%
  - SOFINAD 07.24%
  - General company of Water 07.24%
  - Bics 00.52%
  - Chamber of Commerce and Industry of the Essonne 00.43%
  - Savings bank of Corbeil 00.69%
  - SA HLM " toit et joie " 00.52%
  - SA HLM " la demeure familiale " 00.86%
  - Grouping of industries of the Massy area 00.34%

This - known as, the intervention of private - is carried out through groupings such as SEM Massy, or many GIE (Grouping of Economic Interests)

### 7. PPP PROJECT

- Seven district markets allow a daily provisioning.
- Seven hotels.
- More than 250 organisations.
- Municipal academy of music (800 places).
- Three libraries.
- An opera (800 places).
- An arts centre (380 places) + three movie theatres.
- The pole of the station of Massy developed on a territory of 150 ha

The demand for 1999:
- Professional buildings: + 13% in number
- Offices: + 39%
- Buildings of activities: in fall.

To the 30/12/2000, the offer of buildings with Massy was distributed thus (reference of the district of the chart):
- District of the activities of the “Champs Ronds”: Offices + Offices/Activities. Surface 11,200 m². price in hiring 70 -170 €/m²/year.
- Park of activity of the “Moulin”: Offices + Activities + Trade. Surface 4,300 m². price hiring 70 -150 €/m²/year.
- Park of activity of the plug: Offices + Offices/Activities. Surface 5,110 m². price in hiring 83 -115 €/m²/year.
- District Massy-Opera: Offices. Surface 2,130 m². price in hiring 115 €/m²/year.

- Offer great surfaces in the new programs
  - Programs whose work is launched: 73,700 m².
  - Projects in progress: approximately 70,000 m².

- Prospects
  In 1999 “a project of development of Massy at Horizon 2015” was elaborated:
    - To reinforce the centres of the existing districts.
    - To connect the districts among each other and to
    - To constitute a network of regional and communal soft connections.
    - To supplement the road network and to create entrance portals for the city in order to make its territory more readable.
    - To supplement and reinforce the networks of public transport.

PROJECTS OF REORGANISATION OF THE PLATFORM:

- Following the abandonment of the project of the arch, the problem of crossing and service of transport remained. At this point in time, since 1995, around the Parisian Trade union of Transport (STP), a 'reflection group' linked the SNCF, the RATP, the area administration, the Department of the Essonne, the commune of Massy and the SEMMASSY in order to study a project of platform reorganisation.

- The solution of restructuring the whole of the multi-mode platform was adopted. The new organisation is integrated in the general program of urban development of the town of Massy and aims:
  - to create an urban bond between two banks of the bundle of the railway,
  - to bring closer the activity poles from the various companies and means of transport,
  - to optimise the routes by reducing the distances,
  - to dimension the sites according to the projected traffic,
  - to improve the legibility of the site,
  - to establish complete and coherent real time travellers information on the whole of the site,
  - to improve travellers comfort: mechanisation, reception, information, trade services,
  - to make stations (the RER and road) accessible to the people with reduced mobility,
  - to increase security

- The adopted project thus comprises the following provisions:
  - A new footbridge (the "bond")
A new device: access room to the quays
- Other accesses to the railway station platforms
- Two services buildings
- Two road stations
- New equipment of information and travellers orientation
- Complementary work
  - Covering the access and quays
  - Some demolitions
  - Conservation of the underground (the SNCF side)
  - The reorganisation of the public car parks - car parks of regional parking (PSR)
  - Car parks for the exploitation
  - Park for two wheels

IMPACT ON THE ECONOMIC AND SOCIAL CONTEXT
- The project integrates the improvement of the accessibility of Massy and the valorisation of the portal of the European scale centre. This project takes into account the rise of the passenger traffic projected by the RATP / the SNCF.

Commercial activity
- Rivet Western multi-mode platform
  - The experiment shows that a distance higher than 300 m is dissuasive for the daily trips. It is the distance existing between the Western square of the project and the Sémard place with the accesses of which some trade of proximity are established today.
  - The commercial programme of the stations pole envisages the possible localisation of the buildings with commercial vocation with the building of Western services. The commercial device will be supplemented on the Western side by establishments of trade around the future "place of the station" and in-built facade of the future ZAC Vil-morin n°2, along the street Lucien Sergent.
  - The increase and the diversification of the commercial offer should amplify the practices of the station users purchase, of the district inhabitants and the people working in companies located around but also to serve future inhabitants and employees of the ZAC Vil-morin.
  - Thus it is foreseeable that there is positive effect on existing trade.

- East side of the multi-mode platform
  - The commercial activity of Carnot Avenue concentrates each side of the avenue Ramolfo Garnier. Trade already moved towards the North-East. This tendency to displacement, started right now, will continue in the future, the future building of the RER B station being envisaged to the right of this zone of commercial concentration.
  - In the future, Carnot Avenue will preserve its role of principal route for the travellers coming from the car parks and the places of fast demounting.
  - The concentration of the commercial activity to the right of the East service building and the forecast of trade in this building of service should meet the needs for purchases of proximity of the bordering population, of the users of collective transport and employed sector of the Champs Ronds and ZAC Carnot – TGV station.

Socio-economic impacts
- The reorganisation of the platform aims for:
  - An improvement of the courses between the various means of transport,
  - A greater safety of travellers and personnel attached to the site, with a better automatic check in the quays,
  - A rationalisation of spaces and their management, with the creation of service and
waiting areas...

**Impact on circulation and displacements**

- pedestrian Circulation – Access to the multi-mode platform.
- The following table presents the estimates of the pedestrian traffic on the platform at horizon 2015, counting carried out in 1995 by the RATP and the SNCF

\[ EV = \text{Entrance variation between 1995 and 2015} \]

<table>
<thead>
<tr>
<th>Destination / Origine</th>
<th>RER B</th>
<th>RER C &amp;...</th>
<th>SW</th>
<th>SE</th>
<th>EV 1995-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>RER B</td>
<td>3800</td>
<td>5300</td>
<td>13200</td>
<td>22300</td>
<td>+ 31.1%</td>
</tr>
<tr>
<td>RER C &amp; tangential O/S</td>
<td>3800</td>
<td>300</td>
<td>3850</td>
<td>4150</td>
<td>+ 63.5%</td>
</tr>
<tr>
<td>Sector West (SW)</td>
<td>5300</td>
<td>3850</td>
<td>200</td>
<td>1200</td>
<td>+ 50.7%</td>
</tr>
<tr>
<td>Sector East (SE)</td>
<td>13200</td>
<td>4150</td>
<td>1200</td>
<td>2800</td>
<td>+ 43.2%</td>
</tr>
<tr>
<td>TOTAL (Σ)</td>
<td>22300</td>
<td>12100</td>
<td>10550</td>
<td>21350</td>
<td>+ 43.1%</td>
</tr>
</tbody>
</table>

- In horizon 2015 the frequentation of the multi-mode platform (peak hours on working days), should see a regular rise compared to the current situation. The distribution of flows between the various origins and destinations will not be basically modified.
- One estimates in horizon 2015 the rise of flows at the peak hour will be 50%.

**Parking of the particular vehicles**

- **East side**
  - The project has as principal impact on the East side to remove the parking places suggested in a provisional way in operations of reorganisation of the stations platform and bound to the ZAC Carnot-Station TGV. However, the reserves of capacities existing in silo PSR and the PSR Southern should compensate for the suppressions.
  - Thus, the future offer of short-term parking should still meet demands
  - In the longer term, an increase in the offer of parking is possible.

- **Western Side**
  - The impact of the project on the Western side parking will be the removal of the provisional car park of the street Lucien Sergent, with like compensatory measure the creation of a provisional car park of equivalent capacity on grounds of the ZAC Vilmorin n°2 while waiting for the construction of a new PSR.
  - In the longer term, as on the East side, an increase in the offer of parking is possible.
  - Generally, the current state of the parking within Massy, where the parking on roadway system is mainly free, incites the stations platform users preferentially to use the parking on roadway system, rather than the paying parking lots, especially on the East side of the railway.
  - In addition, with the accesses of the other stations of the line B of the RER, one thus notes that the parking is limited

**Public transport**

- **The bus network**
  - The project comprises the complete reorganisation of the two road stations.
  - **East side**
    - A first phase will consist of allowing the reception of the whole of the bus lines on a homogeneous space, located between current RER B station and the railways.
    - Its new position, isolated of the dwellings, will minimise harmful impacts.
  - **Western Side**
    - The project represents a fundamental improvement compared to the current situation insofar as the new road station can provide satisfactory operating
conditions for the new TCSP connecting Massy to Saint-Quentin-in-Yvelines in addition to the six current lines; moreover, the project will allow an optimisation of the road station organisation, by positioning all the stops near the Western service building. The project thus has a positive impact on the bus network, since it concentrates the whole of the stops on two homogeneous platforms; under operating conditions it will minimise disturbance for the residents while accommodating the increase envisaged in the movements of buses (which should triple in the years to come).

Station TGV
- Although the characteristics of the line do not undergo any change, the project of the platform reorganisation will have a positive impact on the TGV service by:
  - General improvement of descriptive signage and the marking of accesses to the TGV station for a better orientation of travellers (occasional users of Massy station)
  - The creation of a true station square
  - And the possibility of creating a advance covered between station TGV and the RER sector

Future sound environment
- On the level of the Western station, the reorganisation of the multi-mode platform involves an average increase in the noise levels of 1 dB(A) approximately, which is imperceptible by the residents.
- on the East side, the modifications of roadway system are more significant but move away the buses circulation from the residential areas. The total increase in noise level never exceeds 2 dB(A) and, in spite of the increase in the road traffics, it is often less.
- Thus, on the whole of the sector, the increase in the noise level never exceeds 2dB(A), one can say that, in accordance with the regulation, installations are not regarded as significant from an acoustic point of view. There is thus no particular legal requirement as regards noise levels.

8. PROJECT COST (PLANNED/ACTUAL)
COST AND PROJECT FINANCING (PLATFORM REORGANISATION)
- The cost of the project is evaluated to 300 million francs (€ 45.7 million).
- Under the piloting of the Trade union of Transport of Ile de France this operation, registered with the contract of plan, is co-financed by the State, the Area Ile de France, the General Council of the Essonne, the RATP, the SNCF, RFF (Railway Network of France) and the commune of Massy.
- The control of work is ensured by the RATP, the SNCF, RFF and the Commune of Massy.
- Work will last approximately two years for a start-up envisaged into 2005.

9. PROJECTED/OBSERVED IMPACT OF THE PROJECT
- Travel times:
  - Antony 8 minutes by RER B
  - Bordeaux 3h 30 by TGV, 6h by motorway
  - Park Massy TGV to station Massy Palaiseau 12 minutes walking
  - Longjumeau 10 minutes by SNCF
  - Lyon 2h 20 by TGV, 4h 40 by motorway
  - Orly 30 minutes by ORLYVAL
  - Orsay 12 minutes by RER B
  - Paris Châtelet carries from Orleans 30 min. by RER B, 25 min. by motorw.
  - Park of Austerlitz 39 minutes by RER C
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- Rouen 2h 10 by the TGV, 4h by motorway
- Roissy 1h by RER B
- Rennes 2h 10 by TGV, 4h by motorway
- St-Remy Chevreuses 23 minutes by RER B
- Tours 51 min. by TGV, 2h 20 by motorway
- Versailles 20 minutes by SNCF

CURRENT ENVIRONMENT

Quality of the air

- The site of the platform of the stations is an urban environment. In this context, the air pollution is related to the level of the motor vehicle traffic, but also to the superposition of other air pollution (domestic pollution, industrial,...).
- The following table consigns the evolution of these two pollutants since 1995. The values are the annual averages obtained starting from time measurements, compared with the average data of the Paris area. (Data from station AIRPARIF of Massy, an urban measuring site making it possible to characterise the general environment of urban pollution, known as basic. However, only the data concerning sulphur dioxide and the particulate matter were recorded)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Massy</td>
<td>11 / 14</td>
<td>9 / 15</td>
<td>10 / 14</td>
<td>11 / 11</td>
</tr>
<tr>
<td>Regional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO2 in µg/m³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>particulate matter in µg/m³</td>
<td>20 / 19</td>
<td>23 / 20</td>
<td>- / 23</td>
<td>17 / 17</td>
</tr>
</tbody>
</table>
- It is noted that the air of the site is overall of better quality than the regional level with regard to the sulphur dioxide, whereas for the black fume the values show a level slightly worse or equivalent with that observed for the Paris area.

Current sound environment

- A partner of acoustic measurements was carried out in July 2000.
- Three points of lasted long observation, "24 fixed hours" or points (PF) were selected according to the following criteria:
  - Representatives of a homogeneous and generalizable zone at the adjacent zones,
  - Ambient noise a priori rather weak,
  - Points close to the project.
The levels were recorded in week, under normal activity conditions, with elimination of specific work noises.

<table>
<thead>
<tr>
<th>Point</th>
<th>PF1</th>
<th>PM1</th>
<th>PF2</th>
<th>PF3</th>
<th>PM2</th>
<th>PM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laeq (6h-22h)</td>
<td>64.0</td>
<td>58.5</td>
<td>60.5</td>
<td>59.5</td>
<td>59.0</td>
<td>64.5</td>
</tr>
<tr>
<td>Laeq (22h-6h)</td>
<td>58.0</td>
<td>54.0</td>
<td>53.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>6.0</td>
<td>6.5</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The measured noise levels being lower than 65 dB(A), we can say that the sector of study is in a moderate sound environment zone.

In addition, sound modelling of known sites shows that railway circulation (the RATP and the SNCF) generates levels of noise much lower (about 8 dB(A) over the period 6h-22h) than the noises resulting from the road traffic. Thus, the road noises are dominating.

10. FINANCING MODEL(S)

- The distributions below give the orders of magnitude of the participation of each actor in the operation and the investments of public transport in Ile de France.

- The financing of the investments subdivides into:
  - State: 0.7% (contract of plan)
  - Departments of the Ile de France material: 5.4% (contract of plan, operations of quality of service and subsidy to the purchase of (except loan) travelling)
  - Area Ile de France: 23.3% (financing of the rolling stock and the operations of maintenance and modernisation)
  - Haulage company: 23.3% of total investment (Financing of the contract of plan and service operations)
  - STIF (Produced fines): 3.9%

- The financing of the collective transport operation subdivides into:
  - Travellers: 28.1%
  - Employer: 9.4%
  - Contribution of the companies francilienne: 35.8%
  - State: 14%
  - Department of the Ile de France: 7.7%
  - Area Ile de France: 23.33%
  - Haulage companies: 66.7%
  - STIF (produced fines): 3.9%

11. RELEVANT LEGISLATION

12. RELEVANT PUBLIC POLICIES AND STRATEGIES

13. RELEVANT ORGANISATIONAL STRUCTURES

14. PLANNING PROCESS OF PROJECT

- One considered at the time of the first assessments and the first layout plans that to centralise the networks and the activities was a project of economies of scale.

GENESIS

- The construction of the Atlantic TGV caused, in the cities concerned with its service road of many hopes of development, in particular economic. In reaction, the political choices of the local councillors were of variable ambition. As regards urban treatment, some cities were satisfied to accompany the arrival by the TGV by adapting the existing station and its immediate environment to the new needs (car parks, service road...). It was the case in Bordeaux, or Mans. In Lille or Rennes, the municipalities chose more radical upheavals and launched great operations of installation in order to create a new station and its district. The case of the European pole of Massy belongs to this second category.
- The European pole of Massy is initially the expression of a local will. Since 1982, Claude Germon, then deputy and mayor, defended the idea of a station TGV in Massy, asserting quality of the existing service roads in the city: presence of a rail junction between the lines of the RER B and C, the vicinity of three motorways, A6, A10, A87, and of two expressways, F18, and the trunk road 188.

- In addition to the regional factors there are three significant local facts:
  o **Massy is divided into two parts**: The railway which runs through the middle, is 3 kilometres long and 200 meters wide. It forms a scar in the landscape, an insuperable "No man's land". The Mayor was convinced that a great project would be a tool to join together two banks of its city.
  o **Some of the industrial companies** installed in the east of the railway influence are in decline. They have 14,000 employees. It thus appears important to engage in a process of restoration of the local economic fabric. The objective is to ensure a displacement of the capital and men of the declining sectors present on the common one towards those which profit from favourable prospects. An operation of installation which would drain on the site of the "rising" companies or "in full growth" is in this respect a means of ensuring itself the perennially of the economic activity and its corollaries, the use and the co-education of the activities.
  o **Land opportunities are significant** on both sides of railway (the RER B and C). In the east, there are a little more than 10 ha, 60% belonging to the SNCF, 18% to private individuals, the remainder to the RATP and the state. In the west, 14 ha belong 50% to the SNCF, the other half to private owners. The whole of the sector can be arranged in ZAC since a prefectoral decree of May 29, 1987.

- Chronology of installation and the layouts selected (the months of the year are mentioned in brackets)
  1982: the mayor, C.Germon, publicly defends the idea of a station TGV in Massy
  1987: an interdepartmental council approves the creation of a station of interconnection in Massy
  1988 (2): Installation of a technical group charged with defining the technical and financial magnitudes referring to the projects of station TGV, road station and road service road
  1988 (11): Creation of the ZAC Carnot
  1988 (12): Zublena and France Construction prizes winner of the construction of overall adjustment of the zone of the pole
  1989: Mr. Zublena, architect-in-chief of the pole, and L Bécard, town planner-in-chief, are charged by the GIE with establishing the overall layout plan of the pole
  1989 (11): Installation under consideration: the Atrium of the Stations (esplanade on flagstone)
  1989 (12): size of the operation is fixed at 700,000 m² SHON
  France construction is replaced by the French Company of Construction SNC within the GIE
  1990 (04): final Study of definition and programming of the operation: the area of the pole is increased to 810,000 m²
  1990 (05): Draft-agreement SEM Massy / the RATP / the SNCF / Company of the arch of Massy (SAM)
  1990 (10): the project of the arch outlined by Zublena represents 75,000 m²
  the size of the project is lowered to 680,000 m²
  1990 (12): the size of the operation is lowered to 500,000 m²
  1992 (01): the size of the operation oscillates between 470,000 and 370,000 m² according to the scenario of installation of the arch considered
  1995 (06): Election of a new mayor of Massy
1995 (12): Launching of a consultation for the adjustment of the Vilmorin sector
1996: DLM & Bauwens draw up the master line of adjustment of the Vilmorin sector
Put in revision of the program of the ZAC of the poles
financial support of the SEM Massy by the city
1997 (02): the project of the "Pole of the Stations" replaces the fallen through project of the "European Pole of Massy" the size of the operation is lowered to 500,000 m²

15. PROJECT EVALUATION
- It is undeniable that the installation of the European pole of Massy depended initially on strong political good-will. Its development was made possible by other deciding factors like the position of the city compared to the grid systems, the economic environment, the proximity of a technopole, and the importance of communal land availability.
- Three essential points are in the centre of the debate on the installation of the European pole of Massy.
  1. First of all the research of European dimension with the concern of accommodating the registered offices of national and multinational companies. The leaders would then have the possibility of working in location interesting for the connections with other European interchanges.
  2. The pole of exchanges has also the role to support the establishment of services through activities relating to the already established activities of high technology.
  3. The will create a real synergy between the various existing sectors: industry, research and businesses. The project does not solely consist of creating spaces of offices by segmenting the activities, but more "to seek a supplement of heart" and developing the local resource. The platform of exchanges then allows the interconnection of transport but also of the activities of information.
- In spite of this triple ambition, in spite of this organisation, the operation of assembly of the project was a failure. The GIE had the studies and fixed the program. The first programs had a significant scale. It was a question of connecting the two parts of the city, separated by the railway, and of affirming a centrality for the pole of Massy. However, the fact is that the cost of the operation was never regarded as a determinant upstream. The project will thus be considerably reduced. In 1995, the opposition won the local elections; Claude Germon was beaten and the project was abandoned. The operation was taken again to zero. The project of large arch is forgotten, a footbridge is installed and different constructions take place on the grounds in waste land. It is the project of DLM Bauwens which gains the contest.
- The pole of the stations (new name of the project is from now on the development of the railway infrastructures and the peripheral infrastructure (including an existing car park of 800 places). This new pole must ensure the success of four related operations (ZAC Carnot, ZAC du chemin des femmes, ZAC of the place Victor Basch and ZAC Vilmorin) by means of multi-mode transport facilities. Calling upon the orientations of the SDRIF and the future adjustment of the south tangential (Cergy-Versailles-Massy), the city projects:
  - to carry out a true interconnection of the RER and the SNCF networks to bring SNCF railway and RATP stations closer to the existing station TGV, by building a new footbridge in particular spanning the shoed network. With a budget of € 38.11 million the project must began in 1999.
The district of Cergy-Le-Haut has the intention to become - after Cergy-Prefecture and Cergy-Saint-Christophe - the third major centre of the new agglomeration of Cergy-Pontoise. It was conceived at the beginning as the "natural" extension of the district of Cergy-Saint-Christophe. Since the end of the Seventies, the area plan of Cergy-Pontoise envisaged the medium-term adjustment of this northern part of the agglomeration. Within this framework, the EPA decided the opening of the land reserves located at the West of the district of Cergy-Saint-Christophe to development. At the beginning of the Eighties, the operation of installation of Cergy-Le-Haut was launched in the form of two concerted developments. The ZAC of the "Moulin à Vent" and "Apolline Saint", located in the communes of Cergy and Courdimanche were created in 1981 and 1982; they cover a total surface of 580 ha and aim to accommodate a population of around 20,000 inhabitants. The installation in the long term of a RER station in Cergy-Le-Haut is registered in the file of ZAC of the "Moulin à Vent".

1. DEMOGRAPHICS
   - Area size overall / district served by facility:
     - Zone served: 7,767 ha
   - Population density overall / in districts served by facility:
     - Served zone: 184,000 inhabitants (1997) and 23.7 inhab./ha
     - Cergy-Le-Haut: 12,000 inhabitants

2. EXISTING CHARACTERISTICS
   - Cergy is located at the North - West of the Ile de France area
   - Departmental rate of unemployment: 8.3%
   - Ile de France rate of unemployment: 9%

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
   - Capacity of reception in the project: 9,100 parking bays. + car park of regional significance
   - Parking bays necessary: 8,800 places
   - 1994: new terminus of the line A of the RER with 10 min. service frequency at peak hours
   - A high quality road: motorway A 15, A 86 and RN 184
   - Connected to the SNCF network from St LAZARE station.
   - 8 lines of bus: 4 urban and 4 interurban.
   - Vehicle ownership: 90% of households have at least one car.
   - Rate of mobility: 64% people make at least one mechanised trip per working day.
   - Reason for trips:
     - 20% residence-work
     - 15% trips related to the school.
     - 3% professional trips.
     - 62% private-leisure-purchase.
   - modal split within the agglomeration:
     - 27% walking.
     - 57% car.
     - 6% bus
o 9% rail.
o 1% (2) wheels.
- The conditions of trips are noted: 6,8/10
  o car : 7,3/10
  o RER : 5,7/10
  o Bus : 6,3/10

4. EXISTING RAIL TRANSIT FACILITIES
- Connected to the SNCF network: conceived by the direction of the adjustment of the SNCF, the station unit is made up of: the zone of quay, the service and commercial buildings, which will be located under an office building. Surface=1,168 m²
- Connected to the RER network through one line

5. EXISTING REAL ESTATE ISSUES
RESIDENCES:
- 381 owner occupied residences marketed on 1st/12/94
- 492 residences half sold and half rented
- 982 residences in construction on 1st/12/94.

OFFICES:
- Surface built (1997) 4,500 m²
- Trade (1st section: 5,300 m²)

CHARACTERISTICS OF THE RESIDENCES OF THE CENTRE OF CERGY-LE-HAUT
- 2,500 residences divided into:
  o ¼ possibility of home-ownership, free or officially agreed sector top-of-the-range
  o ¼ possibility of home-ownership, officially agreed sector average range or social
  o ¼ rental free or intermediate
- proximity of the RER (maximum of 600 meters)
- within less than 400 meters of a public space
- mixed, offices, service, and residences along streets and around the places.
- Trade and services in ground floor of the buildings located around the three stations.
- Parking spaces located primarily in basements to release road spaces

6. PROJECT PARTNERS, THEIR ROLES AND INTERESTS
- Extension of the RER line
  o The SNCF
  o STP (Trade union of Transport of Paris
  o Area Ile de France
- covering over the station
  o EPA (Publicly-owned construction company)
- Regional parking
  o EPA
  o STP
  o Area Ile de France
- The mural work of ALBEROLA (SNCF railway station of Cergy-Le-Haut)
  o EPA Cergy-Pontoise
  o Secretariat-General of the Central Group of the New Cities
  o Ministry for the culture
  o The SNCF
7. PPP PROJECT

THE STATION IN THE PROJECT OF INSTALLATION OF CERGY-LE-HAUT:

- The station always was a major concern within the urban project of Cergy-Le-Haut. It appears in the first planning diagrams of the new city (~1970). Around it the new urbanisation is organised. It plays the role of a catalyst of peripheral urbanisation and constitutes the central point of urban composition of the district. However, nearly twenty years of reflections and proposals, between the first posted intentions and the realisation of the station, passed before this project was born.

- The servicing consists in deferring the terminus of Cergy-Saint-Christophe to Cergy-Le-Haut for the trains coming from Lazare Saint and the RER line A (6 trains in peak hour for each origin). The time of course between Cergy-Le-Haut and Cergy-Saint-Christophe is 2 min, which puts Cergy-Le-Haut at 32 min from Défense, with 41 min of Paris-Saint-Lazare and 42 min of Châtelet-les Halles.

TRAFFIC

- The traffic is comparable with that of Cergy-St-Christophe in 1990 (10,000 entering per day).
- About half of this traffic would originate in or go to Paris and a quarter would be internal to the New City (the annual traffic represents 5.6 million journey).

QUALITY OF LIFE

- The total increase in noise level never exceeds 3 dB(A) at the maximum and this in spite of the increase in the traffics. Often, the increase is lower.
- Thus, we can say that, in accordance with the regulation installations are not regarded as significant from the acoustic point of view. There is thus no legal requirement as regards noise.

8. PROJECT COST (PLANNED/ACTUAL)

COST OF WORK:

- The value of the works ascribable to the operation rises, including the overheads and the expenditure in favour of the environment, to approx. 27.4 million Euro in the Economic conditions of January 1989.

- This amount breaks up in the following way:
  - Land acquisition: 762,000 €
  - Cergy-le-Haut station: 4.5 Mio. €
  - Work on line: 13.4 Mio. €
  - Structures on line: 4.5 Mio. €
  - Safety installations: 1.5 Mio. €
  - Electric installations of traction: 1.3 Mio. €

CERGY-LE-HAUT IN FIGURES

- Prolongation of line A of the RER
  - 3 years of work
  - 5.6 million annually expected travellers
  - approx. 27.4 Mio. € (value January 1989) of work (the SNCF, STP, Area)
  - approx. 21.3 Mio. € of rolling stock (the SNCF), (value January 1989)

- covering over
  - Approximately 10 months of work
  - 460 m length; 32.50 m broad
  - approx. 12.9 Mio. € (EPA)
  - regional car park
### 9. PROJECTED/OBSERVED IMPACT OF THE PROJECT

- Two types of parking spaces are planned in the sector of the Centre-Station. Public car parking along the streets and avenues of a capacity of 1,300 places. A charged for public car park organised in infrastructure works in the shape of two car parks of regional interest (PIR) of approximately 1,200 places.

- Two areas for future operations of offices or hotels are envisaged near the station.

  **Travel Time:**
  - Cergy-Le-Haut – Défense = 32 min
  - Cergy-Le-Haut – Châtelet = 42 min
  - Cergy-Le-Haut – St Lazare = 41 min

### THE PROJECT IMPACTS

1. The SNCF did not have to engage in expropriations or building destruction.

2. Residence-work trips:

   - Improvement of the travel time: The creation of the new station of Cergy-Le-Haut will allow a better accessibility to the centre of Cergy, to the Défense and Paris through a reduction of travel time, the journey being faster by train between Cergy-Le-Haut and Cergy-St-Christophe (2 min) than by car or bus.

### 10. FINANCING MODEL(S)

- 40% State grant,
- 40% subsidy from the area administration of Ile de France,
- 20% per special loan of the area administration of Ile de France at a 7% interest rate
- The rail infrastructure is financed by loan of the SNCF at a rate of 9% amortisation (this is calculated over 20 years except for the structures for which the duration is increased to 50 years
- Completion time: 34 months approximately.

### REALISATION OF THE MURAL WORK OF ALBEROLA (SNCF RAILWAY STATION OF CERGY-LE-HAUT)

- Financial arrangement of this operation following the position taken by the Ministry for the Culture:
  - Cost 335,000 € (HT) (1994)
  - Epa Cergy-Pontoise: 68.2%
  - Secretariat-general of the Central Group of the New Cities: 15.9%
  - Ministry for the Culture: 7.95%
  - The SNCF: 7.95%

### 11. RELEVANT LEGISLATION

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES

### 13. RELEVANT ORGANISATIONAL STRUCTURES

### 14. PLANNING PROCESS OF PROJECT

- More commonly called "Centre of the Stations", the part of the district organised around the RER station of Cergy-Le-Haut is known to accommodate 140,000 m² offices, 1,000 m² of trade, 2,500 residences and many public facilities.

- Started in 1985, the development of the district was undertaken according to a 2 stage scenario in:
85-91: peripheral development in the North and the East, then in the South.
91-95: development of the central part (74ha) in close connection with the
realisation of the prolongation of the line A of RER and the new station.

- below, some chronological reference marks raised at the time of our research (the figures
between brackets represent the month of the year).

1971: SDAU of Cergy-Pontoise mentions the future establishment of a business
district around a third station and of a road junction, in the northern periphery of
the new city. Population envisaged in the sector of Puiseux (Courdimanche-
Puiseux): 65,000 inhabitants.

1979: Approbation of the SDAU horizon 1990-1995, bearing programming of third
Center Parks on the New City of Cergy-Pontoise, with a population estimated
at 43,000 inhabitants on the sector of Puiseux (Courdimanche-Puiseux).

1980 (2): creation application for the ZAC of Moulin à Vent, of which the impact study.
1981 (2): land-use plan of the ZAC of Moulin à Vent.
1981 (5): prefect order bearing creation of the ZAC of the Moulin à Vent.
1982 (4): creation application for the ZAC of Sainte-Apolline
1982 (12): prefect order bearing creation of the ZAC of Sainte-Apolline.
1983 (2): prefect order bearing approval of the PAZ of the ZAC of Sainte-Apolline.
1984 (6): Revision of the PAZ of the ZAC of Moulin à Vent.
1984 (12): 1,900 residences included in the ZAC of Moulin à Vent.
1985-91: Development of peripheral installations to the district Parks.
1985: "skid social" of Cergy-Saint-Christophe, the EPA gives alarm.
Opening of the station of Cergy-Saint-Christophe.
1986 (4): Revision of the PAZ of the ZAC of the Moulin à Vent and Sainte-Apolline.
1986 (12): Approval of the PAZ of the two ZAC.
1987: summer workshop for the definition of a cultural axis, "Mirapolis-Spie-
Batignolles".
1989: competition launched for the district Centre-Station.
1990: Consultation of architects for the adjustment of the Center–Parks.
1990 (7): master plan of the Centre-Station.
1991: Realisation of green casting on the axis "Centres Station-Spie-Batignolles"
1991 (2): Cergy-Saint-Christophe, included in the program Social Development of the
Districts.
Vote by the SAN and the communes, of the Orientations of Town planning of
Cergy-Le-Haut.
1991(7): Intention of the EPA to acquire Lisch station made public.
1991 (7/8): Consultation originators / manufacturers for the first operation of the Centre-
Station.
1991 (9): Beginning of the SNCF work.
1992 (2): Signature of the protocol by the building owners for the
residences/Offices/Trades operation of the Centre.
1992 (3): Beginning of work of the covering-over on the Centre-Station
<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992 (11):</td>
<td>Beginning of work of SNCF railway station Market of Travellers</td>
</tr>
<tr>
<td>1993 (1):</td>
<td>Completion of work of the covering-over of the Centre-Station</td>
</tr>
<tr>
<td>1993 (4):</td>
<td>Beginning of work of the first phase of the P.I.R.</td>
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<tr>
<td>1993 (5):</td>
<td>Completion of the first operation of Residences of the Centre-Station.</td>
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<td>1993 (7):</td>
<td>Marketing of the first residences and trade of the Center Parks.</td>
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<tr>
<td>1993 (7):</td>
<td>Start of the building site of the first offices on the SNCF influence of the Centre-Station.</td>
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<tr>
<td>1994:</td>
<td>Delivery of the first residences of the Centre-Station.</td>
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<tr>
<td>1994 (8):</td>
<td>Start of the second phase of residences of the Centre-Station.</td>
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<tr>
<td>1994 (8):</td>
<td>Brought into service of the first section of the P.I.R.</td>
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<tr>
<td>1994 (10):</td>
<td>Official inauguration of the Centre-Station.</td>
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<tr>
<td>1995 (7):</td>
<td>Cover of the road station.</td>
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<tr>
<td>1995 (8):</td>
<td>Inauguration of the residence hall of the ESSEC.</td>
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15. PROJECT EVALUATION
GERMANY
COMMUTER RAIL STOP BERNAU-FRIEDENSTAL,  
*Brandenburg, Germany*

**Project:** new commuter rail stop on existing line financed by developer of large new residential (re-) development in Brandenburg on the north-eastern fringe of Berlin (25km to Alexanderplatz in the city centre)

**Terms and abbreviations:**
- **Wohnpark Bernau-Friedenstal Immobilien GmbH:** investor, who initiated the development project and financed the station; this company has since gone into receivership
- **Deutsche Bahn AG (DB AG):** privatised (but still state subsidised) operator of majority of national and regional German rail services and infrastructure
- **Brandenburg:** one of the “Bundesländer” (federal states) of the Federal Republic of Germany

### 1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - town of Bernau: 7,386 ha
  - development Bernau-Friedenstal: approx. 30 ha (when completed)

- **Population density overall / in districts served by facility:**
  - Bernau: 26,500 inhabitants = 3.6 inhabitants / ha
  - development Bernau-Friedenstal: 2,000 accommodation units for approx. 6,000 inhabitants (= 200 inhabitants / ha when completed)

### 2. EXISTING CHARACTERISTICS

- Bernau is situated at the north-east border to Berlin
- the trade tax is below the average of Brandenburg
- the unemployment rate is similar to that of other communities in similar locations
- there had always been the intention in the Bernau local authority to construct an additional train stop in Friedenstal, but the population density was too low. (the area of the intended stop had always been integrated in the land use plan of Brandenburg as a potential residential development). In the case of an increase traffic volumes the federal state of Brandenburg would have borne the costs of the construction. But it would have had to be tested if other public transport projects would have had a higher priority since public funds were/are limited
3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- connection to motorway (A 11), regional and local railway
- there was 1 bus stop for a local service into Bernau 200m from what is now the station square (services every 30 mins to 1 hr except Sundays; 9 mins to town centre)
- Friedenstal already featured some terraced (or row) housing and several blocks of flats but overall number of inhabitants did not justify an extra stop

4. EXISTING RAIL TRANSIT FACILITIES
- regional rail service from Berlin to Stettin stops in Bernau
- commuter rail service from Bernau S2 already existed, but there was no stop in Friedenstal (services run every 20 minutes). from Bernau, central Berlin could be reached within 40 minutes.

5. EXISTING REAL ESTATE ISSUES
- Bernau benefits from the population growth of Berlin. During the era of the GDR suburbanisation of Berlin was not possible, so it did not start until 1990 and Bernau still feels the effects
- After 1990 many areas were zoned for residential use and opened for investors to implement large projects; about 5,500 to 6,000 new and refurbished accommodation units were secured during a period when government subsidies for such developments were still available
- In 1990, 19,000 inhabitants lived in Bernau
- The population grows by 800 to 1,000 people per year. This trend is expected to continue for a few years.
- there is a lot of residential construction activity in Bernau which should increase the population figure from 26,500 to 30,000 during the next few years (if they are all completed and let/sold)
- Wohnpark Bernau-Friedenstal Immobilien GmbH initiated the second biggest privately financed house building project in Brandenburg

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - Council of Bernau: made the construction of the station condition for granting planning permission for the residential development The council helped with the initiative of the project, because it allowed the investor to use the station for the promotion of the residential area
- **Private**
  - Wohnpark Bernau-Friedenstal GmbH: initiator and sole investor of the residential development project and developer of the station (along with council)
  - S-Bahn Berlin GmbH: subsidiary of the Deutsche Bahn Gruppe, provides the commuter rail service; took over the station and bears the maintenance costs

7. PPP PROJECT
- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - some residential use, part greenfield site, no other service infrastructure
- **(Planned) new facilities / land uses (see above):**

  **RAIL FACILITIES:**
  - construction of train station and associated entrance building incorporating a few small retail units (approx. 700m² are planned, building is not yet constructed as developer went into receivership prior to completion, but planning permission remains registered)
  - new bus stop in front of station
  - park & ride facility (75 further parking spaces are planned) covered cycle parking for about 40 bicycles

  **RESIDENTIAL DEVELOPMENT:**
  - biggest (planned) privately financed residential project in Germany
  - planned construction of 2000 accommodation units of high standard (454 accommodation units are already completed). The area contains owner occupied terraced houses (each approx. 95-138 m²) and rented flats (each 2-4 rooms and approx. 40-100 m²) designed to 53 different plans
  - new and independent district with own centre: Friedenstalerplatz with multi storey buildings. Trade areas for retail and services are in the ground floors (approx. 4,000 m², 26 trade units) and the upper floor accommodate flats; only about 2/3 of the retail units have so far been let
  - sheltered housing for senior residents

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - land: the developer bought the land for the station and associated facilities from Deutsche Bahn AG, the local authority and private owners
  - co-ordination and supervision of construction of the station: DB Netz
  - services, maintenance: S-Bahn Berlin GmbH
  - co-ordination of the planning process: local council
  - Design: Project owner commissioned planners who solicited the agreement of the council

- **TOD / TJD?:**
  - TJD

- **Stage of development (proposed, planned, in progress or implemented):**
  - start of construction: April 1997, completion of station: September 1997
  - the station project is 1/3 completed in terms of floor space as entrance building is still missing

- **Was there a bidding process, if yes, what was its nature?**
  - No official invitation of bids

- **If not, how were partners selected?**
  - improved accessibility of the newly developed housing area in order to attract potential purchaser and tenants
  - Many investors took an interest in the development of a housing estate on that ground, but the land had to be purchased first before showing plans to the council. Many negotiations were conducted between real estate companies and the real owners and
the one who was bidding the highest won.
- council then made the financing of the station condition for granting planning permission

8. PROJECT COST (PLANNED / ACTUAL)

- total
  - construction and planning costs of railway station: €2.8 Mio.

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- improvement of the accessibility of the area around the station
  - reduction of travel times:
    - to Bernau main station: ca. 3 minutes (compared to prior travel time by bus of 9 mins)
    - to central Berlin: ca. 35 minutes (compared to 9 minutes bus travel to Bernau and then 40 mins from station)
    - higher frequency of trains (every 20 minutes during the whole day) compared to the frequency of busses
    - no more changing of trains for passengers going to Berlin
    - BUT: the benefit of the railway is limited, since both the residential area as well as the town centre are directly accessible by bus and most residents have at least a 5 min walk to the station

- the housing estate does not generate higher rental fees than similar projects but due to the advantage of the quick train connection to Berlin it is used to greater capacity

- increase of the ridership of the public railway
  - 1995 there was the following prognosis for working days in 2010: for 12,000 inhabitants and jobs within a radius of 1,500 metres around the station 1,820 return journeys were expected
  - in 1998 1,600 passengers were getting on and off the train at this station per day – but the number of 12,000 inhabitants has not yet been reached
  - the number of users of the commuter rail service increased after the construction of the new train station (despite relocation effects for the use of different train stations, i.e. some people who used to go to Bernau station now travel from the Friedenstal stop)
  - attractiveness of train connection to Berlin decreases the number of journeys made by car

- the council’s efforts towards a quick implementation of the project entailed the advantage of increased income tax receipts due to a rapid influx of new inhabitants (even though the development has not yet been completed and is in fact now behind schedule)

- image gain of investor for the financing of the train station and use of the facility in advertising the development (before they went into receivership)

- only minor increase in travel time of the trains (+ 1 minute due to additional stop)

- station is expected to have a positive effect on the development of the town.

- There is a great demand for further park and ride spaces (there is currently unofficial parking on the area zoned for the station entrance building as official P&R spaces are filled to capacity) and this is seen as an indicator of success regarding the transfer of passengers from cars to public transport
10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - Wohnpark Bernau-Friendenstal GmbH

- **Contribution by each partner (amount and source)**
  - the cost of the station has been incorporated into the overall calculation of the development project, thus every purchaser and tenant of the new housing estate in effect covers a small part of the costs of the station

- **Repayment modes (if any: how, when)**
  - Investor had financial difficulties and had to apply for receivership;
  - lots that have not been built on but have been provided with utilities (drainage, water, electricity, roads) will be sold to serve the creditors

- **Modes of evaluating investment risks**
  - for the train stop a travel demand forecast had to be carried out, this was commissioned and paid for by the investor to convince the S-Bahn Berlin GmbH of agreeing to alter their service and to convince the council that a speedier approval process for the planning application of the station was justified

11. RELEVANT LEGISLATION

- German Building and Planning Act (§7 III 2 BauGB MaßnG; §246a I 1 BauGB)

12. RELEVANT PUBLIC POLICIES AND STRATEGIES

- The planning law was formed in two different areas:
  - planning approval procedure for the station had to go through Deutsche Bahn AG
  - project development and site preparation contract for the area was with the local council, which is also the ultimate planning authority
  - project development and site preparation contract was implemented instead of a full local plan procedure which saved a lot of time. It was worked out together with the investor, which is not usual procedure in the local plan process

13. RELEVANT ORGANISATIONAL STRUCTURES

- DB AG

14. PLANNING PROCESS OF PROJECT

- 1995: the local authority only provided planning permission for the housing project on condition of construction of the train stop to provide better public transport accessibility of the new housing estate
- already in 1995 a private planning agency was ordered by the investor to make a demand analysis of the construction of a train station in Bernau-Friedenstal, which attested that the housing project will entail a high transport utilisation
- the demand analysis helped to convince the city council and S-Bahn-Berlin GmbH of the profitability of the project
- planning application procedure ran parallel to project development and site preparation contract
- June 1996: the license agreement with the Deutsche Bahn AG for the construction of
the train stop was placed
- Nov. 1996: investor purchased land for station
- Jan. 1997: official ratification of master plan
- Feb. 1997: the federal railway bureau approved master plan and granted building permission
- April till May 1997: consultation of public and statutory bodies (TÖB’s)
- April 1997: beginning of site preparation
- June 1997: deliberation of consultation results by council
- 19.6.1997: project development and site preparation contract was ratified by the council
- July 1997: ratification approved by federal planning authority
- end of September 1997: opening of the newly build train stop
- October 1997: development proposal and master plan for residential developments are publicly announced
- no agreement between the investor of this development and investors of other house building projects regarding the spreading of costs (e.g. for utilities) could be made

15. PROJECT EVALUATION (from the point of view of those involved in the project)

COMMUTER RAIL STATION:
- project is very efficient due to relatively moderate costs and a high utility potential
- co-operation helped council and railway companies firstly to save investment costs and secondly to make a large economic profit by the improvement of the accessibility of the district
- the entrance building has not yet been built and although Beco-Immobilien, who succeeded of the initial development company after it went into receivership want to maintain the rights granted through planning permission there are no moves yet to actually construct the rest of the station project; the local authority dos hope for an eventual completion, though
- the open areas intended for the station building are currently used for illegal parking
- the local residents (existing buildings partly along the rail tracks) were concerned about the stop and possible resultant noise pollution; since the train actually causes less noise stopping and starting than at operational speed, these fears have been dispersed
- receivership process of investor was caused by internal difficulties (incorrect financial forecasts) and had nothing to do with the cost of the station

RESIDENTIAL DEVELOPMENT:
- the central square of the development is not well used, yet; many of the retail units are not let and one side has not been completed due to stagnation in the construction activities
- the refurbished staggered terraces (marketed as urban villas) have been almost fully let or sold
- refurbished and new blocks of flats are not fully let/sold
- there was some concern about the insulation used as it was a novel material normally used in spacecraft; its properties had been thoroughly tested but there was some concern, especially from potential buyers
ENTRANCE BUILDING OF TRAIN STATION, HENNIGSDORF,
Brandenburg, Germany

Project: new station building for commuter rail and regional rail station with incorporated mixed uses (offices, retail) and renovation of pedestrian tunnel under railway embankment, which gives access to platforms and functions as a connection between two parts of the town

Terms and abbreviations:
Hennigsdorf: lies on the north-western boundary of Berlin, approx. 20 km from the City Centre
Brandenburg: one of the federal states of Germany
EXPO: international (trade) exhibition, which was held in Hanover in 2000; it was possible for certain projects in Germany to receive subsidies for EXPO related projects and one of these was an intermodal mobility concept associated with the station (but not directly linked with the PPP project)
S-Bahn: urban commuter rail
OVG (Oberhaveler Verkehrsgesellschaft): local public transport operator (busses)
GDR: German Democratic Republic (1989 was the year of reunification with the Federal Republic)

1. DEMOGRAPHICS

- Area size overall / district served by facility:
  - Hennigsdorf: 3121 ha

- Population density overall / in districts served by facility:

2. EXISTING CHARACTERISTICS

urban structure and development
- close to Berlin
- was a fishing village
- the built up area of Hennigsdorf stretches along the river Havel along a north-south axis
- relics of the historic village lie east of the railway (individual homesteads built during industrialisation.)
since 1990 the economic focus of the town is shifting from heavy industry to modern transport technology
- 1991 was the beginning of the construction of a new town centre around an axis leading west from the rail station. There was no real centre before but a few local shopping streets spread throughout the town
- the new centre is flanked by two main buildings, the station in the east and a new hotel in the west. In between the two there are two squares – the Havelplatz and the Postplatz (the latter lies in front of the station). The centre will be expanded into the old town centre once the new town hall is constructed directly east of the station.
- The new centre offers a number of shopping and recreation facilities: There are two shopping malls, several shops, cafés, restaurants and cinemas as well as a bowling alley and a fitness centre; twice a week there is a farmers’ market on the Havelplatz and several events take place on the Postplatz
- the pedestrian subway underneath the railroad embankment connects the old centre with the new
- the train station and the square in front of it form the east end of the new centre

economy and employment
- currently one of the wealthiest communities in Brandenburg
- the main economic sectors are
  - rail vehicle manufacturing (Bombardier; employ approx. 1/3 of the workforce)
  - steel manufacture
  - services and trade
- number of businesses: 1998: 360; 2002: 1262
- commercially used area: 1998: 68 ha; 2002: 69 ha
- retail floor space: 1998: 43,500 m²; 2002: 42,000 m²
  - the declining number is the result of the demolition of a few retail facilities
- number of people in employment: 1998: 9760; 2002: 10,345
- unemployment 1998: 14,5% 2002: 15,7% (Oranienburg)
- jobs: During the era of the GDR the manufacturers LEW/AEG (became ADTRANZ, now Bombardier) and the steel industry employed approx. 8000 workers each. Today there are only 3000 workers employed by Bombardier and the trend is declining. The further reduction of jobs might be the result of a possible outsourcing of specific branches company
- approx. 5000 employees work within an area of 1000m around the station
- The economy splits into 61,3% retail and services and 38,1% manufacturing

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
transport in general
- motorway connection to Berlin
- traditionally Hennigsdorf is a town of cyclists, since the residential areas are located in the east of town and the employment area was in the west and public transport was traditionally relatively weak (few bus lines)
- a noise reduction initiative was set up concentrating most traffic on the main roads and calming the residential areas; better signposting and route design is supposed to make the town more attractive for cyclists and pedestrians.
- in 1998 the amount of noise exposure decreased (one of the reasons is the replacement of the road paving from cobblestone to asphalt)
- In 1998 there were 7000 commuters coming into Hennigsdorf per day (2002: 6290) and
5000 commuters leaving Hennigsdorf (2002: 5631) of which about 50% commute to Berlin

### 4. EXISTING RAIL TRANSIT FACILITIES
- there are four regional train services going out of Hennigsdorf to the North
- in 1998 the commuter rail line running into Berlin was re-opened, the tracks had been interrupted at a river crossing during the times of the GDR

### 5. EXISTING REAL ESTATE ISSUES
- completion of a new town centre (project started in GDR-times)
- population slowly increasing again after a long decline
- young people move to western Germany in the search of jobs and apprenticeships and as a result the age structure of the town is changing with a growing proportion of older inhabitants
- the retail supply area was 26 000 m² in 1996 (analysis of GESA) and it was expected to increase to 30 000 m² (without DIY-store and furniture store). But in October 1998 the retail spaces added to approx. 43 500 m².
- town centre:
  - number of accommodation units: 283
  - sales area: 11 910 m²
- The majority of buildings within town (61%) are new or fully renovated.
- 95% of the new buildings within the new town centre (where most new buildings are located) were constructed before the beginning of the planning process of the station. Most buildings were build on former brown fields.
- Not many new buildings were built in the eastern part of town. It is also the part with
most brown and green fields.
- There is a high percentage of renovated “Plattenbauten” (buildings constructed in the GDR with prefabricated parts).
- East of the railway there are many small and detached buildings, too, but also “Plattenbauten” and smaller old buildings.
- The residential situation is very good in Hennigsdorf. There is a good number of high quality buildings. Vacancies are only found in new buildings, probably due to higher rents.
- The construction of new buildings has declined since 1998. This is probably the result of a diminishing tax incentives.
- The existing building structure divides into: 82,9% residential at the middle and lower end of the market; 2,3% up-market residential; 3,7% vacancies; 10,3% industrial use; 0,9% others.

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- Public
  - Hennigsdorf Council: completion of the development of the new centre and the station square (partly with the aim to make the station project more attractive to the investor)
  - Oberhaveler Verkehrsgesellschaft (OVG) (operator of the bus lines)

- Private
  - BC Berlin Consult: investor and initiator of the project; was looking for an investment object
  - Deutsche Bahn AG: owner of the building/much of the site, interested in reduction of the enormous running costs of the old building

7. PPP PROJECT

- Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):
  - poor constructional condition and design of the old station building and therefore high running costs and unattractive appearance
  - existing station pub run by the official railway caterers was run down
  - Postplatz was not fulfilling the urban functions that would be associated with its location
  - Tunnel, was relatively dark and could only be reached through the station building > hard to look into, not a comfortable place

- New facilities / land uses (see above):
  - New 3-storey entrance building of the train station: the unprofitable spaces for the entrance and service hall, as well as for the waiting rooms are reduced in order to save costs, the largest part of the building is marketed. The new building is more like a business and office building than a train station. The building accommodates a service centre of the DB/S-Bahn (50 m²), sales area and cafés on the ground floor (limited to 500 m²) also Tourist information and city office on the ground floor of the of the station and offices in the upper floors (total of upper floors: 1200 m²).
  - the tunnel features specially designed lighting
  - existing roofed cycle sheds were relocated to the north (90 stands)
  - there is a waiting room and ticket machines on platforms
  - the front of the building forms a large archway giving access to the pedestrian / cycle tunnel running under the embankment; together with reconstruction this has achieved
more open views into and through the tunnel from both sides (financing: 50% council, 50% DB AG)
- reinforcement of the railroad embankment on both sides
- multi storey car-park (770 space)
- 14 street level parking spaces, incl. 2 spaces for disabled persons
- DB AG:
  - Operational, self cleaning toilette (DB AG bears the expenses of planning and construction, council pays the running costs)
  - A new town hall will be erected directly at the east entrance of the station (completion 2003)
  - there was the intention of a project linking the train ticket with parking fees, but the Deutsche Bahn did not co-operate
  - additional opening of the tunnel to the north is planned

part of the “Hennigsdorf mobilises” EXPO initiative
- other cycle stands including some bike boxes have been erected (approx. 800 stands exist around the station)
- information terminals for the bus and train departure and arrival times at the bus station, the station square and at the eastern railroad embankment
- A central bus station was constructed near the station. The OVG synchronised the departure and arrival times of the busses with the regional train traffic

Part of the “Transport Projects German Unity” the gap closing of the S-Bahn Schönholz – Tegel - Hennigsdorf
- restructuring of the platforms
- wheelchair accessible lift

- Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):
  - A feasibility study for the development of a new station building was generated by the investor, BC Consult
  - An architectural concept was developed on the basis of this study

land:
- DB AG (council sold part of the area of the Postplatz to DB AG, since a part of the station was to be located on it)

building:
- financed by BC Consult
- tunnel and public spaces/ square: council
- toilets (coin operated cabins between train and bus station) and lifts in tunnel: DB AG

Design:
- In the context of the joint investment of the restoration a competition was organised and evaluated by the council together with the DB AG
- winning concept of the architects office “Büro für Umweltplanung” (BfU) in consultation with city council and DB AG

Maintenance and service:
- Property: lease with BC-Consult
- Tunnel: DB AG
- Public areas: council
• **TOD / TJD?:**
  - TJD

• **Stage of development (proposed, planned, in progress or implemented):**
  - Project was completed in 1998

• **Was there a bidding process, if yes, what was its nature?**
  - No, Investor was looking for an investment object and approached council since it was known that the existing station would have to be reconstructed

### 8. PROJECT COST (PLANNED / ACTUAL)

- **Total**
  - about €5.1 Mio.
    - cost estimate of the restoration of tunnel: € 236,000 (share of DB AG and council 50% each)

### 9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- improvement of the quality of the station for Hennigsdorf’s population and visitors
- station is to become the portal to the town centre
- station as a communicative and mobility centre, in order to present the town with its marketing strategy “competence centre in transportation technology”
- station tunnel connects the old centre with the new (west-east link)
- it is planned to open a second pedestrian tunnel in the north to improve the accessibility of the station/city centre for inhabitants living in the northern residential areas. The other effect will be a better connection to the library (located within the restored historical station building) and the parking garage
- journey time by commuter rail: 30 minutes from station Hennigsdorf to Potsdamer Platz
- observed passenger numbers in April 1999: 12 000 passengers getting on/off the S-Bahn in Hennigsdorf; 5000 people using the tunnel or other facilities without making a journey
  - The passenger numbers increased due to the new public train-connection (before there were 2700 passenger per day)
  - The new station formed the basis of the Hennigsdorf mobilises EXPO initiative
- an office of the local daily paper and solicitors offices are located in the upper floor of the building
- the building is not fully let in early 2002

### 10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - private investment BC Berlin Consult

- **Contribution by each partner (amount and source)**
  - € 750,000 were borne by the S-Bahn Berlin GmbH and the Deutsche Bahn AG
  - € 118,000 were paid by the council for the tunnel
### 11. RELEVANT LEGISLATION
- Project was allowed due to §34 BauGB without a development plan, which shortened the planning time as well
- A building lease and operation contract was arranged between DB AG and the bearer of the plan, in which BC Consult commits to built and operate the station building

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- Local Development Plan No. 15
- Local Area plan for the construction of the centre, including the parking garage
- These two plans and the urban development concept of the central axis determined the specifications for the design of the station building
- Planning and building horizon was shortened due to the expiration of special amortisation possibilities of the investor

### 13. RELEVANT ORGANISATIONAL STRUCTURES
- DB AG

### 14. PLANNING PROCESS OF PROJECT
- Investor generated a survey for the development of a new station building as an unpaid input
- Survey is the basis of the architectural concept, which is presented by the investor during the so called “Bahnhofskonferenz” in November 1994 to representatives of the community, the Deutsche Bahn AG and the Bundestag (Lower House of German Parliament)
- Subsequently the divergent views of the contents of the project were discussed
- After a the different positions were brought into line a town planning contract was placed in February 1997
- In April 1997 the building permission was issued
- September 1997 topping-out ceremony
- In April 1998 the building was completed

### 15. PROJECT EVALUATION (FROM THE POINT OF VIEW OF THOSE INVOLVED IN THE PROJECT)
**PROBLEMS:**
- The negotiations with all parties - the setting up of contractual regulations at the beginning of the project – came along with an number of conflicts, due to the limitation of financial support on the part of the council. Thus the DB AG was called in.
- There were misunderstandings regarding the number and measures of the sales space. The DB AG wanted to have more space, but the council did not want to have competition to the centre. DB AG and BC Consult wanted to provide the station with 2500 m² sales space, but the town limited the amount to 500 m² and allocated more space for public use or exhibitions in connection with the representation of the town as a location of transport technology.
- On part of the DB AG the station building was conceived in that way as to get financed by the revenue of its rent. But for the implementation of its marketing strategy the council required a rent exemption for 20% of the spaces, in order to convince companies of the branch of transportation technology to settle within the building. However, the project nearly collapsed due to this requirement, since it would not have been profitable any more.
- Misunderstanding existed regarding the length of the station. A shorter station/platforms
would have been more profitable for the DB AG.
- The parking garage at the station is not fully used since a charge has to be paid (7,50 DM per day or 40 DM per month)
- a lot of unsupervised parking currently happens on the brown field site to the east of the station, however as the town hall construction begins and the building is completed, this option will not longer be available

**POSITIVE POINTS:**
- The fact that the council was able to offer a fully completed redesign of the urban space in front of the station provided a big attraction for the investor to finance the station as it had become an attractive location
- The station of Hennigsdorf did not initiate the mobilisation of the station district. The development was supported by the completed new city centre.
- After the setting up of the urban planning contract, the co-operation of council and DB AG was not a problem any more.
- If there had not been a clear aim of development, which was also agreed to by the federal state and the councillors, a fast and goal oriented implementation would have been more problematical.
- Today the council still benefits from the station, since it constitutes an advantage of the location of the future town hall (visitors, investors... can use the comfortable train connection to/from Berlin)
- Besides the erection of the new city centre this project was an important reason for the participation of Hennigsdorf in the EXPO 2000. It attended with the motto “Hennigsdorf mobilises” in the context of the “world-wide projects”
- The new bus station has a positive impact on the area around the train station as a traffic junction.
- DB Station & Service sees this project as an example for further investor models. The station is a model of the financing of traffic stations by the private sector.

**PROFIT ON BOTH SIDES OF THE PUBLIC-PRIVATE-PARTNERSHIP**
- The town profits from the construction of a new station building because their newly developed centre could be completed without them paying for it. In return the investor could get the permission of the construction of a trade property and hoped for economic profit.
- But it is on the other hand conspicuous that the council could not wholly control the development of the station square. e.g. there is not a satisfactory solution for the transfer from train to bus and a mobility centre could not be constructed subsequently due to the conditions formed by the leasing of the floor space.

**EXPECTANCY OF THE INVESTOR**
- The economic success of this project has widely failed to appear. The construction costs were higher than expected and the office areas in the upper floors are not used to capacity due to the tense situation of the office real estate market. The good marketing success of the retail areas on the ground floor compensate for the losses in the upper floors, but at large the project is only just breaking even.

**BETTER APPEARANCE OF THE STATION BUILDING**
- The design of the new building is a lot more attractive and representative than the old one. On the one hand the building fits into the architectural concept of the “Postplatz” and on the other hand it is an attention-getter for people passing by and thereby promotes the station. The railway companies which participated in the project profit by that in the form of image gain.
REDUCTION OF RUNNING COSTS

- The running costs borne by the Deutsche Bahn AG were reduced immensely. The new building does not comprise a booking hall or waiting rooms which would have to be cleaned but is nearly only privately used. The disadvantage of this is the fact that the actual buildings hardly functions as a station and there is a lack of passenger oriented facilities.

- The DB AG was not prepared to pay for the design of the stairs leading up to the platforms from the tunnel to match the specification of the tunnel itself; there is thus a clear visual break between the two in quality.
COMMUTER RAIL STOP WEIHERFELD / LANGENHAGEN

Hanover, Germany

Project: new commuter rail stop for a transit oriented green field development (mostly residential, some shops and services); the stop has been completed and the service commenced but the development is still in the early stages of implementation

Terms and abbreviations:

Deutsche Bahn AG (DB AG): privatised (but still state subsidised) operator of majority of national and regional German rail services and infrastructure

Langenhagen Development Corporation: private company founded and 100% owned by the Langenhagen local authority; is expected to be self financing but not necessarily to make a profit

EXPO: international (trade) exhibition, which was held in Hanover in 2000

S-Bahn Hanover GmbH: commuter rail operator, subsidiary of the DB AG private company but fully owned by the municipality;

1. DEMOGRAPHICS

- Area size overall / district served by facility:
  - Langenhagen: 7,200 ha

- Population density overall / in districts served by facility:
  - Langenhagen: population 50,808 (May 2001) in 27,628 households
  - neighbourhood of Kaltenweide: population 3,419
  - including the development of Weiherfeld: original population forecast 7,000-9,000 (in 2,900 households), this has now been lowered to 4,000-5,000 maximum

2. EXISTING CHARACTERISTICS

- New development area around commuter rail stop was agricultural land owned by 18 farmers
  - Langenhagen:
    - 3,400 businesses
    - 211 ha land for commercial use
    - 1997: 26,779 in employment
3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- motorway connection via A2 to Berlin/Dortmund and A 7 to Hamburg/Kassel
- an existing main road leading into Langenhagen from the North with about 7,300 cars per 24 hrs.
- Langenhagen Development Company: “there was no real link to a strategy to make transport in Langenhagen or Hanover more sustainable when planning Weiherfeld.”

4. EXISTING RAIL TRANSIT FACILITIES
- Stop at Kaltenweide already existed but in different location and was little used with about 200-250 passengers passing through every day
- There was no commuter rail, only regular local train services at ½ to 1 hour intervals

5. EXISTING REAL ESTATE ISSUES
- prior to re-unification there were plans to demolish empty residential properties; shortly after the wall came down in the early 1990’s (when the Weiherfeld development was planned) the region expected an influx of about 60,000 people; nowadays there are again residential properties lying empty and some are now being demolished
- there are several large areas of Hanover and its suburbs zoned for residential development and they compete with each other (Kronsbergsiedlung, Seelze Süd, Weiherfeld)
- according to DB AG: there used to be no real co-ordination between land use planning of different local authorities in the region until autumn 2001 when the HANOVER REGION was created by bringing together the 20 LA’s from the Greater Hanover area and the city of Hanover itself; the regional administration will among other things co-ordinate land use planning: however, in actual fact the various local authorities did already co-operate in the Kommunalverband Großraum Hannover before the creation of a regional body although their individual planning decisions were probably less easy to control at that time

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - City of Langenhagen
  - Development corporation (Entwicklungsgesellschaft) Langenhagen (private, 100% owned by the Langenhagen local authority, which also carries potential financial risks)

- **Private**
  - DB AG (was the sole responsible developer during construction of the station)

7. PPP PROJECT
- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - Grazing land and agricultural fields, main road into Langenhagen

- **(Planned) new facilities / land uses (see above):**
  - Weiherfeld development:
    - creation of a new neighbourhood according to sustainable urban development principles (low energy building standards, rain water recycling, soil management, large green spaces, efficient locally based heating system)
- original plans were for a hand shaped development (with “fingers” of built-up areas intersected by large open green spaces) with terraced semi-detached and detached housing as well as blocks of flats. Furthermore there are pieces of real estate for those wishing to build themselves
- the area is to have its own local service centre based around the rail stop including a market square, supermarkets, shops and doctors surgeries
- kindergarten with adjoining community hall
- neighbourhood park „Bürgerwiese“
- new secondary education school

rail based facilities:
- rail infrastructure was extended – new tracks for the commuter rail and new stop at Langenhagen Kaltenweide (15 mins to Hanover from there)
  - For the EXPO in 2000, the DB AG completed a 249 km commuter rail network (on existing DB tracks) with 5 different services and 59 stops fully accessible to the disabled. As part of this network, Langenhagen is now connected to two lines with four stops, the line passing through Kaltenweide also leads to the airport
  - This network had been planned for some time but without the EXPO would probably not have been completed until about 2008
- there is a wide tunnel for pedestrians and cyclists with clear vistas to minimise feelings of insecurity; tunnel also functions as a link of the two parts of the development (once it is completed)
- large outdoor stepped ramp leading down to the tunnel on both sides; eventually there will be a cafe at the station
- 210 m platforms, the western platform (trains going into Hanover) also has a 40 m canopy

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - The land was privately owned
    - Land for stop and associated facilities was bought by DB Netz / DB Station & Service
    - Land for the new development was bought by the Development Corporation Langenhagen (but at higher cost than envisaged)
  - design of station and surrounding area was commissioned to an architectural firm
  - maintenance of station: DB Station & Service

- **Transit Oriented Development / Transit Joint Development ?**
  - Station: TJD; residential development: TOD

- **Stage of development (proposed, planned, in progress or implemented):**
  - Construction began in early 1994, the project was expected to be completed 10-12 years after construction began (250-290 accommodation units per year), but due to a change of the real estate market today there is only a demand of approx. 50 new accommodation units per year and so the construction will take about 20-25 years.
  - Commuter rail commenced service in November 2000
  - First phase of new development is completed (approx. 15-18% of the area is built with 200 accommodation units), second and third are in construction (altogether there will be 10 phases)
8. PROJECT COST (PLANNED / ACTUAL)
- Total
  - Rail stop and surrounding area (tunnel, stepped ramps) ca. € 4.1 million

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT
- Spring 2001: passenger count showed a 40-45% increase on the entire commuter rail network compared to the previous local rail services
- The increase in passenger numbers had been forecast and in some parts of the network it is exceeding expectations to such an extend that at peak times longer trains will have to be used
- The development is not growing as expected due to slowing demand for residential floor space; also densities will be lower that forecast as it was found that developers and private individuals are more interested in detached and semi-detached properties than the terraced housing and blocks of flats that were planned in the original scheme
- The traffic on the main road (which will eventually lead right through the middle of the development and according to the development corporation is supposed to be traffic calmed) is forecast by the municipality to grow from about 7300 cars / 24 hrs in 2000 to about 15,000 - 20,000 cars per 24/hrs at full occupation (of the 3000 housing units originally planned)
- Land for residential buildings costs 176.40 €/m²

10. FINANCING MODEL(S)
- Main source(s) of funding
  - The whole commuter rail network was financed through the Municipal Transport Financing Act (GVFG: 60% Federal Government of Germany, 40% state government Lower Saxony)
  - The Development corporation contributed to the cost of the Weiherfeld station, but contribution was 40% less than originally calculated; the rest was paid by the DB Station & Service

- Contribution by each partner (amount and source)
  RAIL STATION AND ASSOCIATED PUBLIC SPACES:
  - DB Station and Service: € 1.8 million
  - Development Corporation Langenhanagen: € 2.2 million
  - Kommunalverband Großer Raum Hanover (predecessor of Region Hanover): € 0.1 million

- Modes of evaluating investment risks
  - Cost benefit analysis of the entire network was carried out at the planning stage, this led to several changes in order to reach a positive benefit/cost ratio; the route serving Langenhanagen always had a benefit/cost ration of 1.3

11. RELEVANT LEGISLATION
- Planning regulations
- Nature reserve building restriction
- Municipal Transport Financing Act (GVFG)
12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- Public family support: the Langenhagen local authority supports every family, which acquires property in Weiherfeld with € 4000,- per child
- Mobility concept: in partnership between the Development Corporation Langenhagen, the Association Ökostadt e.V. (Ecocity) and the local public transport provider a deal has been brokered under which every family moving into Langenhagen is provided with an one year season ticket for all PT services in the region (buses, trams and commuter rail); in addition they can use the car share cars provided for the new neighbourhood; the season tickets are financed by the development corporation at a favourable rate

13. RELEVANT ORGANISATIONAL STRUCTURES
- DB AG organigramm
- the Development Corporation Langenhagen was founded in February 1997 in order to shorten decision processes, since there are too many departments and different levels of hierarchy involved in public authorities
- REGION HANOVER: It consists of the 20 boroughs of the Greater Hanover area and the provincial capital, the city of Hanover. The original organisational units were suspended, the provincial capital Hanover abandoned its status as an unattached city and became coequal with the 20 other boroughs. The boroughs remained independent. This created two more levels of administration besides the district government: the Hanover Region and the boroughs (before there were 5 levels of administration: the district government, the communal federation of the greater Hanover area, the county Hanover, the provincial capital Hanover and the 20 boroughs belonging to the council). The REGION adopted the work of the communal federation and parts of the tasks of the provincial capital, the county Hanover, the district administration as well as the regional authorities. Furthermore functions were conferred from the district administration to the REGION, and from the county to the boroughs. The structure of the REGION equals the one customary to counties. The REGION HANOVER becomes a regional authority and federation of boroughs subject to public law, which administers its tasks by self-government. The REGION adopts regionally significant tasks on the level of the counties and also of the district government. But as many tasks as possible should be shifted to the boroughs, in particular those directly concerning the citizens.

14. PLANNING PROCESS OF PROJECT
- Autumn 1991: the Federal Minister of Transport together with the DB AG worked out a concept to ensure that the visitors expected during the Expo 2000 in Hanover could benefit from a commuter rail network; this had originally been planned for completion in 2010
- A working group was formed with representatives form federal government; the state government, the municipality of Hanover and the body responsible for commissioning public transport services in the region; this group developed the concept for the network

15. PROJECT EVALUATION (from the point of view of those involved in the project)
PROBLEMS:
- Purchase of land for the station: because the Development Corporation had shown an interest in the area, the price for the land bought by DB Station & Service rose from an expected € 2.3/m² to € 25.6/m²
- similar problems were experienced by the Development Corporation itself – they had to purchase some land near the Nature reserve at the northern boundary of the planned development as planning regulations demand a guaranteed proportion of built up area to be left open (“compensation” areas). But although this land could never be sold or used
for building, the private land owners demanded the same money that was paid for building land as they knew that without these areas, the project could not have gone ahead. This increased the calculated price about ten fold and put significant strain on the financial calculations.

- The fact that the station was planned by architects in Hamburg (not Hanover) sometimes made it difficult to solve small problems or to get answers to immediately important questions

- Maintenance: because the station is currently still in a green field location with little passive supervision there is a lot of vandalism, which causes high maintenance

- Co-operation between DB Netz and DB Station & Service: the project was being implemented when the Deutsche Bundesbahn was undergoing restructuring and DB Station & Service was only just being created; it was therefore agreed that the entire project would be run by DB Netz using part of the budget coming from Station and Service, the latter became more involved once they had become an established operational unit

- The building density in the new development is being reduced as future residents prefer detached and semi detached dwellings and there is less demand for multi-family units

- Due to the smaller population density the planned new school will not yet be erected, but instead the already existing school in Kaltenweide will be extended to provide the educational capacity needed within the next ten years

- The proximity of the airport is seen as a disadvantage in the competition with other residential developments in the Hanover region due to noise pollution; this is despite the fact that the location for the Weiherfeld development was actually chosen in accordance with the noise surveys – it was the only location in Langenhagen, which was not a nature reserve and (due to the proximity of Hanover airport) quiet enough to be suitable for residential use

- Co-operation between DB AG and the local authority was fruitful, which was also due to the fact that at the time of the realisation of the project the municipality was receiving high taxes from its relatively large density of businesses and was thus one of the richest municipalities in the area
GREAT BRITAIN
Project: construction and operation of a light rail system for densely populated and economically growing borough on the southern fringe of Greater London (financed through PFI, a UK form of PPP)

Terms and abbreviations:

Greater London: consists of 32 London Boroughs (LB; one of the seven local authority types in Britain)

London Borough of Croydon (LB): one of the 32 London boroughs which up to 1986 shared administrative and strategic functions with the Greater London Authority (abolished by central government in 1986) and since 2000 with the Greater London Assembly and the Mayor, who are responsible for strategic citywide decisions

- Note: Croydon Tramlink also operates in parts of the boroughs of Merton, Lewisham and Bromley


Mayor of London: (since 2000) in consultation with TfL sets fare levels for all London public transport services – before this was done by LT

British Rail: national railway company abolished in 1996 when services and infrastructure were separately privatised

Railtrack plc: owned, leased and maintained national rail infrastructure from 1996 till 2002, about to be re-nationalised

1. DEMOGRAPHICS

- Area size overall / district served by facility:
  - Greater London: 1,610 km²
  - LB Croydon: 8662 hectares (86.62 km²) incl. 2270 hectares of greenbelt land

- Population density overall / in districts served by facility:
  - Greater London, 1999: 7,285,000 inhabitants (45.2 per hectare)
- largest of 32 London Boroughs: population 340,000, (39.2 per hectare), expected to increase to 342,800 by 2006

2. EXISTING CHARACTERISTICS
   - 124,900 households (73% owner occupied, 27% rented)
   - working population of 160,000 (=66% of the population; note: this is defined as those over the age of 16, who are capable of work, not those who are actually in employment);
   - 2001 unemployment claimants stood at 3.7%
   - GDP of Croydon €4.03 billion in 1996 (€33,200 per person compared to €36,600 in Central London)
   - estimated 13,000 businesses in Croydon
   - Croydon’s employment lies mostly in finance and insurance (31%), hotel and restaurant services (25%) and public admin, education and health (19%)
   - shopping catchment is approximately 1.4 million people
   - Croydon features a mixture of residential and commercial properties and the borough contains one of the largest council housing estates in London, New Paddington

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
   - Croydon featured a developing economy on the 1980’s and as Britain’s tenth most populous town outside central London, has the largest concentration of office space and the largest urban shopping centre in the South-East of the UK; as such it suffered from increasing congestion, associated environmental problems and delay to bus services and a shortage of car parking facilities in the central area
   - light rail was seen as an alternative to costly road schemes

4. EXISTING RAIL TRANSIT FACILITIES
   - local trains to West Croydon, East Croydon (over 1500 trains and 88,000 passengers passing through each weekday, 2002), Elmers End, Beckenham Junction, Wimbledon and Mitcham Junction
   - East Croydon Station also on the national rail network
   - pre CTL also had an infrequent peak period rail service (Mon-Sat) between Wimbledon and West Croydon Stations on a line the tram now uses (with slight modifications)
   - bus services, most of which do not operate on a profit basis but are subsidised by LT/ TfL e.g. New Paddington to central Croydon in peak time takes at least 40 minutes, off peak 25 minutes (tram can now do it in 17 minutes)
   - underground service to Central London from Wimbledon
   - main transport links always the radial north south links with London, east-west links traditionally much poorer

5. EXISTING REAL ESTATE ISSUES
   - prices across all residential property sectors have risen by 94.9% since 1995 (average €106,000 in 1995 against €202,000 now)
   - there were ca 790,000 square meters of commercial floor space in Croydon town centre in 2001
   - office take-up in square meters per year: (Croydon fact sheet)
     1993: 17,100
     1994: 19,500
     1995: 14,800
     1996: 10,700
     1997: 40,000
6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- **Public**

  **London Borough of Croydon**
  - wanted to facilitate the continuation of their economic and urban development while at the same time solving existing and possible future transport problems without major road building; also London Transport (with British Rail) had identified Croydon as a prime opportunity for light rail development.
  - needed substantial private sector funding in order to ensure progress of the required legislation through parliament – in theory, a €322.7 million project spread over several years could have been afforded by LT, which was spending €806.8 and €968 million a year on investment projects, mainly on the underground services; but other projects would have had to make way; public money was still required, though.

  **London Transport / TfL**
  - co-ordinates timetables for London transport services and fare charges.
  - changes to CTL service levels have to be agreed by TfL with stipulation to act “reasonably”; there is possible recourse to a mutually agreed outside expert for reconciliation; this has occurred in the past.
  - TfL can also require CTL service levels to be increased but have to allow reasonable time to implement the changes – this has not happened so far; if Tramtrack can show that the changes will cost extra money; TfL can agree with assessment and fund the changes or disagree and the case will go to expert determination (can be done in about three months) service levels have been changed and so far determination was not necessary.

- **Private**

  **Tramtrack Croydon Limited (TCL)**
  - consortium put together in response to Croydon LB call for bidders for the light rail project: Centre West Buses; Royal Bank of Scotland; Sir Robert Mc Alpine construction company; Amey Construction; Bombardier Eurorail – later joined by First Centre West PT operators (when they bought Centre West Buses) and Three I financing services.
  - driving force to put this groups together was the managing director of Centre West Buses (subsequently bought by First Group); Peter Hendy (?) – was then on TCL board but is now managing director of TfL surface transport.
  - is a private sector company; but operates under a 99 year concession agreement, which requires public interest to be served and embodies a performance specification,
  - proposed higher service levels in their original bid then was required in the call.
  - company is monitored against the concession specifications by what is now TfL.
  - fares are now set by the Mayor of London, who can in theory set any rate; but concession agreement includes an assumption of what the fares should be and stipulates a compensation mechanism if the fares do not rise in accordance with inflation; this has indeed happened as a result of the Mayor’s and TfL policies and therefore TCL is currently receiving compensation; if fares were to increase by more than inflation (which was government policy at the time the concession agreement was signed), TCL would have to transfer the excess to TfL.
7. PPP PROJECT

- **facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - The project is not directly involved with land use issues; the tracks were constructed on existing British Rail lines, council land and some private land bought through Compulsory Purchase Order

- **new facilities / land uses (see above):**
  - **tram service:**
    - 52 track km on a 28 km system (some is single track); 38 tram stops, all wheelchair accessible, on three routes
    - Started with 15 minute intervals during the week and half hourly services on all branches on Sundays - on the Wimbledon branch this quickly had to be increased to 15 minute intervals to meet demand for travel to a shopping centre on the route (this was done at TCL’s cost and risk, so bank had to agree)
    - Now there is a 10 minute interval service all day and fifteen minutes on evenings and Sundays

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - TCL provided a significant amount of funding for building the system (not for property gains but will recoup through revenues from operating the system)
  - Line between West Croydon and Wimbledon is mostly built on land originally used by a BR service on the same route; part of the concession agreement was that TCL would take this over and operate a much improved service; BR could thus save maintenance and operating cost on an unprofitable line and in exchange TCL got the land for free – this deal was negotiated between LT and BR
  - The Elmers End - Addiscombe stretch runs on a disused railway line and also uses an old tunnel; refurbishment and all engineering cost (also for temporary measures during construction) had to be paid by TCL, who passed it on to the contractor; again land was free
  - All in all, though, TCL spent 11-12 million pounds (€17.8-19.4 million) on private property (almost all CPOs drawn up under the Croydon Tramlink Parliamentary Act and not using council powers) but property that was in the public domain was generally made available (e.g. on the highway, council land along existing highways)
  - Maintenance of stops and shelters: TCL – this is an area which shows significant cost increases due to graffiti (on both stops and trams, the costs are higher than forecast)
  - Croydon London Borough 1 million pounds (€1.6 million) of soft landscaping work, also managed the traffic arrangement during the construction phase

- **TOD / TJD?:**
  - DBOM!!!!

- **Stage of development (proposed, planned, in progress or implemented):**
  - Implemented

- **Was there a bidding process, if yes, what was its nature?**
  - Applications for membership of the Project Development Group (which developed the project to tender stage) were sought by way of an OJ EC notice, so were the bids for the actual project
  - London Transport and the Borough also issued an OJ EC notice to bid for the DBOM
concession; the Tramtrack consortium came into existence to respond to that initiative – no companies existed, which could have answered the bid on their own – together with three other groups; Altram, Croydon Connect and the CT Light Rail Group

8. PROJECT COST (PLANNED / ACTUAL)
- **Total construction cost**
  - €322.7 million (came in close to budget according to TCL, very few change orders were issued)

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT
- annual ridership is about 20 million passengers at present
- 130,000 people live within walking distance of a Tramlink stop (Croydon Facts)
- has reduced local car journeys by 10% and has reduced journey times for up to 50,000 passengers per day (Tramlink statistics); on routes TCL has taken over from BR they carry significantly more passengers (and run a much higher frequency service)
- both TCL and banks questioned some of the assumptions made by the original travel impact forecast study and produced a slightly lower forecast they saw as more realistic (figures still to be obtained)
- TCL are falling short of projected financial targets (they are making a profit but not as much as required - the exact figures are not currently in the public domain). However, growth rate in passenger numbers in 2001 was about 20% with another 10% forecast for 2002; growth is healthy but started out on a lower level of passenger numbers than the financial plan projected – main reasons are thought to be that the ridership forecast was very aggressive, more competing bus services are still running than was expected, gap between fares of buses and trams is bigger than expected (TfL policy in relation to bus services and subsidy is different than what was expected: originally the average tram fare in 1996 was forecast to be €1.45 compared to an average bus fare of €1.29 – the latter has now reduced to €1.12 however; traffic modelling had assumed price would not be an issue and allocated ridership on the basis of time cost with some adjustments for quality but over 25% difference appears to have shifted the balance in favour of cost saving decisions)
- TCL has not obtained any properties under the Concession Agreement, which would confer any development potential; but Tramlink has acted as a catalyst for other people’s property development activities (though it is not claimed that the developments would not have happened without Tramlink) and one developer of a new shopping centre wants an extra stop close to his site, so negotiations are under way for a private/private partnership to finance this

10. FINANCING MODEL(S)
- **Main source(s) of funding for construction**
  - private sector: five lending banks including the Royal Bank of Scotland (part of the TCL consortium)
  - UK government via London Transport

- **Contribution by each partner (amount and source)**
  - UK government under PFI (though the PFI was actually only announced by the government’s chancellor Kenneth Clarke in Nov 1992, one year after the bill was deposited): 125 million pounds (€201.7 million) towards capital cost transferred against mile stones in project delivery plan, much of this to LT to pay for preparatory work necessary before actual tramway construction could begin
• **Modes of evaluating investment risks**
  - **a project development group** was set up with members from the public and private sectors to oversee the development of a project development agreement and to develop the scheme to the point where a bill could be deposited and eventually an invitation to bid issued (draft performance specification, draft concession agreement, financing plan based on the latter two), chaired by a member of the board of London Underground; private companies involved would be freed to bid for the Concession Agreement as the Project Development Group would be disbanded once the OJEC call had been put together
  - the forecasts for the amount of money, which could be raised from private companies (as well as the total cost of the scheme), was based on the business, which could operate under the conditions specified by the concession agreement and the performance specification; some reference was made to other light rail schemes both in the UK (such as Manchester Metrolink Phase 1) and abroad
  - both bidder consortia and banks hired traffic planning experts to check the MVA transport impact study done for London Transport
  - in the case of Tramtrack, a lot of credibility was conveyed in the eyes of lenders to their forecasts by the involvement of Centre West Buses and specifically its managing director, who had a reputation as an experienced PT operator and also someone, who knew the London "scene"; his reputation was very important to the other share holders as well as the lending banks
  - the financial projections for obtaining funding did not cover the entire 99 years of the concession agreement but were limited to 30 years
  - TCL laid off construction risk and project delivery risk to the contractors chosen to do the work on turnkey basis; these were two of the members of the consortium, McAlpine and Amey; operating risk was laid off on First Group; however, revenue risk (i.e. patronage and fare box revenue) could not be laid off as TCL was the concession holder

• **revenue income**
  - about 70% of ridership on Tramlink services is on passes – season travel passes or the London Freedom Pass (for women over 60 and men over 65) i.e. system fares; these are pooled and shared by TfL (TCL unsure if this is a fair arrangement as TfL is also the main beneficiary of the pooling system – act in “accordance to somebody’s definition of what the public interest is”)
  - 30% of ridership is on specific tram tickets bringing cash fare revenues;
  - pooling and sharing is based on rolling quarterly surveys and TCL are involved in deciding what the surveys should be; there are sometimes disagreements on the interpretation of the surveys and what the share allocation should be is therefore a source of constant debate
  - compensation from TfL to TCL, if fares do not rise in accordance with inflation
  - TCL gets some income from advertising on shelters and in vehicles

### 11. RELEVANT LEGISLATION
- Croydon Tramlink Parliamentary Act 1994; included powers for specified Compulsory Purchase Orders; most powers given to LT under the Act were vested in TCL under the concession agreement
- when the Croydon light rail scheme was developed, there was a requirement for private member parliamentary bills to be deposited for individual schemes (need to be sponsored by a Member of Parliament) and Royal Assent to be granted to give them legal status; subsequent light rail schemes fell under the Transport and Works Act 1992 procedure, which did not require the parliamentary bill process but would need to seek an order
under this act and go to a local public enquiry; this process can be more volatile but also more relevant
- London Regional Transport Act 1984: an agreement with LT was necessary to ensure that Tramlink could be incorporated into the London wide travel-card and concessionary fare schemes, thus LT (now the Mayor and TfL) has the duty to control the levels of fares and services

12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- PFI
- Package bidding to central government for funding transport infrastructure projects was never done in London (as happened elsewhere prior to introduction of Local Transport Plans, funding was always sought under LT’s own act (see above)

13. RELEVANT ORGANISATIONAL STRUCTURES
- London Boroughs
- London Transport, now TfL and the Mayor
- Tramlink consortium: Centre West Buses; Royal Bank of Scotland; Sir Robert Mc Alpine construction company; Amey Construction; Bombardier Eurorail – later joined by First Centre West PT operators and Three I financing services

14. PLANNING PROCESS OF PROJECT
- 1986: LT and BR study on opportunities for light rail in London recommended connecting disused rail tracks in East and West Croydon by a street running line with an extension to New Paddington in the East
- 1987: a more comprehensive study of such a network was commissioned, in which officers from the London Borough of Croydon participated – in contrast to other light rail schemes, which were planned to aid re-development this service was intended to support existing positive trends in economic development
- 1990: the ‘87 study was updated by the council and as a result a detailed study was commissioned to include a detailed definition of the light rail scheme and an assessment of its environmental, economic and financial feasibilities with a view to full public consultation on options for the routes
- 1991: LT and the Borough ran a large scale public information campaign on the scheme to attract the public support necessary for depositing the Private Croydon Tramlink Parliamentary Bill (including door drops of leaflets, press campaign, personal letters to all households and businesses affected by the proposed routes; public displays – including a whole mock-up of a stop and a tram in the main square - and surgeries > as a result e.g. an existing embankment was levelled to street level to protect residents from visual intrusion); the name TRAMLINK was chosen to create a distinct identity for the scheme and explain both its nature and purpose. Sufficient Public support was obtained and the bill was deposited and sponsored by the Conservative MP for Croydon Central; parliament had however made it a requirement for considering the bill that substantial private sector funding would be attracted. There was no direct experience of attracting funding for this type of project in Britain at that time
- 1992-1994: progress of the Bill through parliament was slowed down by compensation requirements for affected householders; some houses were eventually compulsorily purchased
- July 1994: the Bill was given Royal Assent
- December 1994: Secretary of State for Transport (Brian Mawhinney) announced public funding for Croydon Tramlink and Midlands Metro, provided they were advanced under the PFI (no amount was mentioned)
- 1994/1995 the proposals by the Project Development Group were debated with the DoT and the treasury and by spring of 1995, government were content that competition could go ahead, Project Dev Group was wound up; LT converted the work of the group into
contract documents for the bidding process
- May 1995: OJEC invitation to bid (under the PFI conditions) for a DBOM Concession Agreement was issued by Transport Minister Steven Norris
- January 1996: deadline for submission of bids
- April 1996: Tramtrack Croydon Limited was announced as preferred bidder under the provision that they would work with promoters of the project (Corydon LB and LT) to reduce the projected costs to a level acceptable to the government
- summer 1996: former chair of Project Development Group was appointed Director of Tramtrack Croydon Ltd
- 22 July 1996: Transport Minister announced grant money would be made available subject to satisfactory conclusions of negotiations
- 25 November 1996: 99-year concession was issued to TCL with predicted opening date of 4 November 1999
- May 2000: actual opening of the service
- November 2000: service level on the busiest branch already had to be increased, even though original bid had proposed higher levels than were required in the specifications

CHANGES TO THE PLANS:
- cost saving requirements before the Concession was granted necessitated the following changes: a planned new tunnel was turned into a level road crossing instead, parts of the line were cut back in New Paddington, the amount of double track on some sections of the line was reduced, ticket machines were downgraded to exclude magnetic coding facilities, cheaper supports for the overhead wires were chosen

15. PROJECT EVALUATION (from the point of view of those involved in the project)

POSITIVE
- in spite of shortfall in passenger numbers (and revenue income) against the projections, the project is seen as a success by TCL, the public and the council and Croydon as a borough has embraced the tram as one of its symbols; all literature on Croydon features images of the trams, for example (“We are the jewel in the crown”)
- basic configuration of the system and the choice of vehicle were excellent; the vehicle is already in use in Cologne for example (Advice: do not go through the process of having a new vehicle designed, at least use proven designs as a basis)
- accessibility is good
- on the whole, the PFI process provided a good discipline to assess, what the most economic way would be to carry out the project
- Croydon London Borough were part of the development group and very enthusiastic promoters; any new project should see such enthusiasm to ensure rough patches can be crossed without the whole project being jeopardized

NEGATIVE
- one of the problems was that at the time the whole PFI process was very new (and did not even carry that name) but the group felt, that they had struck a sensible balance in allocating the investment risks; the bid documents eventually produced by the treasury and London Transport had shifted risks towards the private sector; for example they asked bidders to cost both with and without guaranteed fare compensation mechanisms (though these had already been included in the proposals from the project development group); fare compensation was included in the final agreement as the money raised from private sources would otherwise not have been sufficient to allow the scheme to go ahead; some saw this exercise as an unnecessary diversion as it would have been pretty clear that such a scheme could not be financed without some guarantee of fare compensation if LT/ TfL were at the same time given complete discretion to set fare
levels
- there have been rumours that LT felt the performance specification had been biased towards one of the private sector companies, which were part of the original development group,
- competition from bus services: New Paddington (council housing estate with 25,000 inhabitants) lies south east of the town centre; there were several bus services running into Croydon; the old express service was taken off when the tram line opened, some other services LT/TfL had said they would keep running and did; others they said they would not keep running, but they are still operating; The concession agreement had defined complementary and competing bus services and stipulated that complementary services would be kept running but if competing services ("running parallel to the tram on all or substantially all of their route") would be kept on or newly created, then TCL would be entitled to compensation; however, in practice, this definition has proved to be equivocal and there are therefore continuing debates over the level of compensation that should be paid to TCL in relation to some of the bus services operating in Croydon (since many inhabitants are on low income, this is seen by TCL as an unfair competitive advantage over their own service as TCL surveys show that in low income areas, people would rather save 40p on the return journey on 1.40 and accept double the journey time on the bus); one of the bus services connects the same two points as the tram and was to be taken off but as it actually runs a different route and thus also serves areas which the tram does not reach, local politicians protested and TfL reversed its decision
- TCL feels if buses are heavily subsidised to allow for cheap fares, then trams should be priced the same, due to a lack of real integration of the system, this is not the case
- leaving aside the private public distinction: there is too much single track on the Wimbledon Branch partly because some tracking had already been done and some of the existing structures made it difficult to lay double tracks but this might now have to be done during operation, which will work out at a much higher cost
- the part of the route in New Paddington, which it was decided not to construct to save costs should have been built; savings to the public purse were symbolic, the loss of facility is much greater
- there was some adverse reaction to the visual impact of the overhead cables, this could have been made more attractive and less intrusive
- the one division in managing the construction process was the fact that London Transport took on the cost, risk and management of diverting the utilities (pipes and ducts for water, gas, telephone, electricity, cable); this is seen as a non-ideal approach (caused some inefficiencies) but on balance it is difficult to tell, which approach would have been better
- in the tightly regulated and highly politicised context of PT in London, TfL should buy DBOM systems and retain the fare revenues (as they do with most of the buses, i.e. gross cost contracts instead of net cost contracts, where gains can be kept by the operator), effectively paying for the provision and operation of the system out of the revenues – then arguments about competing services, compensation etc. would be obsolete;
- compensation mechanisms should be a last resort, contracts should not be set up in a way that incorporate these as a matter of course
- contractors say they lost money under their contracts

GENERAL COMMENTS
- when LT developed the original performance specifications, Sundays were a quiet transport day, but the way people behave has changed and this is no longer the case; service frequencies had to be changed very soon after opening
- there was some opposition from private individuals and politicians (mostly on a NIMBY basis; some also thought the project would be a waste of money) but one Tory rep in the GLA, who against party policy actually opposed the scheme throughout now wants an extension of the line to Sutton (part of his constituency)
- TfL might want to let two different contracts in the future, one to build and maintain, one to operate; operator could then be changed more frequently as they would not be looking for a return in a heavy investment on infrastructure and vehicles.
- Project development group argued for the longest possible lease as the project should not be seen as a franchise but in effect as creating a private business – which was in accordance with government policy at the time. Only possible limit would then be the length of the leases, which could be obtained for the land on which the tracks were laid.
DOCKLANDS LIGHT RAILWAY AND THE DOCKLANDS DEVELOPMENT, 
London, Great Britain

Project: several stages of construction and operation of a light rail system to serve a large urban redevelopment area functioning as a catalyst and attractor for large scale residential, commercial and service projects

Terms and abbreviations:

Greater London: consists of 32 London Boroughs (LB; one of the seven local authority types in Britain) which up to 1986 shared administrative and strategic functions with the Greater London Authority (abolished by central government in 1986) and since 2000 with the Greater London Assembly and the Mayor

London Docklands Development Corporation (LDDC): public body set up by the Greater London Authority to redevelop the Docklands area

Docklands Light Rail (DLR): fully automated light rail service operating in Docklands Enterprise Zone and beyond


1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - Greater London: 1,610 km²
  - Docklands: 879 ha (=8.79 km²) of land and water

- **Population density overall / in districts served by facility:**
  - Greater London, 1999: 7,285,000 inhabitants (45.2 per hectare)
  - Docklands: since 1981 the population had increased from 39,400 (44.8 per hectare) to more than 80,000 (91 per hectare)

2. EXISTING CHARACTERISTICS BEFORE BEGINNING OF DEVELOPMENT

- Till the beginning of the redevelopment the London Docklands consisted of disused docks, vast stretches of water, derelict land and redundant buildings;
- the surrounding areas were mostly residential with council housing and owner occupied properties at the lower end of the market
- Unemployment rate in these areas was 17.8 % in 1981

### 3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES

- In 1981 although physically close, London Docklands was very isolated and seemed further away from the centre of London than it actually was. This was due to the winding of the Thames with the resulting peninsulas, and the lack of any good road or rail connections.
- The road network within Docklands was very poor. There were few roads following the waterside on the Isle of Dogs and Surrey Dogs and a few other main roads.
- Blackwell Tunnel and the Rotherhithe Tunnel were the only possibilities to cross the River within Docklands (and Tower Bridge).
- Even without the regeneration of the Docklands the roads were congested.
- First steps of the LDDC to improve the transport situation in the Docklands were small scale projects like Red Brick Roads (basic road network within the Enterprise Zone designed to serve all the major sites in this zone) and the Docklands Clipper (a high profile, frequent shuttle bus running between Mile End tube station and the Isle of Dogs which stopped service in 1989 since the opening of the DLR in summer 1987 reduced demand for the Clipper by 80% in peak hours)
- Since 1981 a number of new roads were built (especially on the Isle of Dogs/Canary Wharf) and existing roads were improved. A high priority was attached to improving the connections to the Isle of Dogs and the Royals from both east and west, and particular to providing direct road links to the City.
- A new City Airport was constructed and opened 1987 in Royal Docks. It was firstly used as a private sector airport and since 1992 after an extension of the runway regional jets have been introduced and the airport provides connections to most major European business destinations.

### 4. EXISTING RAIL TRANSIT FACILITIES

- Till 1981 the North London Line and the East London Line (Underground) were the only existing rail facility in the London Docklands. The North London Line connects Royal Docks with Stratford. It has four stops within Docklands with the line ending in North Woolwich. The East London Line goes from New Cross through Bermondsey and Wapping - stopping four times within Docklands - to Whitechapel. A few other railway lines go along the outline of the area of the Docklands.
- The massive development at Canary Wharf in 1988 needed (besides DLR) a further high capacity link to central London and so in 1998 the Jubilee Line (underground) Extension was opened. It goes from Green Park via Westminster and London Bridge into Docklands (stopping at Canary Wharf) following from Canning Town the North London Line to Stratford.
- It is proposed that the East London Line will be extended further north and from Surrey Quays into the south west.
- original (red) routes of the DLR (from Tower Gateway in the West; Stratford in the North and Mudchute in the South to West India Quay), fully publicly financed: automatic railway with 16 stops, short platforms, simple shelters; built to serve the original docklands development, much of which was three or four storey residential, designed capacity of 1500 per hour in each direction, eleven trains half the length of the current trains (two in reserve); frequencies were every ten minutes, 7.5 minutes in peak hours – got a reputation as a “toy-town” train (doors folded inwards, difficult when trains were crowded)
- original west and north routes ran along existing old British Rail alignments but viaduct across the docks was new
5. EXISTING REAL ESTATE ISSUES
- Docklands had been a derelict inner city area as the dockyard and associated industrial activities ceased, but the area maintained low to medium quality residential use north of what is now the east-west route between Tower Gateway and Becton (there is a strong right and wrong side of the tracks)
- original new Docklands developments were 3-4 storey residential waterside buildings
- the economic development of London together with an already high density in the traditional business districts demanded more space, particularly for the financial and service sectors and preferably in a fairly central and well connected location
- Between 1982 and 1992 195 ha of the Isle of Dogs were designated as a so called Enterprise Zone which attracted significant investment and international businesses and led to the establishment of Canary Wharf.
- post industrial wasteland east of Canary Wharf now served by the Beckton extension

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- **Public**
  - London Docklands Development Corporation (LDDC): initiator, charged with structuring the development; had powers to sell the land and did this at advantageous rates as the aim was to attract developers; also provided some of the infrastructure, member of the planning and management team, development control powers within its area from the three boroughs involved: Tower Hamlets, Newham, Southwark; The LDDC’s strategy has been to correct market failures and to create the circumstances and in particular transport infrastructure in which private investment would fund the economic regeneration of London Docklands, while at the same time to improve the social infrastructure and public amenities from their low base.
  - London Transport (LT) / since 2000 Transport for London (TfL): member of the planning and management team, till 1992 owner of the DLR, LDDC’s agent for the scheme of Beckton extension
  - Greater London Council (GLC): member of the original planning and management team
  - DLR as a company financed by the government
  - UK government: original DLR fully publicly financed, contributions for extension to Bank

- **Private**
  - Olympia & York, developers of Canary Wharf: contributed towards financing of the westward underground extension from Tower Gateway to Bank and associated upgrading of initial railway station for a direct connection with London Underground on the agreement that DLR would extend its service capacities once the development had reached a certain stage but no repayment or revenue returns
  - Serco Docklands Ltd.: run and maintain the system on a franchise basis (current contract 1997-2006), have seven different targets to meet, get paid less for underperformance and more for exceeding the targets; e.g. 96% reliability target (every train to run within three minutes of schedule) and only counts if train runs the whole journey, i.e. turning round before terminus also cancels out the return journey; 98% base service departure target (specified the number of trains, which have to depart from each stop per hour); targets have been increasing throughout duration of franchise and have been met; customer satisfaction targets (assessed through independent surveys)
  - City Greenwich Lewisham Rail Link consortium: design, building, financing and maintenance of the Lewisham extension
7. PPP PROJECT

- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - Docks, brownfields
  - mostly residential before Canary Wharf was developed
  - Two-thirds of the initial railway was built on disused or under-used railway lines. East of Limehouse it is carried on the former London and Blackwell Railway viaduct, built in 1840, and south of Mudchute station on a 27-arch viaduct built in 1972 and totally disused since 1976.

- **New facilities / land uses (see above):**
  - extension to Bank
  - new Canary Wharf stop to connect directly with shops and offices of the new development
  - extension east to Beckton (there was nothing in the area served by the line now – post industrial desert, just old docks) and an associated depot at Beckton and changed signalling to moving block signalling – gives higher service frequencies); also a standardised fleet of seventy new vehicles; the old ones were sold to Essen
  - Lewisham Extension 4.2 km extension running south under the Thames and incorporating a tunnel, five new stations and 2 reconstructed stops – obtaining powers took ten years; 4 minute service frequency at peak times; planned to increase to three minutes from September 2002 but could run every two minutes (though this is a very disruption sensitive level of service)
  - DLR Ltd. trying to work with Lewisham LA to make the station more accessible as it is separated from the town centre by major roads
  - all DLR stops and trains are fully accessible by wheelchairs and by extension also pushchairs etc. (lifts to raised platforms, short gaps etc.) – tested with wheelchair users, also to ensure that accessibility does not end as soon as passengers get out of the station
  - DLR try to ensure good interchange, e.g. by getting kerbs lowered crossings put in or bus stops moved where possible
  - real time information from platforms also fed into e.g. Lewisham College, the Excel Centre, Canary Wharf shopping centre and lifts, the internet, and the mobile phone network – this is paid through the franchise; includes info on problems, delays etc. also on the interlinking transport systems and even on the trains
  - 24 new cars on order; once these are delivered, the existing stock will be refurbished according to disability discrimination act on a rolling programme; might eventually have to lengthen trains from 2 to three cars, and platforms would have to be extended (would cost about € 145.2 million plus the cost of new vehicles)
  - Canary Wharf office and retail development (completed)
  - East London University built a new campus and student residences next to the Cyprus stop on a brownfield site
  - Excel Exhibition Centre (larger than London’s two existing centres Earl’s Court and Olympia together) which has three stops associated with it (Custom House and also Royal Victoria and Prince Regent)
  - currently still about 50 third party developments happening at the Docklands around the railway
    - e.g. two additional office towers in Canary Wharf will become occupied by late 2002/early 2003 and this will add large number of new passengers
    - hotel being built of 30+ storeys
- Heron Quays station is being rebuilt closer to the new buildings (safety is an important issue as construction is happening above the rail line)

planned:
- planning applications for further 30-40 storey buildings on existing car parks north of Canary Wharf
- extension to London City Airport planned; 50% of passengers expected to be related to the airport, the rest to come form the local catchment as it gets developed > regeneration effect; also hoping to eventually take it under the river to Woolwich; also to be done under PFI
- final extension planned to Stratford International – there is currently a main rail line, but this only runs every half hour; Stratford international is on the Channel Tunnel Rail link but this is 500 metres away from the actual main line station; to be done under PFI

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
- London Transport (on behalf of the GLC and the LDDC)
  - was responsible for preparing the Parliamentary Plans and constructing and running the initial DLR service (contract for building and equipping the DLR as well as the carrying out of the improvements of the initial railway and constructing the Bank extension was awarded to a consortium of GEC and John Mowlem)
  - had commissioned Arup Associates, as design consultants, in conjunction with Design House, Pentagram, G. Maunsell & Partners, Kennedy & Donkin, and Henderson Busby, from April 1983 to produce detailed designs and specifications for signs, trains, stations and structures of the initial railway
  - in April 1992 ownership of the DLR was transferred from LT to LDDC
- Docklands Light Railway Ltd. (publicly owned holding company)
  - owns the assets and infrastructure of the railway (tracks, rolling stock, signalling, station platforms etc.) and
  - will continue the strategic development, including initiating and overseeing any further extensions or improvements
  - responsible for ensuring all parties communicate with each other e.g. regarding safety
  - provided outline design for Lewisham extension, which was more or less adopted by concessionaire
  - financed half of Excel Exhibition Centre stop walkway
- Serco Docklands Ltd. (private)
  - since 1997 franchise holders for operation of the whole system, also provide the maintenance of most of the system (with the exception of the Lewisham Extension)
  - also responsible for the overall safety of the entire system and have to confirm with Lewisham extension concessionaire on daily basis, that their bit is ok;
- City Greenwich Lewisham Raillink plc (John Mowlem & Company plc – who also built the original railway; Mitsui-ishimatsu; John Laing Investments Ltd; London Electricity Plc)
  - 24.5 year term for building and maintenance of the Lewisham extension – has to be maintained by the concessionaire, thus has an interest in having provided good quality infrastructure; penalty regime applies to any closures or delay due to maintenance work (e.g. one hours closure in the peak time means the loss of an entire days fee); expecting a profit of €3.2 – 4.8 million p.a. out of annual access fees of about €38.7 – 40.3, i.e. about 10%; concessionaire also was responsible
for re-routing traffic an public utilities – they carried the entire construction risk
- private developers:
  o Excel Exhibition Centre Developers: financed half of exhibition centre stop walkway
  o Canary Wharf Ltd.: financial contribution to new station building at the existing Heron Quays stop

- TOD / TJD?:
  - TOD; TJD; DBM

- Stage of development (proposed, planned, in progress or implemented):
  - most of DLR is implemented, though some extensions still planned

8. PROJECT COST (PLANNED / ACTUAL)
- Total
  - original routes: €124.3 million (In the report on “Public Transport Provision for Docklands” (June 1982) the construction costs of a new automated light railway was estimated at €104 Mio, in October 1982 Government authorised €124.3 Mio of investment. The initial railway was built within budget, but due to several extensions, upgrading and operating problems the actual costs amounted to €153.9Mio.
  - extension to Bank and upgrading programme: €455 million
  - Beckton extension: €416.3 million (financed Docklands Dev. Corp.)
  - Lewisham extension: €332 million, done as PFI

future plans
- Airport link: €185.6 Mio.
- Woolwich Extension: €209.7 Mio.

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT
Transport
- DLR was intended firstly to serve the new developments in their early phases, after transfer to the development agency also seen as a regeneration railway to stimulate new and faster development
  - Initial railway The capacity of the initial railway was expected to be around 1500 passenger per hour, but this was quickly exceeded due to the massive office development, which in itself was greater than the initial forecasts
  - In 2000 a total of 31.3 Mio. passenger journeys were carried out by DLR, which is a growth of 13.4% compared to 1999
  - The amount of passenger kilometres increased by 19.3% from 144.3 Mio. km in 1999 to 172.1 Mio. km in 2000.
  - The east-west route would provide the link between Docklands and the City. This would be of benefit to existing and future residents and also establish a link which might encourage City related businesses to consider locating in Docklands
  - The north-south route would provide a link from the main residential areas of north-east London into the proposed employment areas of the Isle of Dogs
  - Beckton Extension: Completion of a relatively low cost rapid transit spine linking the majority of residential and development sites together and completing a direct connection to the City
    - land values along Beckton extension were expected to increase, so Docklands development Corporation expected to get a profit out of investing in the
extension; problem was that the property market slumped at that point so there was no development for a while although the railway was built; took till late 1990’s (several year after opening) before new developments were attracted into the area

- **Lewisham Extension** Strategic cross-river public transport rail link for London, benefiting South East London, the Thames Gateway, Docklands, East London and the City
  - Reduction of road traffic congestion, in particular on Tower Bridge, Rotherhithe and Blackwell Tunnels
  - Direct access to Docklands, the City and Stratford for an additional catchment population of 500,000, and journey time savings of up to 20 minutes for existing Kent and South East London main-line commuters
  - Direct rail link between the Tower of London and Greenwich; access for residents of Docklands to retail, tourism and heritage attractions south of the River
  - New local transport links within Greenwich and Lewisham, and regeneration opportunities south of the River with new connections to attract businesses and to support local and Central Government initiatives at Deptford City Challenge, Greenwich Waterfront and Lewisham Town Centre
  - For DLR the new line is vital for future health of the railway in the medium and long term. It will balance the DLR network operating patterns and passenger flows, helping to complement Jubilee Line Services, at the same time buffering DLR against the effects of Jubilee Line Extension opening. It will allow DLR to maximise efficient use of its current assets

- By 2000 most of the commuters to Docklands using private transport were expected to come from north east (42%) and the least from south west (9%). Most of the commuters to Docklands using public transport were expected to come from north west (33%) and least from south west (19%). This numbers do not say anything about the actual numbers of commuters and the percentage public/private transport (modal split).

- In 2000 the DLR system carried 12 000 passengers per hour; 2400 passengers per hour used the North London Rail Line between Royal Docks and Stratford. The East London Line was used within Docklands by 6000 passengers per hour and the Jubilee Line Extension by 22 000 passengers per hour.

- annual passenger numbers: 1993: 6 million
  2001: 38 million
  2005: 60m ? (service not at capacity at the moment)

- effect of leasing the franchise to Serco: estimated to save the public sector about €51.6 million over the original 7 year period of the franchise

- DLR now considered one of the most reliable rail services in the country;

**Employment**

- The DLR was designed to make the Enterprise Zone accessible by public transport, thus enhancing land values and employment opportunities.

- Largest employment sectors now are financial and business sectors with 43 % of the jobs, manufacturing is the third largest with 19 % of the jobs

- Since 1981 the number of jobs has risen from 27,200 to 85,000 (1998) and will continue to grow rapidly. Forecast working population in 2014 is 175,000.

- unemployment fallen from 17.1 % in 1981 to 7.2 % in 1997

**Commercial use:**

- total of Dockland’s office space in 1998: 1.3 Mio m² including the new business district Canary Wharf with South Quay (0.8 Mio m²), which will total some 2 Mio m² when fully built up
- It was strongly believed that the railway could stimulate different kinds of development, for example high employment, high value industries rather than warehousing and distribution.
- Lewisham extension has been shown to have increased throughput of the Lewisham shopping centre by about 20%.
- Tourism is growing strongly.

Residential use:
- In 1981 the stock of dwellings was 15,000 in 1998 it was 38,000. Of the over 24,000 homes completed under co-ordination of the LDDC 17,700 were for owner occupation, 5,300 for housing associations and nearly 1,000 for local authorities.
- Property prices have generally gone up and most residential development now going in is only affordable to upper end of the market though condition of planning permission is the provision of some council housing as well; property prices in Lewisham have gone up – this could be seen as an unfortunate side effect as local population often can no longer afford to live in the area.

Benefits to users and population:
- In 1981 6 km of waterfront were open to the public, in 1998 it was 50 km with elegant footbridges. The LDDC created open spaces (e.g. Thames Barrier Park 9 ha) and an attractive environment.
- Community infrastructure: The LDDC has spent over 7% of its total budget on community infrastructure and activities. About half of this (€193.6 Mio) has been invested on education and training and half on health and other community activities.

Intentions behind planned extensions:

Airport link:
- Plugging of the fast-growing London City Airport into the DLR network
- Providing the targeted new building area at the south side of the Victoria and Albert Docks with public transport

Woolwich Extension:
- The extension is expected to stimulate the development of substantial new business in Woolwich.

10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - LDDC for early phases (financed by central government)
  - Lewisham extension: private finance was raised through bonds – let bonds for €266 million (but only €299 actual contribution – the rest securities???); first time this was done for a transport infrastructure project in the UK; backers for it were found; bonds are less flexible than bank loans as there are strict rules about the repayment of certain amounts at certain times, but is cheaper to finance; but seems to have worked

- **Contribution by each partner (amount and source)**
  - UK government:
    - original DLR €124.3 million fully publicly financed,
    - €293.7 for extension to Bank
    - €80.7 from UK government for extension to Lewisham (to make up for changes to the travel card system in London, which would mean loss in revenue – but I
thought concessionaire did not get the fare box revenue???)
- local authorities:
  - €16.1 million for Lewisham extension
- City Greenwich Lewisham Raillink plc (private)
  - €229 million from the concessionaire
- private developers:
  - Canary Wharf Ltd. / Olympia & York (developers of Canary Wharf)
    - €161.3 million towards underground extension to Bank;
    - €11.3 million to be contributed to Heron Quays Station building

**Repayment modes (if any: how, when)**
- for Lewisham extension
  - concessionaire receives €113,000 access fee per day for the DLR’s use of the system, over the lengths of the concession this will effectively buy the system for DLR Ltd., who will take it over at the end of the concession period – system would then go back into the franchise

**Modes of evaluating investment risks**
- franchise holders have revenue risk: bid included an estimate of revenue and a bid for subsidy oriented towards that; increased revenue (as well as short falls) are carried by Serco > thus it is in their interest to provide a high quality service as losses would be double: bonuses form DLR would be lost and also the revenue from passengers would decrease
- at the time government policy was wanting to force revenue risk onto the private sector: Lewisham extension has a back ended revenue risk of 30% in 2009 (all journeys beginning or finishing on that extension – should recoup the money if the system is maintained in good working order);

### 11. RELEVANT LEGISLATION
- 1968 Transport Act
- 1992 Transport and Works Act
- PFI regulations
- planning regulations
- Compulsory Purchase Order powers

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- The LDDC has been successful in compressing the lead times for transport infrastructure, using its Compulsory Purchase Order powers.
- The key to achieving such short lead times has revolved around certain important factors:
  - A single minded approach from a development authority with necessary powers for land assembly, planning and finance
  - A dedicated project team whose approach was to progress all aspects of the project in parallel and not in series
- PFI / PPP

### 13. RELEVANT ORGANISATIONAL STRUCTURES
- April 1992: DLR was split off from London Transport since for London Transport the
DLR was not a primary concern and ownership went to the LDDC; since then DLR has always regarded itself as a regeneration railway “where you put the railway development tends to follow”
- After DLR’s transfer a new Chairman and Board were appointed and further urgent attention given to resolving DLR’s start-up problems
- A Prime Contractor was being appointed who took full financial and performance responsibility for all outstanding contracts (e.g. Beckton Extension, the rolling stock across the whole railway)
- (Organigramm of London’ Transport Organisations is to be added)

### 14. PLANNING PROCESS OF PROJECT

**Initial railway & Bank extension:**

- 1981: there was a consensus between LT, LDDC and the GLC (who set up a working party to consider ways of improving the public transport within Docklands) that there was the need of a new light railway. There were some different views between LT, LDDC and the GLC about the routing, the extent of street running and the choice of technology, and several routes were examined. The possible routes narrowed to a choice between two routes – an east to west and a north to south route. It was found that neither route was likely to be justified on transport benefits alone. As a consequence of this the LDDC carried out some analysis to establish likely development with and without the railway. The result was positive and it became obvious that the two routes were complementary rather than alternatives and a case for both was agreed.
- June 1982: A report on “Public Transport Provision for Docklands” was submitted by LT, LDDC and the GLC to Government in, recommending the construction of a new automated light railway, with cost of the two routes estimated at €104.8 Mio.
- October 1982: Government approved the proposal, cash limited the project at €124.2 Mio., and set a target opening date of 1987.
- Due to massive development at Canary Wharf it was soon considered necessary to upgrade the initial railway from one to two car trains, and to extend the DLR system into the heart of the City at Bank.
- November 1985: following detailed negotiations with the Canary Wharf developers about their contribution to the work, the Private Bill for the Bank extension was deposited, receiving Royal Assent in November 1986.
- 1987: original publicly financed red route of DLR opened; decision to build Canary Wharf development was taken, need arose to upgrade the system
- 1991: underground extension to Bank opened, work had involved extending all the trains from one car to two cars, extending all the platforms accordingly and upgrading the signalling; during construction system close down every night at 9.30 and there were no services at weekends (though some buses), residents felt they did not have a system when they wanted to use it

**Beckton Extension:**

- 1985: options for the extension to Beckton were examined. Many Discussions about the funding of the Beckton Extension took place with LDDC spending a year drawing “with” and “without” scenarios.
- November 1986: Approval was finally given by Government to deposit the Bill
- July 1989: after being interrupted by the General Election and subject to a Parliamentary Committee hearing on the Canning Town Route, the Bill for the Beckton Extension it finally received Royal Assent in, with
- January 1990 construction started
- March 1994: the extension began carrying passengers
Lewisham Extension:
- 1985: LB Lewisham first proposed this extension by in and it consistently drew widespread support.
- A public consultation in 1988 resulted in 85% of respondents declaring themselves in favour of the extension.
- An enabling Bill was laid before Parliament, promoted by LT
- Many studies and analyses were carried out, including Environmental Assessments, Traffic and Revenue studies, and Economic & Financial Cost-Benefit Analyses.
- November 1990 Government gave approval to the extension but it had to be funded entirely by the private sector.
- May 1993 Royal Assent received
- August 1993 the responsibility for the project was transferred to the Private Finance Unit of the DoE.
- November 1993 Official go-ahead for the scheme as a Private/Public Sector Joint Venture was announced in the Chancellor's Budget statement.
- DLR and LDCC, under the guidance of the Private Finance Unit of the DoE, established a Joint Project Office to take the scheme to market.
- October 1996: 24.5 year concession was awarded to the City Greenwich Lewisham Rail Link consortium
- November 1999: opening of the Lewisham Extension, two months before schedule – the availability fee was not paid to the concessionaire until the service was open
- 1997: franchise for system operation and maintenance except the Lewisham extension) let to Serco Docklands originally for seven year and then extended for another two years

changes of plans
- Lewisham extension; original plan was to collect a tunnel toll of 50 pence on each ticket to help finance the project but this appeared to be too complicated to implement so was refused by the government; there was an offer from DLR to add €32 million up front to make up for the loss of the toll revenue but the conditions laid down by the bond agreement made it impossible for the concessionaire to accept this money

15. PROJECT EVALUATION (FROM THE POINT OF VIEW OF THOSE INVOLVED IN THE PROJECT)

POSITIVE
- The DLR was the first significant transport infrastructure to be built in Docklands for decades. The construction of the initial railway in 1984 stimulated development in Docklands. This stimulus was reinforced by the time limited EZ benefits, the expansion of many City businesses in the run up to Big Bang, and the national development boom. There was rapid growth in activity in the Docklands property market, culminating in 1987 with the signing of the Canary Wharf development agreement.
- since SERCO franchise, DLR has been gaining a reputation as one of the most reliable railway services in the country;
- Lewisham extension has so far only been closed about 10 times for any lengths of time, this is seen as a success
- any claims to do with the construction of the Lewisham extension were settled before it opened; DLR sees itself as a more co-operative organisation than London Underground for example, which still has claims outstanding from the Jubilee Line construction (though this was a much larger and more complex project)
because concessionaire has responsibility for maintenance for 24.5 years the system was built to last and the whole life cost even after end of the concession agreement is likely to be low

- private sector tends to be better in the discipline required for achieving e.g. fast and high quality construction targets

NEGATIVE

- It rapidly became evident that the capacity of the initial railway, at around 1600 passengers per hour (in each direction) on each branch, was far from adequate to meet the growing demand forecasts. As a consequence of this, major upgrading of the railway was commissioned.

- The contracts for the Bank extension and upgrading, involving the lengthening of platforms and strengthening of viaducts and structures, was let on the 17th of July 1987 before the initial railway had even been opened. The significance of the overlap between the new and old contracts was not properly understood or addressed at the time, and inevitably the lack of resolution of interface responsibilities between the different contractors led to contractual disputes and difficulties about allocation of responsibility for non-performance. These were to give DLR, as client, enormous problems for years to come.

- The set of a target opening date of the initial railway made a tight schedule necessary and so it happened that due to the unfamiliarity of a new computer controlled system (the DLR was Britain’s first automated light rail transit system with computer operated driverless trains), the effort needed to test the system fully and make it work had been underestimated.

- Because new contracts were let for the upgrading and extension of the system before the defects liability periods and snagging of initial contract had expired, (the stations, structures and the train control and signalling system were all being upgraded) there was a diffusion of responsibilities which made it very hard for the DLR management team to allocate responsibility to a particular contractor when the final system still had problems.

- The pressure use by commuters from the outset meant that DLR had little opportunity to recover from setbacks and test the system during down-time to overcome problems. The upgrading of the railway, the extension to Bank and Beckton and the new Delta junction meant that weekend and evening closures were needed for possessions by contractors. DLR were not able to use the railway for testing at these times and to compound the problem inevitable omissions and errors by the contractors often left the railway in a faulty state when passenger services were resumed.

- THUS: early phases of DLR gained a reputation for being unreliable and overcrowded

- Lewisham extension has a back ended revenue risk of 30% in 2009 (all journeys beginning or finishing on that extension – should recoup the money if the system is maintained in good working order); DLR would not do this again as it has worked out too expensive for the public sector, was at the time forced by government policy

- concession agreement means that post hoc changes (such as extending the protective canopies over the platforms) are not always easy to achieve – some inflexibility

- there is some fragmentation of responsibility between franchisee, concessionaire and DLR, who see themselves as the co-ordinator and manager in the middle and they are the contractual partners for everyone else, there are contracts e.g. between the franchisee (who DLR share a building with, thus enabling direct and personal communication) and the concessionaire

GENERAL COMMENTS

- 24.5 year term was decided by the demands of the finance markets, nowadays such
agreements would probably run over 30 years
- public sector could borrow money more cheaply than helping to finance the private loan
  but because of greater efficiencies of the private sector, it is still possible to show that
  PFI should work out cheaper for the public sector overall; also DLR is not really set up
  for construction work
- frequent meetings between all three parties, both on safety and general operations
  issues
- April 2002: parliamentary powers for extension to London city airport were supposed to
  be announced — currently there is no rail connection, 25% of arrivals use taxi, planned
  opening 2005
DONCASTER INTERCHANGE
South yorkshire, Uk

Project: renovation and improvement of existing railway station incorporated in the reconstruction of the adjacent main bus station and retail development

Location: 50 km south-east of Leeds; 35 km north east of Sheffield; 75 km south west of Hull; 275 km north of London

Terms and abbreviations:
Doncaster Metropolitan Borough Council (MBC) or “the borough”: the type of local authority (there are seven different organisational forms in the UK)
South Yorkshire Passenger Transport Executive (SYPT or the PTE): public body responsible for local and regional public transport arrangements and subsidies of desirable but uneconomic services (the operators themselves are private)
Private Finance Initiative (PFI): specially regulated UK form of PPP

1. DEMOGRAPHICS

- Area size overall:
  - Doncaster MBC: 57,0000 hectares (biggest UK metropolitan borough in terms of area)
  - Doncaster MBC population: 292,000 - trend stagnating

- Population density overall:
  - 166,4 persons per hectare

2. EXISTING CHARACTERISTICS

- large variety of types of settlements within the local authority boundaries: urban, rural villages and mining villages
- has economic problems associated with decline of collieries and manufacturing industries
  > South Yorkshire is an Objective 1 region; particular lack of highly qualified white collar jobs
- main economic function of Doncaster itself has been retailing, mining and heavy industry,
historically it is not the service sector or tourism for example; the centre currently has very little residential use
- main employment at present lies within manufacturing; service industry; public admin. education and health; distribution
- total available workforce in the borough 119,000, of which 15% are unemployed (total workforce within 25 km from Doncaster: 420,000; within 50 km: 1.6 million
- local authority retail catchment study showed a potential catchment far larger than the boundaries of the borough
- retail competition from Sheffield, Leeds, Wakefield etc. and Doncaster has not so far been able to follow > access issues by public transport are therefore of interest
- current structure: historic core including the market, existing buildings often difficult to convert to the sorts of facilities main high street retailers would be interested in taking on
- purpose built shopping areas again largely come from the 1960’s and are falling behind current standards
  - Waterdale Centre (around the South Bus Station): no longer seen as a good quality retail environment, not doing very well, more of a local food retailing function (cheaper food retailing)
  - French Gate Centre (between rail station and city centre, east of inner ring-road): part of the primary retail facilities together with main pedestrian shopping streets: was refurbished in late 1970’s but design is now ageing

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- The dual carriage way by-passing the town centre is currently suffering from congestion (bottleneck) but any effects from the interchange would only be indirect as there is no intention to actively restrict traffic on this road
- area around station and inner ring road (dual carriage way) passing directly to the east of it has been designated an air quality action zone (thus traffic volumes as well as behaviour need to be tackled and the Interchange is merely seen as one piece in the jigsaw of measures required; air quality not one of the main reasons for developing the interchange)
- There is an urban regeneration area to the south of the station with some terraced housing and small businesses/workshops as well as a disused postal sorting office and some 1980’s office developments
- Doncaster currently has two bus stations, both in the ground level of multi storey car parks from the 1960’s, North Bus Station close to the train station (though pedestrian link between the two is indirect and inconvenient) one to the south of the centre, interchange with trains and North Bus Station only on foot (ca. 600m), crossing the inner ring road through subways, which are difficult to maintain and are generally an unpleasant environment. Neither bus stations provide adequate passenger facilities; there are not many cross town services thus it can be difficult for people e.g. to get to the hospital as they have to change from the one to the other
- bus stations cater mostly for regional and local buses, one service goes to London
- bus passenger numbers on SYPTE supported services (not just Doncaster!) have been declining steadily since 1996/1997 to 2000/2001 from 166 million to 135 million (overall drop of 19%)
- cordon counts (same day every year from 7:00 till 19:00) in Doncaster have shown that the number of passenger crossing the cordon by bus have dropped by 16% between 1991 and 2000 (from 96,010 to 80,876) though there have also been increases within that period; in 2000 public transport accounted for 17% of all passengers crossing the cordon (80,876 compared to 393,811 by car)
- the PTE and the council together with bus operators are in the process of developing quality bus corridors (PTE: shelters, real time information, time tables; MBC :highway
development control, restrictions of access; operators: the actual bus service): traffic on those routes needs to be controlled.

- Doncaster is the last of the four SYPTE districts in which the main rail station and interchange have not been improved since the 1960’s.

- PT’s mission statement says that modal choice and interchange facilities should be maximised; thus it is necessary to integrate the two bus stations and the rail station in a common arrangement.

- car parking: ca. 700 spaces near rail station above North Bus Station but the building has structural problems (which make rebuilding cheaper in the long run than refurbishment) and again is an unpleasant and unsafe environment once one gets out of the car.

- car park for the railway station is on an old cattle dock next to the tracks, which at night is badly lit and is not a very secure area.

- There is potential for an old RAF base to be developed a regional airport, four miles away from station, one mile from a local branch – would be about 2 million passengers a year and need a good link to the interchange.

4. EXISTING RAIL TRANSIT FACILITIES

- Government pays SYPTE to support the regional and local rail services (operated by Arriva). Railtrack will increase access charges for the train services with the improved facilities - question is, whether this would be paid for by increased passengers not only on the London services (GNER) but also the local services (where would the people using the new car parks actually go to) and whether the increased cost to local trains would be passed back to the SYPTE.

- existing mainline Intercity north south route, also on cross Pennine route i.e. regional train lines (rail route map?)

- rail journey times
  - 25 min to Sheffield;
  - 34 mins to Leeds;
  - 53 mins to Hull
  - 1hr18 mins to Manchester
  - 1hr 36 mins to London (Intercity Route)

- journeys on SYPTE-supported local services (note: these are not all to and from Doncaster)

- rail station itself has no disabled access to platforms, which can only be reached through an underpass with stairs.

5. EXISTING REAL ESTATE ISSUES

- population of Doncaster is stagnating there is no particular demand for residential floor space.

- the aim of the borough is mainly to develop its retail facilities and redevelop urban areas, which have been declining, such as the one south of the station.

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- Public

- SYPTE: wanted to do something about the bus station and the transport links, also
disabled access is below legal standards, could not have done it without the help of the MBC.

- **MBC**: interested in redevelopment, also a major land owner on the site: own the multi-storey car park and rent bus station to PTE.
- Originally, British Rail were involved in the scheme but they became Railtrack before preferred bidder was selected and were no longer a PFI project sponsor as these have to be public entities and they were now a private sector company.

- **Private**
  - Teesland plc; attracted by the development gain added through the retail centre, from which the SYPTE can also benefit through the PFI part of the project.

### 7. PPP PROJECT

**Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**

- Rail station with short stay car parking, ticket hall (in need of refurbishment) and inadequate passenger facilities; only accessible through a tunnel, there are no lifts, ramps or escalators.
- Main station building is listed, so must be incorporated into the scheme.
- Currently 760 spaces in multi-storey car park above North Bus Station (revenue goes to the council), 250 on the railway station car park (revenue goes to Railtrack); former never full, latter generally full by eight in the morning suggesting London commuters; seen as an easy town to park in if multi-storey is used; Southern Bus Station multi-storey will remain for the time being but a third multi-storey to the north has since been lost to bridge construction.
- Jarvis Construction offices currently based on the site, will relocate into another building currently vacant and increase job numbers to about 80 staff (one of the key criteria for EU Objective 1 funding, "retail jobs don’t count").
- Trade’s Club (a cheap working men’s bar stemming from the colliery traditions) in the existing bus station building, will have to be offered space in the new development.

**(Planned) new facilities / land uses (see above):**

- “an integrated national/regional transport interchange (bus, rail, coach, car, taxi, cycle and pedestrian facilities)” quote from Interchange publicity leaflet
- improved passenger facilities within the station.
- full disabled access to the platforms from the shopping centre and within the station will be provided through the existing tunnel within the station with the help of lifts and escalators – advantage over the footbridge solution is that this version does not bypass the existing booking hall.
- cycle parking at forecourt level linking into proposed city cycle routes.
- Some kiss and ride spaces on station forecourt.
- improved short stay car parking in front of station; rail linked long stay parking (P&R) will be increased to 500; public parking in rebuilt and improved multi-storey car park above new bus station to about 900 –this might be less than the expected increase in usage as modal shift is to be encouraged.
- no financial incentive will be given to use the PT or disincentive to use the car park.
- new bus station (capacity of 30 buses in and out per hour), this will be built on PFI basis and leased to the PTE, however as Teesland also get the development opportunity for the French Gate shopping centre, the cost of the lease will be lower than if the Interchange alone were to be developed.
extension to existing shopping centre which will bridge the road (without having to sink it) to extend retail floor space and to give more direct access to both the bus and the rail station without having to cross the trunk road through underpasses;  
- air rights exist only for the space above Old Trafford way; this has been valued at nil, i.e. Teesland do not have to pay for it  
- level crossings to replace the pedestrian tunnel at the southern end next to the urban redevelopment area and improve its links to the city centre— these will also in effect help to regulate traffic on the inner ring road, which currently struggles on unsignalled roundabouts  
- existing office spaces near the station and in the shopping centre will be improved as part of the scheme  
- There will be temporary bus station facilities in the redevelopment areas south of the station, which are going to be paid by the MBC as this works out cheaper than reimbursing the cost to Teesland plc through the unitary charge

changes to the plans
- original idea was to extend a foot bridge from the retail centre over the railway, which would allow access to the station providing a single level access from the retail centre to the station — was part of the original PFI submission; but because it was already getting complicated in the beginning it was taken out of the agreement with Teesland; but working with Railtrack the projected cost of the bridge would have gone from €6.5 million to €24 million, thus it was dropped (Railtrack were not prepared to take over the risk of having to compensate rail operators for possible disruption changes to the plans, this would have had to be incorporated in the cost)  
- original plan was to give South Bus Station to the developers for free as another development opportunity but since this was starting to draw the focus away from the main development and Teesland did not agree on what their duties there would be, it was taken out; south station will close down, car parking facility will remain and future uses will be discussed as a separate project  
- design had to be modified a few times to ensure that buses can access and leave the bus station without unduly being delayed  
- Railtrack were unwilling to carry costs for possible interruptions of rail service during the construction phase of the new footbridge planned to lead to the platforms from the extension of the shopping centre; wanted that risk to be included in the contract and costs became so high, that the footbridge idea was dropped

- Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):  
  - SYPTE:
    - own parts of the land necessary for the scheme, which will be provided free of charge  
    - temporary bus station facilities during construction (will cost SYPTE €1.6 million)  
  - Doncaster MBC:
    - own most of the land e.g. North Bus Station site and structure (were valued at €6.5 million); will be provided for free as this will be cheaper than charging Teesland and then refinancing this cost through the lease  
    - acquired some small plots of land needed through Compulsory Purchase Orders (CPO – powers of the council, which can be used to buy land without the consent of the owner if a greater public interest can be demonstrated)  
    - bought the site of the existing Railtrack customer car park without CPO and at quite a high cost (Railtrack land has never been successfully CPOed and they could have caused delay to the scheme)
### PPP TRANSIT CASE STUDIES

**European Centre for Transportation and Logistics, TU Harburg**

- New level pedestrian crossing facilities near temporary bus station
- Public consultation in the early days was paid by the local authority; as Teesland became the contractual partner, they now pay the same PR firm to continue the consultation: 80% of responses expressed favourable opinions about the new scheme;

- **Teesland plc:**
  - Design, build and maintain the new bus station (including security arrangements)
  - Bought the French Gate shopping centre from the previous owners (Prudential Investment Company) who were not interested in keeping it on; will probably refurbish existing areas as part of the development and then sell the whole centre as they are mostly construction company

- **TOD / TJD?:**
  - TJD

- **Stage of development (proposed, planned, in progress or implemented):**
  - Planned

- **Was there a bidding process?**
  - Bids invited through OJEC notice; produced a shortlist of three bidders but one was only prepared to proceed on the condition that the design work would be paid for by the LA > resulted in a short list of two, both included a substantial element of retail extension (to help finance the scheme)

### 8. PROJECT COST (PLANNED / ACTUAL)

- **Total**
  - €193.6 million capital construction cost for the complete project

### 9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- Passenger numbers in general and transfer of passengers in particular are expected to increase, both in absolute terms and compared to the number of car users coming into Doncaster
- Some of the uncertainties of the interchange project have meant, that people were discouraged to take a long term view of the redevelopment area south of the station (some have described it as planning blight, the MBC does not agree with such a strong term); this is expected to change once the interchange is open and in the short term, the temporary bus facilities will bring more people back into the area, which is currently isolated from the town centre by the dual carriage way and subway access;
- Interchange and new level crossing are also expected to improve the area’s prospects; MBC is hoping to encourage higher quality uses once the interchange has opened

### 10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - South Yorkshire Local Transport Plan minor works bid (awarded by central government PTE gets 25%, the rest goes to the four district authorities; before LTP process started in 2000, the equivalent was the package bid)
    - Was the only source of funding available to get the project developed to the current phase in terms of fees for accountants, legal advice, public consultation
etc. (so far this has cost about € 4.8 million since the inception of the scheme shared equally between MBC and SYPTE)

- Government Revenue Support Grant (RSG) for PFI schemes
- Teesland plc private financing

**Contribution by each partner (amount and source)**

- Teesland plc
  - provide the capital cost of the project
  - Contract specification document details a point system whereby financial penalties for the private contractor will be incurred – i.e. unitary charge (the charge paid for the lease under the PFI arrangement) reduced - if 10 points are reached (e.g. for a non operational bus shelter, toilet etc.)
  - contract also specifies that if the use of the station intensifies, the unitary charge increases

- SYPTE & MBC:
  - land; if public partners can contribute in kind (e.g. land), then the unitary charge is lower, as the capital cost of buying land for example does not have to be financed through the unitary charge North Bus Station structure and land; if this had been charged to Teesland, they would have had to borough that capital, would have added interest and profit margin, so it is more economical to actually put the land into the issue

- BUS OPERATORS used to pay service charge for using the bus station but this is no longer the case as this became a deterrent to use the interchange and they would drop off and pick up on the street and normal bus stops would be used for rest periods etc. – service charges were rolled into the subsidies for uneconomic services (tendered services network- these can be stipulated to go through the interchange)

**Repayment modes (if any: how, when)**

- SYPTE:
  - pay Unitary Charge to Teesland for next 30 years for providing a fully operational and maintained bus station: €3.6 million per year at 1999 prices (over life of project this will also cover the capital cost and include 15% profit for Teesland with an agreed inflator); inflation factor will not be applied to the capital financing element of the charge after ten years (as the charge also pays for the capital cost of the construction of the bus station); though unitary charge is supposed to differentiate between capital costs and operational costs this was agreed as part of the contract negotiation; for the first ten years the inflator on the capital cost will provide security for Teesland for eventualities such as unforeseen and prolonged disruption to operation as this will cost them money in penalties
  - Inflator is based on a product of the Retail Price Index and GDP as independently they are relatively unstable but were expected to stabilise each other
  - if the government pass legislation that would require changes to the bus station (such as changing the driving direction from left hand drive to right hand side), this is not charged to the SYPTE, but if the PTE for example decide to change their corporate colours, they would have to pay for the changes

- Central UK government
  - pay Revenue Support Grant to SYPTE; RSG is based on the cost of the entire contract but without the inflator; agreed percentage of that contract life cost is paid annually throughout the duration of the contract (10.5% - fixed constant reducing balance)
  - SYPTE have to contribute € 645,000 every year as that is what it currently costs
to run the bus station and under PFI route they are expected to continue paying that; that contribution also has to go up with inflation as it would if SYPTE kept operating the bus station under current arrangement; Central government pay their revenue support as explained above to meet the shortfall as calculated over the whole life of the project BUT without the inflator
  o as PTE's unitary charge rises with inflation, proportion of central government support falls; starts out higher than the rent costs but falls below after a while; thus excess revenue form the early years has to be invested with interest in the hope of being able to meet the shortfalls later on and also hoping that inflation does not rise to steeply

- **Modes of evaluating investment risks**
  - Retail Study and Transport Impact Study

### 11. RELEVANT LEGISLATION
- **PFI rules**
  o public sponsors have to apply to central government for PFI powers (and funding)
  o public sector is obliged to demonstrate that the scheme will be cheaper for the public sector through PFI than if it was entirely publicly financed; have to produce a public sector comparator – although the public sector would not have the capital to take the project forward, even if it was theoretically cheaper in the long run
  o 80/20 rule: minimum of 20% of the unitary charge paid to the private investor has to be at risk: i.e. if the worst possible performance occurs, (the bus station is permanently closed and unusable), the maximum possible deductions under the contract have to be 20% of the unitary charge as otherwise there would be no incentive for Teesland to actually fulfil their obligations; there is also a termination clause if a certain number of penalty points is exceeded
- **Capital Financing Act**
  o local authorities have to obtain permission from the Secretary of State to dispose of land at less than best value (such as giving it away under PFI agreement);
- **Compulsory Purchase Powers**
  o rest with local authorities but they have to get confirmation from the Secretary of State. A public enquiry has to be held if there is official objection to the CPO and the Secretary of State decides on the basis of the results of this process
- **SECTION 106 agreements:**
  o stipulate a developer's obligations which are conditional to granting planning permission

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES
- **PFI**
  o was adopted by central UK government as it was believed that the private sector could complete and operate certain facilities more efficiently than the public sector and that risk could also be passed
- **Local Transport Plans:**
  o local authorities are obliged to draw up these five year plans in order to apply for funding from central government; they detail so called minor works, large capital intensive projects such as by-passes or transport interchanges are applied for separately
  o but the interchange was a scheme developed prior to the LTP
- Unitary Development Plans
  - lay down the land use zoning policy of a local authority, are subject to public consultation (enhancing retail use of Doncaster is also part of the UDP)
- SYPTE corporate policy
  - to improve PT access to town centres
  - do not have an explicit real estate policy

### 13. RELEVANT ORGANISATIONAL STRUCTURES
- SYPTE
- MBC

### 14. PLANNING PROCESS OF PROJECT
- 1995: UDP designates area around station for interchange facilities, public enquiry about plans for the station returns favourable result but the only solution that would solve all the problems identified was too expensive for the council and the PTE to afford > PFI was needed
- 1996 OJEC notice issued in (at that point there was still talk about the Eurostar train service going through Doncaster)
- mid 1997: began short list selection
- late 1997: short list of two preferred bidders had been decided –
- Teesland plc (preferred bidder) did not want to fund the design without some assurance that the project had a chance of getting planning permission so an outline planning application was accepted by the council – though this was a difficult decision as there are several listed buildings (protected for their historic values) involved and there is also a conservation area in the regeneration area; was not called in by the Secretary of State which could have happened if there had been a view that the outline proposal represented a significant departure from the UDP; this would have delayed the process by at least a year as it would have necessitated a full public enquiry; it was thus up to the LA to decide whether or not there were any “significant departures”; the first set of designs was sent back as unacceptable (could have been described as an attempt to get away with as cheap a building as possible)
- 1998: Teesland chosen as contractor, scheme specifications refined
- PFI bid was submitted to government
- December 1999: contract signed with Teesland
- public consultation for detailed scheme involved advertising by SYPTE, public exhibition in the French Gate Centre; invited stakeholder meetings across the borough

### 15. PROJECT EVALUATION  (from the point of view of those involved in the project)
**POSITIVE POINTS**
- advantage of the scheme is that it combines the interchange and the regeneration objectives thus preventing the existing French Gate shopping centre from becoming yet another declining retail location, that did not quite make it
- MBC and SYPTE always started out with the benefits to public transport in mind and although this has made it a more complicated project (striving to add some incentive through the retail development and including new elements) it would have probably provided a lesser project from public transport point of view if it had happened the other way round
- Benefit of PFI is the financial contribution by the investors but indirect effect might be increased use of the shopping centre and thereby the stations
NEGATIVE POINTS

- Problem: inner ring road either had to be sunk into a tunnel but water table is high, there need to be vents, gradients have to be kept acceptable and there are still accesses to it; downgrading traffic on it is also a problem as there are no real alternative routes and it carries as much traffic as the A1 though it is not a trunk road, only way across town north to south > thus it had to be built over, though there was some objection to this as well

- Problem was that SYPTE and MBC had to go back to government to say bridge had become to expensive and would an alternative including lifts and escalators be acceptable (which it was but this caused extra work and delays)

- One of the difficulties of the project is that it has so many different elements, there was a long drawn out process after selecting Teesland of specifying the exact detail of the facilities and services to be provided as part of the PFI (e.g. must provide working toilets – but when is a toilet working is it “working” when it’s dirty for example; what if a broken toilet is fixed and breaks again within half an hour…)

- Negotiations with Railtrack over the temporary car park and the currently unused sidings right next to it were protracted as Railtrack demanded a safety distance to be kept from the sidings just in case they would be used again and asked a relatively high price for the land

- UDP Planning process attracted concerns over some issues such as fact that the retail mall would bridge the road and since this would become the main access to the station there was some local objection to being forced through a commercial development. MBC thinks this is the best solution given the existing lay-out and buildings, also there are alternative routes but they are less direct though the most direct route is already blocked through existing buildings, anyway

- difficult to differentiate between shopping parkers and Railtrack parkers (who pay less)

- There were some issues about the actual design of the new buildings, which some felt was too modern

- The advice would be: avoid pure PFI! But go for a public private partnership: example Rotherham: SYPTE wanted a new bus station, local authority had an old office block they wanted developed, went to the developer on the basis that they would contribute the land and how much would they charge to build a bus station on that basis; key was that the bus station would then be the SYPTE’s asset and they could run it; they have the long term risk but they can implement any changes; if they wanted to change their corporate colours, it is simply a question of can we afford it; but with the PFI it would cost more than the actual change as Teesland would add profit margins

- Project is a hybrid with so many different elements that it is difficult to maintain an overview and Teesland in the beginning wanted to simply abandon the PFI route and it took some discussion to convey the importance of sticking to that

GENERAL COMMENTS

- PFI was the only way to finance the scheme so there was concern that public sector comparison might show, in theory, it would be cheaper to do publicly; this would also have prevented the benefit of development gain from the rest of the scheme

- Contract has to ensure that if Teesland sell on the development, the new owner would co-operate on the PFI part, i.e. the bus station on the same basis as is specified now and would actually be able to do so

- something would have happened without PFI but the money from the department of Transport /DETR would not have become available

- because PFI has made the area more attractive, Teesland will probably also invest in the existing parts of the French Gate and this has in fact been promised to the existing tenants, this could be seen as added value synergy etc; the forecasts from accountants predict that the town can support the added retail space and that the new development
will in fact help to increase the cake of retail turnover for the whole town though there might be some losers among the smaller traders, though this is already happening even without the added competition

- Too early to tell how well the co-operation with the private developer has worked
SALFORD QUAYS DEVELOPMENT AREA AND THE METROLINK EXTENSION,
Manchester, UK

Project:
Phase 2 extension of Manchester Metrolink tram service (financed through public private partnership) leading through large urban regeneration area (Salford Quays) with associated private developments and some additional private funding from these developers

Terms and abbreviations:
Greater Manchester (GM): consists of 10 Metropolitan Borough Councils (MBCs), which are each independent local authorities
City of Manchester: a Greater Manchester MBCs, Metrolink route through Salford Quays originates here
Salford: a Greater Manchester MBC, incorporates the Salford Quays Development as well as the Metrolink Eccles terminus
Eccles: a part of the borough of Salford
Greater Manchester Passenger Transport Executive (GMPTE or PTE): responsible for public transport planning in GM, subsidises and co-ordinates the services but no longer owns any operations (operators are private)
Greater Manchester Passenger Transport Authority (GMPTA or PTA): oversees the work of the GMPTE, consists of representatives from all Greater Manchester Metropolitan Boroughs
1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - Greater Manchester: 128,674 hectares
  - City of Manchester: 11,528 hectares
  - Salford: 9583 hectares

- **Population density overall / in districts served by facility:**
  - Greater Manchester: 439,549 residents (2000) > 3.4 persons per hectare
  - Salford: 225,900 (1998) > 23.6 persons per hectare

2. EXISTING CHARACTERISTICS PRIOR TO DEVELOPMENT

- Salford Quays themselves were derelict; surrounding area was generally local authority housing and private housing at the lower end of the market and some light industrial uses
- 56.6% of households in Greater Manchester have no car
- 41.2% of residential units in Greater Manchester are owner occupied; 38.4 % are council houses (1991)
- Income support recipients Greater Manchester: 13%, (Salford: 23%; England 9%); unemployment benefit claimants Greater Manchester: 7.6%; trend decreasing
- main employment sectors GM: public administration/education/health: 28.7%
  banking/other services: 22.7%
  sales related staff: 14.5%
- number of employed people GM: 279,612 (Salford only: 106,300)

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES

- Eccles, Salford: severe congestion and parking problems, town centre in general was declining and measures were required to revitalise it
  - solving the transport problems (Metrolink taken into Eccles and linked with the new bus station as a convenient interchange point),
  - attracting a major supermarket,
  - relocating the market,
  - upgrading the shopping centre
- redevelopment of Salford Quays had started before the arrival of Metrolink
- Manchester City Centre regularly experienced severe congestion and parking demand exceeds supply (this is still the case, though)

4. EXISTING RAIL TRANSIT FACILITIES

- Metrolink Phase 1 was very successful, thus it was decided by MBCs and PTA to proceed with Phase 2 to the Quays and Eccles
- no rail based PT service directly to the quays or through the quays (nearest local rail stops several miles away); there were some bus services but these have been judged as highly inadequate

5. EXISTING REAL ESTATE ISSUES

- first phase of Salford Quays redevelopment was “very much lead by the market” in terms of land use mixture (housing, restaurants, offices, retail, leisure, etc.); first buildings to be finished were cinema and hotel
- most offices were built with large car parks as redevelopment started before the arrival of
Metrolink and there was no certainty at the time that the tram would actually be built; expectation was high, but contingencies did of course have to be provided for - there was little demand for developable land in Eccles

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

**Public**
- Salford MBC: the quays were falling into dereliction because dockyard activities had ceased or relocated to Merseyside; re-development was needed and the MBC took the lead in pressing ahead with Metrolink Eccles extension as a PHASE 2 project in favour of other possible extensions
- PTA: had sold bus company in 1994 and had money available, which had to be spent on a major scheme; extension to the Quays and Salford could proceed relatively quickly compared to alternative schemes as parliamentary powers for PFI for parts of the route had already been obtained and the process for the remainder had been set into motion

**Private**
- ALTRAM consortium: consisting of John Laing (civil engineers), Ansaldo Transporti (tram manufacturers) and the Serco Group (project management group and operators – also operate Docklands Light Railway); formed in response to call for bidders to take over operation of Metrolink Phase one and build, maintain and operate Phase 2
- private developers, who provided contributions in cash or in kind (land) to help satisfy UK government demands for private sector contributions and thus help to ensure that Phase Two would be built and their developments could benefit from it
  - e.g. Property Exchange Trust, developers of Exchange Quay, a section of Salford Quays,
  - Peel Holdings – Manchester Shipping Canal Company (Peel Holdings have been given planning permission for Giants Field, a stop on the proposed Phase 3, which is contingent upon the Metrolink actually going there – they thus now have a vested interest in helping this scheme to go ahead and will pay for the stop to be built, which it might otherwise not be; was done to ameliorate traffic impacts of the proposed scheme) (may decide not to pay for the Trafford Park extension)
  - and some others

### 7. PPP PROJECT

**Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
- Quay area itself was largely derelict
- around the quays mostly down market and council housing and light industrial uses

**(Planned) new facilities / land uses (see above):**
- 7.5 km extension to the Metrolink service (10% of which are elevated), double tracked, including a canal crossing, with 10 new stops (fully wheelchair accessible including ticket machines and passenger information); service frequencies range between 5 minutes at peak and 15 minutes evenings and Sundays
- bus service is still virtually non-existent, thus the main alternatives are tram or private car
- within Quays area: mostly office and retail uses – e.g. large designer outlet; some housing; *The Lowry* (new arts & conference centre plus hotel, Millennium Landmark Project, managed by *The Lowry Trust*) and leisure facilities (e.g. water sports centre)
have been brought in during 2000/2001
- around Salford Quays stop there are a number of large restaurants and pubs, this location is said to be a reflection of the fact that people can get to them by public transport (though they do have rather large car-parks; these are free and there are no plans to introduce parking charges; also, they were among the first developments to be completed, at a time when Metrolink was still several years away)
- about 50% of the quays have been developed
- some existing proposals incorporate large numbers of flats / houses as well as office space; but timing is uncertain; however, interest has been stimulated in part by the Metrolink
- P&R facility at the Ladywell stop, free of charge
- tram fare into the town centre is cheaper than parking a car there every day (unless employers provide free or subsidised car parking, of course) but no figures on this exist

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - ALTRAM:
    - DBOM for the METROLINK
  - private developers
    - urban developments within the Salford Quays area
    - some donations of land and cash; e.g. Anchorage Stop and part of the Harbour City stop are on private land
  - GMPTE
    - promotion of Metrolink is partly done by the PTE and partly by the operator though the latter is seen to be slightly ineffectual
  - Salford MBC
    - land to a total value of €4.9

- **TOD / TJD?:**
  - TOD (to some extend)
  - DBOM

- **Stage of development (proposed, planned, in progress or implemented):**
  - DBOM for Phase 2 has been implemented (though more extensions are planned)
  - TOD is in progress

- **Was there a bidding process, if yes, what was its nature?**
  - OJEC notice, 30 expressions of interest were received
  - pre-qualification process reduced number to 3 consortia, who received bid documents
  - ALTRAM were selected (who later did not win the contract for the Croydon Tramlink), consisting of John Laing (civil engineers), Ansaldo Transporti (tram manufacturers) and the Serco Group (project management group and operators – also operate Docklands Light Railway)

### 8. PROJECT COST (PLANNED / ACTUAL)
- **Total**
  - ca. €258 million for the Phase 2 extension to Eccles
9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

Eccles:
- Eccles New Road (on which the Metrolink runs) now sees decreased densities of traffic; this might be an evaporation effect continuing from the relatively protracted construction phase, during which traffic was severely impeded at times; it has not returned to the "before" levels since; cannot be associated wholly (but partly) to the tram, also there are other routes, which might have been chosen and stuck to; no actual counts before and after have been made.
- Eccles centre has changed a lot but it is difficult to disaggregate the synergies of measures such as the new bypass (M602), pedestrianisation of shopping streets, the refurbishment of the bus station and the arrival of Metrolink, which have all happened within the same time period.
- A number of residential developments within Eccles town centre had been empty and for sale for a number of years, the arrival of the Metrolink stop close by has attracted a private developer, who has modernised them and converted them into flats; proximity to Metrolink was used in the advertising brochure.

Salford Quays:
- It must be borne in mind, that the mobility behaviour of people working in the Salford Quays has developed over up to five years prior to the arrival of Metrolink so there is unlikely to be a sudden large shift; some people might change now, some might do so on days when they expect bad traffic, some might do it when they have to think about buying a new car and some journeys might only change when a new person takes over a job.
- The Lowry is being promoted as being accessible by tram even though there is a 200-300 m walk from the nearest stop; a new stop might be built though.
- How has Metrolink influenced developments at Salford Quays? Even if it was announced at some point that Metrolink would not come, the feeling in the LA and GMPTE is that development would have carried on as the momentum had already been set and Manchester is near by and running out of space to develop but it would probably have slowed, as Metrolink does function as a marketing tool; but potential effects are hard to quantify.

Tym & Partners Survey of Businesses in Salford Quays
- Main reasons for businesses to locate at Salford Quays (survey of 1998, extension was certain since 1996):
  o Established businesses: right unit available at the right terms (28%)
    - the need for expansion (15%)
    - Accessibility of the motorway network (14%)
  o Newly arriving businesses: right unit available at the right terms (26%)
    - the need for expansion (15%)
    - Accessibility of the motorway network (15%)
- 80% think Metrolink improves the image of Salford Quays and same amount thought it would enhance take up of office space.
- How will Metrolink affect demand for car parking?
  o Strongly increase 13%
  o Increase 17% (unofficial park and ride)
  o No effect: 35%
  o Decrease 30%
- 50% thought car journeys to work by car would decrease but only a very small number expected to reduce the amount of car parking spaces they provided (always free of
- the full number of jobs in the Quays at the time of the survey was thought to be 9800 jobs
- total commercial floor space available in 1995: 43,900 m²; still to let at the end of 1999: 14,280 m²

**Greater Manchester**
- Phase 2 Metrolink Extension has been estimated to have increased the GDP of Greater Manchester by €113 million, 26% of which occurs outside Manchester and Salford; as a result almost 1650 extra jobs are thought to have been created; 43% of these spill over to residents of other districts (CEBR study for GMPTE)
- PHASE 1 is generally quoted as having taken 2.6 million car journeys off the road every year; Phase 2 is estimated to have taken approx. 1 million journeys off – a little bit early to tell as there are both novelty effects and recovery from construction period effects, which might mask some of the actual long term changes
- 2001 total Metrolink ridership: 17.2 million GMTU analyse traffic throughout Greater Manchester latest figures are from 2000. The 2001 patronage is estimated at 18.3 million.
- Metrolink now features in the opening titles of Coronation Street, a major British soap opera; tram has become part of the urban image of Manchester (included in local news trailer for example)

### 10. FINANCING MODEL(S)

- **Main source(s) of funding the €258 million**

- **Contribution by each partner (amount and source)**
  - **€174 million from the private sector**
    - €153.3 million from ALTRAM
      - revenue sources to ALTRAM:
        - 87% in cash from ticket machines
        - 12% from period passes
        - 1% from local tickets to and from BR
    - €19.4 million from other private sector contributions: 50% land, 50% cash payments from developers whose projects depended on the tram line being built
      - *Property Exchange Trust*, developers of Exchange Quay, have provided about €4.8 million over 10 years towards financing the public sector investment
      - *Peel Holdings – Manchester Shipping Canal Company* are also contributing €4.8 Million > the argument was that the government made it a condition for granting the order under the Traffic and Works Act (or for giving the challenge funding???) that significant contributions from the developers, who would benefit from the scheme would be attracted; thus giving the money (contingent upon the scheme commencing and becoming operational) makes it more likely to go forward; contribution agreements thus formed part of the final funding package that was put before the government and to Europe
  - **€84 million from the public sector** (contract contains provision for repayments of “super profits”, but this would require a very large increase in the revenue, the contracts are more designed to ensure that the private sector does not “unduly” enrich itself rather than to give the public sector a pay back)
    - €16.1 million from ERDF
    - €40.3 million from GMTPA form sale of bus company to a private operator
    - €27.4 million from UK Government through capital challenge credit approvals –
comparatively small amount, in Phase 1, capital challenge credits were €250 million out of €258.2 total cost but at that time, the concept was seen more as a risk and any revenue gains that could be gained out of running a light rail scheme were not necessarily expected to be certain, thus it would have been more difficult to attract private sector funding.

- **Evaluation of investment risk**
  - after the success of Phase 1, the combined Phase 1 & Phase 2 contract was seen as a business opportunity to make profits out of running a good system and extending it: Phase 1 concessionaire made notable profit out of the operation of the system; (though concessionaire was still unhappy at the time as the compensation calculation was enshrined in the contract and worked to the benefit of the PTE - the earlier the contract was terminated, the better it was for the public sector)

11. **RELEVANT LEGISLATION**
- PHASE 1: Section 56 of 1968 Transport Act: enables the Secretary of State for Transport to give capital grants to large, new public transport infrastructure projects where there are exceptional reasons for spreading the cost beyond users and local charge payers
- route to the Broadway stop had obtained parliamentary powers through a private members bill in the British Parliament (pre-PFI procedure), the section between the Quays and Eccles obtained powers under the Transport and Works Act (see also Croydon Tram Link) through public enquiry (Transport and Works Act order); Order, once given, conveys the right to construct and operate the system and also the right to acquire properties through compulsory purchase order if necessary

12. **RELEVANT PUBLIC POLICIES AND STRATEGIES**
- revised *PPG 13* (national planning policy guidance) on Transport of 2001 now encourages maximum rather than minimum car parking space requirements for new developments but Salford MBC did not adopt such a strategy in its own Local Transport Plan, neither did Greater Manchester as a whole (the LTP process is to some extend co-ordinated among the GM MBCs as there is a lot of overlap of issues); thus now where there is a Metrolink connection, lower car parking provision “can be justified” (but has not actually been implemented)
- decreasing car parking provisions in general (not in the quays themselves), which result in a limited number of spaces available in new residential developments do make developments near Metrolink more attractive
- creation of *Enterprise Zone* at Salford Quays: relaxed planning regulations to attract developments

13. **RELEVANT ORGANISATIONAL STRUCTURES**
- GMPTE, GMPTA

14. **PLANNING PROCESS OF PROJECT**
- for Transport and Works Act Order, GMPTE has to draw up a proposal/application detailing the proposed scheme including route, stops, purpose and demand forecast; people can then comment and should enough people object in writing, a public enquiry is held by Secretary of State;
- Enterprise Zone was created at Salford Quays; tool is used to encourage the arrival of businesses; thus the layout of the building plots is structured to serve the car (parking, access roads etc.); though a route alignment for a possible Metrolink extension was protected as the possibility of it being built was reasonably strong, the route is not direct,
quite tortuous and therefore relatively slow “the tram goes in between the buildings rather than the other way round” (GMPTE)
- early 90’s the route was decided in consultation between traffic planners of GMPTE and Salford City Council; at the time The Lowry and the Designer outlet location had not been decided, otherwise the route might have been different; route was decided by what was there and was known to come
- developers / investors: determined land uses through their own feasibility studies to a certain extent; therefore Salford MBC feels they could not have been too prescriptive in selecting proposals for land uses as they generally wanted to see redevelopment in general and did not want to put off prospective investors through too many demands
- 1995: process of “procuring” the extension was set in motion with the intention that the new concession holder would also take over operation of existing system
- September 1995: capital challenge money was allocated to the scheme, which was when all public funding was in place and Phase Two became a relative certainty; but actual building still depended on receiving bids with pricing, which was more or less in line with the forecasts of the GMPTE
- July 1996: deadline for bids; they were in line with the forecasts and degree of certainty increased; by this time major office blocks with large car parks were already completed at the Quays as up to the opening of the Metrolink, public transport to the area was poor and it was difficult to get to other than by car
- May 1997: contract for the Phase 2 Extension (and take over of phase 1 operation) was signed with the ALTRAM consortium, operation of existing lines was taken over at the end of that month
- July 1997: work on line through Salford Quays to Eccles started
- December 1999: Cornbrook to Broadway section open
- July 2000: Broadway to Eccles section opened (official Royal Opening in January 2001)

15. PROJECT EVALUATION  (from the point of view of those involved in the project)

POSITIVE
- the developments and the Metrolink feed off each other to the extend that developers are more likely to locate where there is a good transport link and it is easier to make a case for the tram if you can show a large catchment /potential ridership; but Buildings definitely came first in this case
- the Metrolink has been very well accepted and generally the only complaints are related to overcrowding – victims of their own success; a study (by Oscar Faber consultants) established that users found Metrolink as good or better than they expected
- managed to minimise the amount of visual intrusion for example by combining electricity poles and lighting poles

NEGATIVE
- despite the arrival of Metrolink, the car parks constructed previously are still in place and used to capacity; this will probably be the case until there is no more undeveloped land, at which point the surface covered by car parks might become more interesting for other types of uses; there is only one example so far around “Customs House” (one of the Salford Quay developments), where land previously used for car parking has been built on
- on PHASE 2, there were some differences of opinion at times, particularly regarding the detailed work specifications; MBC interpreted the requirements set down to describe a higher quality execution than the ALTRAM consortium e.g. the coping of the platform edges within Salford Quays was specified to be granite to be in keeping with the rest of the area; MBC considered the platform to include both the level platform and the ramps
leading to it; ALTRAM defined platform as the level area only and thus made coping of the ramps of a composite material

- there is some feeling on the public side that Laings were not as co-operative as they could have been and stretched the margins for interpretation of the requirements too far for the purpose of saving money while at the same time sacrificing some aspects of urban quality; the MBC in return tried to pull hard in the other direction in the hope that the result would be somewhere near a level they would find acceptable; such a process can lead to entrenched and unnecessarily controversial proceedings

- at the moment, cyclists cannot use the trams (this it is considered normal on such a facility although the PTE are running a consultation on the issue)

TRANSLAND STUDY
- considered Phase 2 an example of integration of transport and land use planning; the evidence would suggest this conclusion needs to be disputed

LESSONS LEARNT
- experience with the differences of opinion on detailed design issues has lead to the production of a local authority design guide (paid by GMPTE) specifying in great detail the meaning of certain terms to give bidders a good idea of what exactly they have to price for, the requirements that the designs have to fulfil and also to prevent future misunderstandings; specifies the detailed landscaping requirements e.g. down to number of trees for certain areas, types of paviours to be used, etc.; is intended to ensure that all parties know exactly what the common goals are

- GMPTE: would have gone to Salford City council at an earlier stage and would have worked up a detailed design guide that was agreed between both parties and would have gone to the bidders; possibly at the same time that powers were sought from UK government so that the design specs become a condition under the powers

- GMPTE: would have wanted to secure a more direct and thus faster route through the area – current route determined by the location of the developments rather than the other way round; land use planning has lead rather than followed “but it’s nobody’s fault”; London Docklands was the other way round

- Salford City Council: having earlier contacts with everyone involved in the process, as will hopefully happen with Phase 3 – though it is already too late to make significant changes to the route for example

- Salford City Council: detailed design guide, earlier consultation with all parties, would help to shorten the process once concessionaire has been chosen; also operators would be brought in at the tender stage; this was not done with Phase 1

GENERAL COMMENTS
- transport investment in Britain is behind other European countries (CfIT Report)

Some information on PHASE 1 of Metrolink

public partner was GMPTE

PHASE 1: 15.9 km Bury to Victoria Station, 10.4 km Altrincham to Gmex and 3.8 km city centre tracks; 25 stops altogether two old railway lines (now connected through the city centre) used by the service carried about 7.6 million passengers a year; GMPTE forecast about 11 million on Metrolink; private sector estimated 9-10 million; 4 years after opening, the services carried 12.7 million, now over 15
million – but even at that level super profit clause did not take effect; investment was partly offset by savings from the heavy rail subsidies

PHASE 1 Impact Study for GMPTE, by Salford Uni, 1994:
- peak patronage was below expected levels (due to unplanned prolonged shut down of predecessor rail services on the same routes), also competition on Bury line from buses with much cheaper fares originally put on to replace rail link during construction period), off-peak well above forecast
- modal change: 2.5 million not made comparable trips before Metrolink
  - 3.3 million from car
  - 2.6 million from bus
  - 3.5 million from rail
  - 0.2 million from other
  TOTAL 12.1 million
- financial support for city centre workers for car based travel to work increased between 1990 and 1993, main modal switch to Metrolink here was from bus
- found no evidence for impact on retailing, leisure activities, housing and office markets – but early 1990s saw a heavy recession, study identified a lack of pro-active planning to influence developments towards the Metrolink corridors and also a lack of integrated planning since deregulation of the buses
- IMPORTANT: evidence from the USA suggests that proactive development incentives are needed to encourage offices, shops and high density housing to cluster around rail transit; the effects may be very long term and might not become obvious till up to 20 years after the development is completed

PHASE 1 OSCAR FABER STUDY, 1996
- number of trips altogether higher than forecast in Section 56 appraisal, but fewer trips to the city centre and more within corridor trips (assumption made by forecast modal were different from what happened in practice)
- evidence of impact on car use is inconclusive; reductions is car travel have occurred in the two corridors served but also in at least one other corridor not served by Metrolink; traffic levels overall have risen
  - transfer: 12.5-14% from car but overall impact related to car flows are modest (e.g. 4% of cars into city centre during morning peak)
  - 25.8-28.2% from bus
  - 57-61.1% from rail (not surprising as rail services were removed
- commuters who had to pay for parking were significantly more likely to switch to Metrolink than those who could park for free

GMPTE dispute the EU Project’s TRANSLAND assessment of the Phase one process put to them, which said that the co-operation between MBC highway engineers and the consortium could have been better; it was considered to have been excellent.
NETHERLANDS
MAIN RAILWAY STATION, AND ADJACENT MIXED USE DEVELOPMENT AREA
“PALEIS KWARTIER”
’s Hertogenbosch, Netherlands

Project: redevelopment of the main railway station incorporating public plazas on both sides of the tracks as well as a pedestrian walkway, which functions as the main connection from the town centre to the east of the station to a new development in the west; the latter was also developed under PPP

Terms and Abbreviations:
LA: local authority (of ‘s Hertogenbosch)
Railinfrabeheer (RIB): public company, responsible for national rail infrastructure including operational parts of railway station (platforms etc.); operate in direct responsibility to the Dutch government;
Nederlandse Spoorwegen (NS): Dutch National Railways, have been effectively privatised, operate on a self-financing basis and are planning to go to the stock market

1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - local authority area: 9,127 hectares
  - Paleis Kwartier: 120 hectares

- **Population density overall / in districts served by facility:**
  - Overall: Inhabitants: 130,502; = 14.3 inhabitants per hectare
  - trend: population slowly growing (1.1% in 2000)
  - original projections for the PALEIS KWARTIER were 10,000 employees, 15,000 students and 2,500 households; this will now be exceeded as the development plans have been changed in view of the success of early phases

2. EXISTING CHARACTERISTICS

- historic city centre of ‘s Hertogenbosch (54 hectares) about 500m east of the station
- the area of the Paleis Kwartier comprised two old industrial areas, a sports complex, the city art college, the Willem I-base (A-level college), an isolated residential zone; there are also existing higher education institutions and student residences
- the economy of ‘s Hertogenbosch (unemployment rates 4.1%), and the South of
Holland is healthy; businesses relocating from the West generally go south rather than north
- in 2000 the majority of people in Den Bosch worked in:
  o trades and maintenance (18,661),
  o service sector (17,639); health sector
  o (12,152) and
  o industry (9,951)
- the various trade schools and higher education colleges west of the station attract about 15,000 students (including those who used to visit campuses in the town centre)

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- “land use issues were the main issues in Den Bosch, the intention was to de-isolate some areas west of the railway station so they would revive; another issue involved the accessibility of the city centre and the surroundings of the railway station”
- bus use generally decreasing, only increases are in feeder function for the railway
- the main bus station was directly adjacent to the rail station but with difficult interchange facilities

4. EXISTING RAIL TRANSIT FACILITIES
- the first station in this location was destroyed during the war and rebuilt afterwards, with a large number of adjoining buildings, which were not linked together as a coherent whole; this was the structure, which was to be replaced by the new station
- there were about two trains each hour to all major destinations in the southern and western parts of Holland
- rail: regional and national train lines stop at ‘s Hertogenbosch station; passenger numbers were rising and there was need for greater capacity, including another platform, which could not have been built on the west side due to spatial constraints – the existing foot bridge giving access to the platforms could no longer cope with the passenger numbers (26,000 per day in 1992/3, has now risen to about 50,000 a day – this trend is according to the projection; and growth is expected to continue, partly due to a healthy economy and increases in resident and user numbers from the Paleis Kwartier) and the building was also too small
- existing forecourt (station square) was a great mess of cars, buses, taxis and bicycles; dangerous for pedestrian
- journey times to major destinations (in hrs and minutes - assuming no congestion!)

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<td>Paris</td>
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5. EXISTING REAL ESTATE ISSUES
- major functions coming from the city centre (Court of Justice, Higher education college) were to be relocated
- the industrial area was run down and unattractive

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**  
  - local authority: wanted a new station and a better connection across the rail tracks (were unsure in the beginning what the NS wanted as due to re-organisation of the latter during the planning, the contacts for different aspects of the project within NS changed a lot)
  - Railinfrabeheer (only involved in the station project; they have no direct involvement in the development of the PALEIS KWARTIER)

- **Private**  
  - champion

**STATION**
- NS (NS also were not involved with the plans for the PALEIS KWARTIER)

**PALEIS KWARTIER**
- was: Kondor Wessels Projecten BV, then passed over to CREDO Integrale Planontwikkeling BV (full daughter of Kondor Wessels) and the city development corporation, which together formed the private company Paleis Kwartier Development Company

7. PPP PROJECT
- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - inside the station there was a ticket office, flower shop, newsagent, some cycle parking and a restaurant
  - 150 car parking spaces
  - bus station was existing but very differently organised
  - the only way to cross the tracks was through a road tunnel which also provided a pedestrian pavement
  - Paleis Kwartier: was a run down industrial estate from the 1950’s

- **(Planned) new facilities / land uses (see above):**
  **RAIL SERVICE:**
  - services have been doubled to four trains an hour to all major Dutch destinations

  **STATION:**
  - architecture follows function of the different elements as the latter was the leading force of the project
  - a passarelle (bridge over the tracks) linking the east and west sides of the town as well as functioning as the main axis of the station building itself; there are no doors so it works as a public thoroughfare at all times of day, also as a connection from the bus station to the new developments and the schools on the other side (Problem: safety is a problem at night however, there have been proposals to shut the bridge at night but at the moment an increased police presence is being discussed) – there are
also plans to perhaps build a second footbridge further to the south
- the old cast iron roofs of the platform were maintained and refurbished for their historical & cultural interest and to keep some of the character of the old station; worked together with a Hungarian civil engineer who worked with the State Heritage Society to research original colours etc.; supports were all corroded and had to be replaced by specially modelled concrete supports
- lighting of the old sheds was changed to increase brightness and also save energy
- double escalators both up to and down from the passarelle from street level on both ends and to all the platforms (busiest platform has them on both sides of the passarelle)
- a 90m X 90m forecourt, which is be completely reserved for pedestrians; cycle parking is prohibited for more than half an hour; bikes, which remain longer are removed; town wardens are responsible for this; retrieving a bike costs €13 – this even happened to the City Development Project Manager
- kiss and ride lane in car turnaround next to the forecourt
- restructured main bus station (about 1 ha) – waiting buses have been relocated to shorten distances between stops
- underground car parking (pay to stay) directly beneath the station - 300 spaces
- underground secure cycle parking (pay to stay) directly beneath the station on the East side – 3,000 places
- sheltered cycle parking on the West side
- new ticket office; ticket machines, left luggage lockers in central location;
- shops: several fast food outlets; a delicatessen also open evenings and on Sundays; a jewellery and gift shop; florist; newsagent;
- conference centre for small and medium size events
- floor spaces:
  o retail: 2,400 m²
  o ticket office: 240 m²
  o passerelle: 1,150 m²
  o other public spaces: 900 m²
on the station square:
- restaurant and café with outside seating
- record shop
- police station
- train taxi stop

PALEIS KWARTIER (FINANCED THROUGH PPP):
- Regional court of justice; was the first major new tenant and once convinced to move functioned as an anchor to attract other major tenants/owners like the bank (owned by ING BANK, rented out to the National Building Agency, who rent it out to the Ministry of Justice)
- new housing, most apartments are owner occupied, some rented and there is some subsidised rented accommodation as well
- office blocks, both the latter with some trade uses on the main streets at ground level
- large underground parking lot built by CREDO, then bought by the local authority
- users/employees come from the whole region and mostly by train

• Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):
Public:
- LA provided the passarelle financing as urban design requirements meant it would be 4.5 metres wider (10 m altogether) than would have been necessary to fulfil the purely transport related functions
- LA also financed underground car and bike parks, operates them and takes the revenue
- LA as PT commissioner financed the bus station
- Railinfrabeheer built the station building itself
- Railinfrabeheer built the passarelle and rebuilt the platform sheds

Private:
- land for buildings and part of the forecourt came from NS in its old organisational form, when all functions were still “under one roof” (decision making process nowadays would be very different)
  - transfer of land to Railinfrabeheer for buildings (parts) with transport functions is financed by the government
  - there is also ‘internal’ transfer between NS Vastgoed and NS Stations for the commercial areas
- marketing for PALEIS KWARTIER was done by estate agents, who are also part of the CREDO group
- NS Stations built the commercial spaces including the conference centre
- NS Vastgoed (real estate and property development) built the adjoining buildings
- buildings, services, marketing

• TOD / TJD?:
  - station is TJD; Paleis Kwartier is TOD

• Stage of development (proposed, planned, in progress or implemented):
  - implemented

• Was there a bidding process, if yes, what was its nature?
  - no, the private developers Kondor Wessels Projecten BV (a building contractor) already had options on some of the land parcels in the industrial estate, knowing what the plans for the area were and the local authority development corporation then sold them some of their own land, which they wanted to get off their portfolio. This was prior to formation of Paleis Kwartier Dev. Company the Dev. Company was formed by the LA and CREDO, a full daughter of Kondor Wessels Projecten BV
  - NS Real Estate had also been approached to ask if they were interested in the new development but they were not

8. PROJECT COST (PLANNED / ACTUAL)
• Total:
  - station building was €16 million
  - footbridge €11 million
  - sheds €4.5 million
  - third platform and rail infrastructure €41 million
  - urban space €10 million (only above ground facilities on both sides, not underground
car and bike parks)  
- new bus station not yet known

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT  
- improved accessibility  
- improved social climate  
- more business tax for the local authority

10. FINANCING MODEL(S)  
- **Main source(s) of funding**  
  - PALEIS KWARTIER: developed through a consortium comprising a private developer and the Local Authority Development Agency, who originally entered an agreement but then formed a common development company PALEIS KWARTIER DEV. COMPANY in which both organisations hold shares  
  - financial responsibility for station building rests with NS Real Estate and NS Stations and Railinfrabeheer

- **Contribution by each partner (amount and source)**  
  - t.b.c.

- **Modes of evaluating investment risks**  
  - Paleis Kwartier Dev. Company: generally, public partners undersign a greater share of the risk in the early stages of a project; later on, the balance shifts with the private partners taking a greater share of the financial risk (e.g. LA agreed to finish the bridge on a certain deadline; if this had not happened, the Court of Justice would not have taken over the new building and therefore loss of revenue through lost rents would have been incurred by Paleis Kwartier Dev. Company; LA also first purchases the land but this is later sold on, generally at increased prices / market value; only in exceptional circumstances is a concession given;) In PALEIS KWARTIER, local authority provided added value through providing the high quality public areas, giving building concession for more than three storeys, would also clear up contaminated land for example

11. RELEVANT LEGISLATION  
- Article 19 of Dutch planning regulations: planning permission can be granted even if the structure plan has not been finalised as long as there are no official objections; this is normally only applied in the case of very small developments but here it was used for the whole of the PALEIS KWARTIER (not for the station project, however)

- Compulsory Purchase Orders: possible, but they involve a fairly complicated process and are not often used, only for relatively small pieces of land; was only used for minor areas in this project (PALEIS KWARTIER).

12. RELEVANT PUBLIC POLICIES AND STRATEGIES  
- Ministry of Urban Development has a strategy to (re-)develop rail based locations; were used as allies to convince the court of justice via its ministry to accept the proposals for relocation;

- National White Paper on Urban Development also states that public private partnerships between local governments and private investors – such as PALEIS KWARTIER DEV. COMPANY - are encouraged. This policy is promoted together with the Ministry of Finance
13. RELEVANT ORGANISATIONAL STRUCTURES

Local authority
- The development corporation is part of the local government but it is financially independent with its own income and expense and can operate without further authorisation up to an amount of €5 million
- It also deals with public real estate in general and its budget cannot be reallocated to any other area of LA activity; not a profit making organisation but has to finance itself
- The possibility for local authorities to become partners/shareholders in private consortia exists all over the Netherlands but Den Bosch has started making use of it earlier and has taken it further than most

Railinfrabeheer profile
- Maintaining existing track in the Netherlands and laying new tracks, as well as building and maintaining stations, tunnels and railway viaducts are the core tasks of Railinfrabeheer. The organisation also swings into action in the event of any disruptions, for example if a catenary line breaks following lightning strike, or a set of points is not working correctly. The purpose of all these efforts is to ensure that trains are able to travel on the network safely, rapidly and comfortably.
- In the near future, the Ministry of Transport and Public Works will become responsible for Railinfrabeheer, and its fellow task organisations Rail Traffic Control and Railned. As a consequence, safety, control, management and innovation on the railway network will all be under a single, neutral command.

NS Group – Re-organised in 1995
- The holding company under the umbrella of the NS Group consists of
  - Finance & Administration,
  - Legal department
  - Corporate communications,
  - International Business Group,
  - Information Management & Technology
  - Internal Audit Department
  - Management Development and social affairs
### Bus operator
- private company commissioned by the regional LA transport association; LA thus paid for the bus station

### Paleis Kwartier Dev. Company
- as shareholders, the LA still has to make its accounts accessible but in order to facilitate work with private partners, the auditing can be done by a closed commission of the council and figures do not have to be put in the public realm
- risks up to €5million can be underwritten without having to get authorisation from the official committees of the council; only the closed auditing commission oversees these financial transactions

### 14. PLANNING PROCESS OF PROJECT STATION:

#### Decision for action:
- station was to small
- den Bosch was originally at second place on the NS list of priority for action behind Arnheim
- local authority felt it would take too long to wait until their turn came because they wanted to redevelop the Paleis Kwartier and had entered a contract with the developers, which stipulated that the new railway crossing had to be finished at the same time as the first new buildings (1994?), the urban development of high quality public spaces on both sides of the station was also part of the agreement
- LA convinced NS that it was dedicated to building the new station and footbridge and a preliminary agreement was signed. The LA agreed to pay for the footbridge and also convinced NS that it would be able to solve all problems there might be in connection with the local structure plan and they did
- some procedures were speeded up by using Article 19 of the planning regulations (normally only used for minor decisions). The decision to use this procedure lies with the local government and it makes it possible to proceed with a scheme before all the detailed decisions have been taken
- it is less “democratic” but there is still a requirement to make the plans public and the procedure can only be applied, if there are no major objections to a scheme – so the public was still consulted

#### Public consultation:
- 1st level: regarding the whole concept for the new station, forecourt, adjoining buildings and the Paleis Kwartier; originally many people wanted to keep the old station and there was a lot of discussion of the historic value of the old sheds; discussion had some influence on the decision to keep them as this was quite a large additional cost factor; LA says there was no major opposition against the concept
- 2nd level: specific plans for the buildings were discussed to a lesser degree

#### Planning consent:
- was given under the Article 19 procedure (i.e. before structure plan was finalised) before the re-organisation of NS and in 1995 the newly formed NS Group was therefore presented with the plans as approved. As a result, no further changes could be made to the main architecture, structure and lay out, it would only be possible to change internal lay-out plans and floor space uses. LA thinks it would not have been possible to apply Article 19 again if the new NS had insisted on making
major changes

Changes to the original plans:
- until the last moment, it was still intended to have the buses crossing the forecourt – virtually by force of habit because that was how it had always been; then new station building was moved towards city centre by 8 metres so buses could pass around the back and underneath of the station parallel and on the same level as the tracks
- there were plans to move the bus station to the other side of the rail tracks as access to the regional road network would have been much more direct; but passenger surveys showed, that only 20% had a destination in the new developments; 80% came to go to the old town; current location is not ideal from technical point of view but is more user friendly
- after NS re-organisation in 1995, the new NS Stations became part of the project consortium. They paid for the retail part of the station and made a requirement for more retail floor area than had originally been part of the brief. As a result, the brief had to be changed and the rail ticket office is now in a “blind corner” (though still at the city end of the passarelle), which is commercially less interesting and there is no waiting room for the bus passengers. The space originally intended for this was given to two fast food outlets
- the seating area above these outlets has been closed down as it was not supervised in any way (no through way to other parts of the station, no other adjacent functions) and it became a hang out for youths and the homeless (“loitering”)

PALEIS KWARTIER
- new occupants largely came from the old town (Court of Justice; Business Bank; new education buildings) but needed room for expansion and there were also accessibility problems in terms of transport
- original idea was for developers to get in and upgrade the run down industrial estate into a modern business park
- LA first had a contract with the developer committing the LA to providing the passarelle and the two station squares in time
- when it was seen how successful the first office and residential developments along the central axis (continuation of the passarelle) were, it was decided to form a private development company between the developers Kondor Wessels Projecten BV and the LA, the Paleis Kwarter Dev. Company in which both parties are shareholders and to develop the area for mixed use on a much larger scale than originally envisaged
- within Paleis Kwarter Dev. Company, LA first purchases the land; once planning consents have been given and the development work starts, the land is sold to the private developer (except for the public spaces)
- PALEIS KWARTIER DEV. COMPANY also entered the bidding process for the expanded development area of PALEIS KWARTIER – and won!
- development was planned in stages and the second phase responded in scale to the success of the first (higher density, different uses, etc.); this is seen as the most appropriate way for a relatively small town as Den Bosch; equally the PPP became “tighter” as the project progressed
- the urban design concept was mostly based on the existing street layout in such a way that the area could be developed block by block without having to commit to future development at too early a stage in the process but at the same time not risking disconnected and disparate development patterns as building activities spread from the central axis outwards
15. PROJECT EVALUATION  (from the point of view of those involved in the project)

EVALUATION BY PROJECT MANAGER OF RAILINFRABEHEER

do’s:
- using the overall vision as a criterion for each decision, only those ideas were accepted, which supported the overall vision
- flexible planning: if for some reason adjustments had to be made, people did not insist on the original plans
- CHEMISTRY BETWEEN PARTICIPANTS: the good fit between the participants meant that decisions would be taken in harmony and would thus be supported by everyone. Furthermore it was noted that all participants were part of the process for the entire duration of the project
- a project in Eindhoven is now following in the footsteps by trying to emulate the process that led to the Den Bosch project

don’ts:
- the accessibility of the new area depended partly on a new road; because this road has not been realised, lots of traffic jams occur. this presents a major problem for the bus services to and from the railway station

EVALUATION BY LOCAL AUTHORITY CITY DEVELOPER

problems:
- in the beginning it was hard to know, who the main partners for communication and decision making were in NS as they were in the process of restructuring; first spoke with the architect, then with the project manager of Infrabeheer but every time it was thought that all the responsible people had been consulted another technical expert would appear, who also had to approve certain elements of the scheme, sometimes also stipulating changes
- homeless were seen as a problem as they liked to mill around the entrance area and the developers (of buildings around the square) saw this as a problem and asked for them to be moved. Den Bosch has some shelters for the homeless but they like the station location. Some people don’t like to use the lifts because they feel uncomfortable
- URBAN SPACE is not perceived as safe; there is a feeling of unease due to the presence of the homeless; but this is mostly a problem of perception rather than there actually being higher incidences of attack or harassment than in the rest of the city
- all activities were negotiated and laid down in contracts – including the changes to the contracts (which is why uncertainties about the NS responsibility were quite a problem in the beginning)

positive points:
- extremely important and helpful that all partners clarified their goals and that common goals were agreed early on; people who co-operate must speak the same language and understand each other
- for PALEIS KWARTIER it was advantageous to go into partnership with a construction company rather than a pure property developer as their actions are generally more immediate (they want to build) and less speculative (developer motto: let’s wait another year or so since the market might improve)
- Partners looked for synergies: LA wanted to remove barrier so RI could provide a bridge; in the beginning, there were three representatives of each organisation communicating; co-operation depended strongly on those individuals ("champions?");
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**design issues took a back seat; in the beginning the discussion centred around the requirements and the cost issues, setting parameters for the design;**

- station is modern in its organisation as it functions as a complete transport node (car, train, bus, bikes, pedestrian) arranged within the smallest possible area to give the shortest possible transfer routes

- LA insisted that shops would be placed in the middle of the passarelle to ensure that the railway station character was maintained through open views onto the platforms and tracks; preventing the experience of being in a shopping mall.

**Generally agreed points:**

- nowadays, nobody regrets having lost the old station, this is taken as an indication for a successful high quality project, architect thinks that it is important to create a sense of place, a bright and accessible place

- all commercial units are now occupied but there are reasonably frequent changes, especially among the restaurants and cafes as the inner city is seen as a more attractive destination for eating and drinking out

- Problem: safety is a problem at night however, there have been proposals to shut the bridge at night but at the moment an increased police presences is being discussed

- the decision to move the bus lane away from the forecourt: this solution was a result of continuing communication and openness for new solutions; there was no desire to “blame” each other for any problems but to solve them together

- measures allowing LA to operate as part of a private consortium make it easier to deal with private partners but the process becomes less transparent for the public eye; but the process is considered to work well

- high quality architecture is essential for a successful project

- the BRIEF (put together in 1993) was extremely well worked out, very detailed and binding (has acquired model character): included details on facilities, transfer, connection function; relationships between routes etc. but was flexible enough to accommodate changes in e.g. the type of tenant in different commercial units

- All the partners made compromises and were prepared to pay for quality.

- Though creative processes and financial processes were generally separated to let each group do what they were best at, the processes were regularly brought together in the project working group
SPAIN
## CATALONIA PLACE / BARCELONA

*Catalonia, Spain*

### 1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - Area of Barcelona: 99 km²

- **Population density overall / in districts served by facility:**
  - Parc – Gotic – Raval: 63,710 inhabitants
  - Barcelona: 1,505,325 inhabitants (2001) = 15,176 inhabitants/km²

### 2. EXISTING CHARACTERISTICS

- Barcelona is the Capital of the Autonomous Region of Catalonia
- Catalonia Place consists of: Parc – Gotic – Raval and is situated in the heart of the city

### 3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES

- Barcelona has a well developed and relatively modern transport network covering all modes
- Connections between: bus, metro, national-regional-local railway
- Parking in the study area: 2,303 places
- Congestion: is quite high but the trends show that the traffic in central streets decreased by around 7.5% in the 1990s
- Pollution: 1995 – 2000 the particulates decreased but the Noₓ stayed the same; trends in pollution (CO) between 1995 – 2000 decreased also

### 4. EXISTING RAIL TRANSIT FACILITIES

- National, Regional and local railway

### 5. EXISTING REAL ESTATE ISSUES

- Around this area there are: flats, a business centre, commercial centre and public monuments

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- **Public**
- **Private**

### 7. PPP PROJECT

- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**

- **(Planned) new facilities / land uses (see above):**

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
PPP TRANSIT CASE STUDIES

European Centre for Transportation and Logistics, TU Harburg

- TOD / TJD?:
- Stage of development (proposed, planned, in progress or implemented):
- Was there a bidding process, if yes, what was its nature?
- If not, how were partners selected?

8. PROJECT COST: PLANNED

- The Infrastructure Master Plan 2001-2010 (PDI) embraces all public transport infrastructure measures for the ten-year period from 2001 to 2010 within the metropolitan region of Barcelona, independently of the administration responsible and the operator which will operate it.

- The PDI contains four different elements:
  - Network Extension Programme.
  - Interchange Programme.
  - Network Modernisation and Improvement Programme.
  - Measures affecting the state railway network.

- Total

- The expected total cost of the plan is 742,000 MPTA (≈ 4,500 Mio. €)

- distributed as follows:
  - 100,000 MPTA (≈ 601 Mio. €) for the Modernisation and Improvement Programme,
  - 438,000 MPTA (≈ 2,631 Mio. €) for network extension,
  - 30,000 MPTA (≈ 180 Mio. €) for the Interchange Programme and
  - 174,000 MPTA (≈ 1,045 Mio. €) for measures affecting the state railway network.

- The PDI 2001-2010 involves the construction of 75 kilometres of metro lines, local railway and tram lines and 77 new stations, as well as 26 interchange stations.

9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

10. FINANCING MODEL(S)

- Main source(s) of funding

- According to the financing proposal, the funds necessary for this huge investment programme will be provided by the Generalitat of Catalonia (44.1%), the State General Administration (42.3%), the Local Authority (3.3%) and the European Union (10.3%)

- Investment in Barcelona Transport System:

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<td>9.7</td>
</tr>
<tr>
<td>Existing and new Bus infrastructure</td>
<td>180</td>
<td>0.2</td>
</tr>
<tr>
<td>Existing and New Pedestrian Infrastructure</td>
<td>5,920</td>
<td>7.2</td>
</tr>
<tr>
<td>Existing and New Cycle Infrastructure</td>
<td>30</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>82,720</td>
<td>100.0</td>
</tr>
</tbody>
</table>
11. RELEVANT LEGISLATION

12. RELEVANT PUBLIC POLICIES AND STRATEGIES

13. RELEVANT ORGANISATIONAL STRUCTURES

- **ATM** (Metropolitan Transport Authority) plays the role of financial co-ordinator within the system, and acts as its sole, central, financial axis.

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ATM
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14. PLANNING PROCESS OF PROJECT

15. PROJECT EVALUATION
A WATERFRONT BASED ON CONTEMPORARY ART / ABANDOIBARRA

Bilbao, basque country, Spain

Project: A new cultural area and business centre is to be set up on the waterfront in Bilbao, as part of the plan to revitalise the city. The area is located between two major landmarks of the Bilbao of the future: the Guggenheim Museum Bilbao and the Euskalduna Conference and Concert Hall. It will feature a new business centre (downtown) based on mixed use activities, particularly international business services, retail activities, housing, culture and social infrastructures.

1. DEMOGRAPHICS
- Area size overall / district served by facility:
  - Area of Bilbao: 41.25 km²
  - Abandoibarra: 345,000 m²

- Population density overall / in districts served by facility:
  - In terms of population, Metropolitan Bilbao is the fifth most populated metropolitan area in Spain, behind Madrid, Barcelona, Valencia and Sevilla.
  - Area of Bilbao: 9,325 inhabitants per km²
  - Bilbao: 372,786 inhabitants
  - Bilbao and suburbs: + 1 million inhabitants

2. EXISTING CHARACTERISTICS
- Abandoibarra is located in the heart of the city. Situated strategically on the edge of the 19th century expansion of the city, one of the highest income neighbourhoods, this site is presented as the new cultural and business centre for Bilbao. Two major structures, the Guggenheim Museum and the Euskalduna Conference and Concert Hall are the key landmarks of a project that includes also the construction of 80,000 m² of office space, a 27,000 m² shopping centre, a luxury hotel, university facilities and 800 housing units as well as an addition of 122,000 m² of green spaces.

Economy:
- The convergence of interest rates within the process of European Economic and Monetary Union proves that the observed economic growth has not been caused by inflationary tendencies, but has mainly been brought about by the private sector, and especially high business investment, which has represented 25% of the Basque GNP.
- The expansion process has seen itself strongly reflected on the job market, so that last year saw the creation of 8,600 new jobs in Bizkaia, mostly in the area of the Bilbao metropolis, therefore bringing down the unemployment rate in the province by 1.6% to 18.7% at the end of 1998.
- During the second half of 1998, Basque exports suffered a drop, partly caused by the...
crisis in certain parts of Asia, Latin-America and Russia, but also partly due to the difficulty of maintaining the high growth rate of the last three years.

Urban structure:
The future state of the Metropolitan Area of Bilbao in relation to urban structure, which the Revitalisation Plan aims to fulfil, is typified by the following elements:
- Availability of housing blocks which satisfy both quantitative and qualitative necessities of the metropolis' population.
- A system of infrastructures and collective equipment that provides an excellent urban habitat and a high quality of life.
- Various emblematic buildings which contribute to the social and cultural centrality of the metropolis and to improving its external image and appeal.
- The planning and management zone involves the different public administrations and private initiatives in the process of urban regeneration and allows the fast implementation of the plans that will be developed at different levels.
- The recovery of the damaged urban infrastructure through the exploitation of the obsolete or abandoned industrial spaces and the rehabilitation of the old town.
- An estuary that constitutes the vertebral axis and integrated element of the metropolis and is a distinctive factor of Metropolitan Bilbao's attractiveness.
- The success of urban regeneration in the Metropolitan Area of Bilbao constitutes a crucial factor of internal awareness and of a new external image. The recovery of the estuary as a vertebral and integrated axis of the metropolis and its sanitation will decisively contribute to the increase of quality of life and to the improvement of the attractiveness of the large city. The maximum exploitation of the geographically close mountains, beaches etc. can also contribute to the improvement of the competitive status of Metropolitan Bilbao. Finally, the availability of housing blocks, high in quantity and quality, that are based on a complete system of infrastructures and equipment, can constitute a key factor in the location of businesses and highly qualified human resources.

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- The Revitalisation Plan aims at the attainment of a communications system for the Metropolitan Area which displays the following characteristics:
  - A system of internal mobility that increases the connection among the different sub regions which compose it. In the same way, it should rely on a system of competitive, efficient and modern public transport, which provides fast and comfortable journeys which can be an ecological alternative to individual motorised transport.
  - A connection with the highways and railroad axis of communication leading to the rest of Europe, becoming an important node of communications that allows it to occupy a central status in the Atlantic Arc.
  - A Port with suitable installations in the Exterior Abra, which allows the liberation of areas that nowadays occupy the urban centre, well connected with the other systems of transport and with an offer of services of added value which allow the port to be protagonist in the transformation and economic development of the Metropolitan Area and in its role of centrality.
  - An Airport in Sondika as a vertebral axis of the aerial connections in the Atlantic slope, and with an extensive offer of regional, national and international services.
- One can deduce from this description of the future state of the communications system of the Metropolitan Area that its competitive advantage compared with other European metropolises will be based on exploiting its fine geographic situation to become the centre that articulates the North-South and East-West axis. This centre will have railroad connections with Europe, the availability of a Port of great magnitude, multiple
The main problem of the metropolitan road network presently lies in the enormous amount of traffic recorded, bringing about a situation of congestion and saturation on the main incoming roads, all of which are developed on the basis of a vulnerable network that suffers from the fact that the roads are not organised in order of importance and are poorly interconnected.

Thanks to investments of 327,000 million pesetas, the New Bizkaia Road Plan, which should have been completed by 2016, hopes to deal with the most important changes to the Bizkaia road network. Among these actions are those of improving the road infrastructure and the development of an Intelligent Transport System.

### 4. EXISTING REAL ESTATE ISSUES

Metropolitan Bilbao is not clearly considered as a centre of attraction for new residents any more than other cities, although this Opinion has improved considerably with respect to the previous Opinion Poll. Hence, 37% of the those polled believe that the Bilbao metropolis attracts many or a quite a lot of residents in comparison with other cities, against the 17% of 1997.

There is an obvious rise in confidence as far as the economic future is concerned, undoubtedly boosted by the favourable results of 1998 and the progress made with respect to the regeneration process of the Bilbao metropolis.

### 5. EXISTING RAIL TRANSIT FACILITIES

**Suburban Train:**
- Renfe Cercanías: 4 routes, route length: 77 km, passenger boardings: 25.18 Mio., 23 vehicles, traffic income: 1,600.3 MPTA (≈ 9.62 Mio. €)
- Feve Cercanías: 2 routes, route length: 33 and 27 km, passenger boardings: 1.86 Mio., 11 vehicles, traffic income: 211.2 MPTA (≈ 1.27 Mio. €)

**Bus:**
- EuskoTren: 12 routes, passenger boardings: 3.58 Mio., 32 vehicles, traffic income: 373.1 MPTA (≈ 2.24 Mio. €)

**Complete Network:**
- 13 operators: 13 (Metro + EuskoTren + Renfe + Feve + Bilbobus + Bizkaibus + 7 private companies)
- Veh. km per year: (1999):
  - Metro Bilbao: 2,597,238
  - EuskoTren Tren: 2,313,600
  - EuskoTren Bus: 1,998,800
  - Renfe Cercanias: 2,600,000
  - Bizkaibus: 26,171,800
- Interchange Stations:
  - Metro Bilbao: 27
- The railway system presently existing in Metropolitan Bilbao shows a series of serious defects, therefore placing it in an unfavourable position within the European system of land transport, and seriously hindering its revitalisation. In this sense, the EU is offering incentives for investment of the Cohesion Funds in financing railway systems which, while contributing to regional co-ordination, will also benefit freight transport by train rather than by road, in view of the fact that the latter is responsible for higher contamination and general deterioration of the environment.

- The delay experienced by the so-called Basque "Y" railway project is only aggravating the exclusion of Metropolitan Bilbao from European communication arteries and threatens to isolate it from the main Madrid-Paris artery.

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

- Transport Consortium of Bizkaia was created in December 1975 as an organisation independent from its members. Its money comes from the Basque Government, the Diputacion Foral of Bizkaia and from operations. The Board has 26 members:
  - Basque Government: 13 members
  - Diputacion Foral de Bizkaia: 2 members
  - Ayuntamiento de Bilbao: 2 members
  - Other municipalities: 9 members

- Current President of the Transport Consortium is the Diputado General of Bizkaia and the Vice-President is the Alcade of the Municipality of Bilbao.

**ROLE:**

- In charge of the building of the metropolitan railway of Bilbao and of its operations through the company Metro Bilbao SA. Coordination of public transport networks in Bilbao and progressive integration of the different operators.

**Partner shares in Ria 2000:**

<table>
<thead>
<tr>
<th>MEMBER SHARE</th>
<th>Basque Government</th>
<th>Diputacion of Biskaia</th>
<th>Municipality of Bilbao</th>
<th>Municipality of Barakaldo</th>
<th>SEPES (INFOINVEST S.A.)</th>
<th>Port Authority of Bilbao</th>
<th>RENFE (Central Administration Railroads)</th>
<th>FEVE (Basque Railroads)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 %</td>
<td>15 %</td>
<td>15 %</td>
<td>5 %</td>
<td>25 %</td>
<td>10 %</td>
<td>10 %</td>
<td>5 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 7. PPP PROJECT

- In order to accelerate the territorial articulation of the metropolis and the converting of building land into developed land, it is essential to promote a vision of metropolitan development that is shared by the different town councils making up Metropolitan Bilbao, while speeding up the instruments of city management. One instrument that will contribute to promoting this vision is the Partial Territorial Plan of Metropolitan Bilbao.
PPP TRANSIT CASE STUDIES

European Centre for Transportation and Logistics, TU Harburg

Given the singularly central position of the Estuary within the design of new Metropolitan Bilbao, it is essential to promote the project of regeneration of Abandoibarra, a leisure, culture and business area set in surroundings with over 200,000 m² of green spaces and open areas with a whole series of uses and features. Its final design and architectural quality must ensure the consolidation of Metropolitan Bilbao as a cultural metropolis offering advanced services of international ranking.

Tramway soon back in Bilbao:

- 36 years after they disappeared from the streets of Bilbao, tramways are about to come back. The decision to build a new tramway network, called EuskoTran, was reached in 1998 between the Basque Government, the Municipality of Bilbao and Bilbao-Ria 2000, a public company in charge of designing the project. The first route, called Line A, will be inaugurated in Spring 2002. It will connect Atxuri and San Mames and cross the whole city in 15 minutes. It will serve the major public facilities, cultural (Guggenheim Museum) and commercial areas of Bilbao. The Line will be 4.5 km long and provide 11 stations. Frequencies will vary between 5 and 10 minutes, and 10,000 passengers are expected to use the tramway each day. The cost of building the Line A (€ 20,4m), was shared between the three stakeholders of the project (64.75% for the Basque Government, 11.75% for the Municipality of Bilbao and 23.50% for Bilbao-Ria 2000). The vehicles, built by the Basque company CAF for a total value of € 18m, will have a capacity of 196 passengers (among which 48 sitting) and will be fully accessible for people with reduced mobility. The vehicles, that will provide air-conditioning, will have priority at traffic lights via a radio system.

- The Line will be operated by the public company Eusko Tren, which plans to invest about € 170 m over the next 12 years in new tramway projects in the Basque country. A single trip will cost € 0.90, and it is expected that the tramway will one day be integrated in the fare community with the other transport modes of Bilbao (bus and metro).

New step towards fare integration in Bilbao:

- Common fares: The next step is to establish common fares throughout Bizkaia. Transport Consortium of Bizkaia is already working on this.

- Creditrans multi-purpose ticket: The Creditrans multi-purpose ticket came into operation on Bizkaia's public transport network on September 23rd. Creditrans is a pre-paid ticket from which the amount of each trip is subtracted as it is used. The rate that is deducted is the applicable for the bonus passes which are intended to be substituted by Creditrans in the near future. The market for these passes is worth over 36 Mio. Euro per year. It is a multi-purpose ticket, i.e. it can be used on different means of transport and in different areas and combinations. More than one person can also travel on the same ticket. Discounts of 20% of the total price of the trip are applied for changes in transport. Creditrans has obtained a market share of 60% in its first month of operation.

- Common zones: Transport Consortium of Bizkaia proposal of common zones has been approved for all public transport. Bizkaia has been divided into five concentric fare areas around a central core zone in Bilbao. The possibility of linking Bilbao with the rest of its metropolitan area in a single core zone is now being studied.

- According to the conclusions of the surveys carried out on mobility in Bizkaia and Bilbao by the Bizkaia Transport Association, the efforts made by the institutions as regards public transport are extremely important in view of the amount of money invested in the subject and the population it affects. In this sense, the customer has a fairly positive view of the quality of the metropolitan transport plan.

- During 1998, important progress was made with respect to the metropolitan public transport system, among which we can highlight, as well as the excellent progress being made on the construction of Bilbao Underground's Line 2, the changes made to the suburban train network. Thanks to this initiative, May 1998 saw the inauguration of the
emblematic Ametzola Station, as a starting point for Renfe’s new Southern Line, which has been running from Olebeaga to Abando since March 1999 in substitution of the stretch which had until then run the length of the Estuary.

8. PROJECT COST : PLANNED
- For the first phase of land reclamation and redevelopment, as well as the setting up of transport and socio-cultural infrastructures, Abandoibarra is dependent solely on public investments financed via private banks’ loans. 600 Mio. Euro for first stage. Private investments come in at the building stage. There is also some European Union structural funds.
- Estimated investment: a total investment of 360 Mio. Euro in the next five years of which 40% is expected to be public sector investment and 60% to come from the private sector.

9. OBSERVED IMPACT OF THE PROJECT
- The last decade has seen an acceleration in the changes that affect cities, among which is principally the economic liberalisation deriving from the integration of Europe and the unstoppable process of globalisation, which has in turn obliged the traditional industries to restructure. Moreover, industrial society has been replaced by a new information society, thereby offering excellent opportunities to cities with respect to the generation and dissemination of innovation and knowledge.
- Most urban strategic plans direct their efforts at searching for and promoting the competitive benefits associated to advanced communications infrastructures, technology parks or business clusters.
- Once the strategic plan has been completely defined, we have to encourage the involvement of all of these actors in its promotion and follow-up. To do this, we often have to constitute strategic partnerships.
- We should underline the importance of the participation of the civilian population as an element of cohesion with respect to urban revitalisation initiatives. The implication of each and every one of the social and economic segments ensures the achieving of long-term objectives, thus justifying the often-important investments that have to be made on the shorter term.

PROJECTED IMPACT OF THE PROJECT
- Impact on real estate prices : (?) no estimates available yet.
- Income effects : (?) undetermined so far
- local impacts: physical renewal; expected employment multipliers because of investments in new activities such as culture, leisure and other service activities; diversification of metropolitan and regional economic structure. Not yet quantified

10. FINANCING MODEL(S)

FINANCING 1999
Costs covering rate
- Metro Bilbao 92%
- EuskoTren 40%
- Bizkaibus 46%
- Renfe Cercanias 8%
- Feve 60%
- Bilbobus 54%
## PRICING STRUCTURE 1999

<table>
<thead>
<tr>
<th>Service</th>
<th>Individual</th>
<th>Passes</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro Bilbao</td>
<td>14%</td>
<td>84%</td>
<td>2%</td>
</tr>
<tr>
<td>EuskoTren Tren</td>
<td>22%</td>
<td>75%</td>
<td>3%</td>
</tr>
<tr>
<td>EuskoTren Bus</td>
<td>18%</td>
<td>82%</td>
<td>-</td>
</tr>
<tr>
<td>Renfe Cercanias</td>
<td>13%</td>
<td>67%</td>
<td>20%</td>
</tr>
<tr>
<td>Feve</td>
<td>16%</td>
<td>65%</td>
<td>19%</td>
</tr>
<tr>
<td>Bilbobus</td>
<td>18%</td>
<td>80%</td>
<td>2%</td>
</tr>
<tr>
<td>Bizkaibus</td>
<td>27%</td>
<td>69%</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Pricing level (Euros)

#### Metro Bilbao:
- **1 zone**: 0.90, 1.05, 1.20
- **2 zones**: 0.54, 0.63, 0.75
- **Monthly unlimited**: 22.24, 27.05, 31.85
- **Super 50**: 18.33, 21.64, 25.84
- **Jubilados**: 2.10, 2.10, 2.10
- **Ticket for youngsters**: 141.24, 168.28, 201.34
- **Daily ticket**: 3.01, 3.01, 3.01

#### EuskoTren Bus (5 zones)
- **Individual**: Varies between 0.72 and 1.29 Euro.
- **10 trips-ticket**: Varies between 0.54 and 0.80 Euro

#### Renfe Cercanias:
- **1 zone**: 0.87, 0.87, 0.99, 1.53, 1.95
- **2 zones**: 1.38, 1.38, 1.56, 2.25, 2.88
- **3 zones**: 2.71
- **Monthly**: 16.98, 16.98, 20.79, 31.25, 36.96
- **Quarterly**: 78.13, 78.13, 89.55, 105.18

#### Feve (6 zones)
- **Individual**: between 0.75 and 1.62 Euro
- **Return ticket**: between 1.35 and 2.79 Euro
- **10 trips-ticket**: between 5.71 and 12.65 Euro
- **Monthly**: between 31.25 and 44.99 Euro

#### Urban Buses Bilbobus
- **Individual**: 0.78 Euro (working days), 0.87 Euro (holidays)
- **Creditrans**: 0.44 Euro

#### Regional Buses Bizkaibus
- **Individual**: between 0.75 and 3.61 Euro (+0.06 Euro for holidays)
- **Creditrans**: between 0.60 and 2.76 Euro

## 11. RELEVANT LEGISLATION

## 12. RELEVANT PUBLIC POLICIES AND STRATEGIES
### 13. RELEVANT ORGANISATIONAL STRUCTURES

### 14. PLANNING PROCESS OF PROJECT

### 15. PROJECT EVALUATION

- One of the determining factors of the quality of life in a city is the ability of its inhabitants to find housing in good condition, whenever such housing is available in sufficient number and quality, and at a price in keeping with earnings within the metropolis. There is presently an obvious imbalance between the market prices of housing and the ability to pay for them, which makes public intervention and its promotion of state housing more necessary than ever.

- One quite obvious factor with respect to housing is the need for an increase in public-private collaboration by means of the transfer, under certain conditions, of public land to private developers, thereby contributing to increasing the amount of available housing. Likewise, stress should be placed on favouring a diversification of the housing on offer, although this factor should always be preceded by the carrying out of an analysis of the environmental and transport implications of low-density housing.

- Restoration brings previously rundown houses back on to the market, thereby increasing the amount of available dwellings and helping to bring prices down.

- The town planning of the metropolis is seen in similar terms to those registered in 1997 with respect to pleasant streets (79% of those polled answered "a lot" to this question), unsatisfactory cleaning standards (one in three considers that the city is not very clean) and a sufficient number of recreation areas (as stated by half of those polled).

- Moreover, a certain amount of improvement has been noted with respect to the number of green spaces and citizen security. In addition to this, the results were highly optimistic on the subject of future town planning improvements (69% of those polled were sure that the metropolis would improve as far as town planning is concerned), and the installation of green areas (60% gave a positive answer to this question).
USA
BALLSTON METRO CENTRE
Arlington County, part of Washington DC Metrorail area, USA

Project: new Washington Metropolitan Area Transit Association subterranean stop with residential, office and retail development above as well as bus station and car park

Terms and abbreviations:
WMATA: Washington Metropolitan Area Transit Association

1. DEMOGRAPHICS
- Area size overall / district served by facility:
  - Arlington County 6700 ha (smallest US county)

- Population density overall / in districts served by facility:
  - Washington DC: 1999: 4,395,000
  - Arlington County: 1999: 173,009 (2000: 189,453) = 25.8 inhabitants per ha
  - Ballston Metro Station Area: 2000: 10944

2. EXISTING CHARACTERISTICS
- Ballston situated 10 mins by Metro from Capitol Hill and the White House
- 39 block, 270 acre redevelopment area
- in 1979 area around station consisted of parking lots and aging commercial buildings
- in 1982, county agreed to help finance 3,200 car parking structure to assist in development of the new Ballston Commons shopping centre on site of a 1950’s centre; garage also provides Metrorail parking three blocks from Ballston Station
- since 1984, almost two dozen mixed use development projects undertaken within 500 m of the station

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
REGIONAL ISSUES:
- generally, new Washington Metropolitan Area Transit Association rail transit stations were known to attract good ridership numbers
- Washington Metropolitan Area Transit Association’s and local jurisdictions policy and regulatory efforts at supporting development around transit stations / Metrorail corridors have transformed at least inner regional development patterns
- Weak regional planning policies have meant that despite attractive Metrorail system, some major developments still occurred in areas outside the system’s reach

### 4. EXISTING RAIL TRANSIT FACILITIES
- Metro service began in 1979

### 5. EXISTING REAL ESTATE ISSUES
- Real estate market in the region has been booming for decades
- Locations in stations were considered prime locations since the metro system start in 1975
- Arlington County itself particularly well located

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - *Washington Metropolitan Area Transit Association* initiated process, provided land, agreed to reduced facilities for busses to simplify site design
  - County granted permission to build higher than adjoining buildings
- **Private**
  - Private land owner: lead negotiations with other project partners

### 7. PPP PROJECT:
- **Start date / (projected) completion date**
  - Project construction began in 1987. The hotel and retail shops opened in 1989, condominiums sold in 1990. The office tower, hit by the late-1980s real estate recession, was slower to lease, but is now fully occupied.

- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - > 344,000 sqm of commercial space, 4,300 dwelling units, three hotels
  - Planning approval has been given for further 232,000 sqm of office/retail space and 1,000 dwelling units

- **(Planned) new facilities / land uses (see above):**
  - Ballston Metro Centre directly above *Washington Metropolitan Area Transit Association* station:
    - 12 storey, 20,200 sqm office and retail building
    - 26 storey building: 277 condominiums and 209 hotel rooms
    - Underlying platform with 760 parking spaces plus rail and bus facilities

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - *Washington Metropolitan Area Transit Association*: land, Metrorail station, rail and bus service
  - Private land owner: land
- **Developers**: buildings

- **TOD / TJD?**:
  - TJD

- **Stage of development (proposed, planned, in progress or implemented)**:
  - Implemented

- **Was there a bidding process, if yes, what was its nature?**
  **Generally**:
  - Developers are invited to express an interest in properties included in Washington Metropolitan Area Transit Association solicitations for Joint Development (e.g. March 1996; February 1999, July 1999)
  - Selection is according to criteria developed in WMATA’s 1995 guidelines (see below)

  **For project**:
  - *Washington Metropolitan Area Transit Association* failed to find developer interested in only its own parcel,

- **If not, how were partners selected?**
  - *Washington Metropolitan Area Transit Association* passed negotiating rights for development of overall site to owner of adjoining parcel

8. **PROJECT COST (PLANNED / ACTUAL)**

- **Total**
  - € 109.4 million

9. **PROJECTED / OBSERVED IMPACT OF THE PROJECT**

**Impact on passenger numbers**:
Despite commercial success, (based on the high number of access to the area), in terms of transit ridership, the record didn’t seem to be so clear for a long period:

- Daily passenger boardings for the rail station averaged 9,482 in 1991 (Brosnan 2000), only modestly up from 9,352 in 1980 Parsons Brinckerhoff 1996). In the interim, however, the line to Vienna opened so that stations farther out on the line captured a substantial part of the park-and-ride market. The project at Ballston may have at that time forestalled an even sharper drop in boardings (also a considerable amount of proposed development in the Ballston area was put on hold during the real estate downturn.).

- During the course of the 90s and after completion of a number of private office developments though, the Ballston boarding numbers did in fact more than double and reached 21,892 in 2000 (Brosnan 2000).

**General impact of Metrorail in Balston-Rosslyn corridor**:
- In a presentation at a conference about “smart growth” in October 2000 in San Diego, the head of the Arlington county department of planning, Bob Brosnan, described what has been achieved since the Ballston-Rosslyn-corridor was opened: During the last 10 years from 1991 to 2000 ridership doubled or tripled at
every station of the corridor, since 1969 office space within a quarter mile radius around the stations quadrupled from 4.4 Mio sq ft to almost 18.5 Mio sq ft, during the same period the number of residential units more than quintupled from 2,565 units to 14,346 units and between 1980 and 2000 the employment numbers almost doubled from 73,790 to 128,553 (almost 200,000 expected in 2020) and the employment share in proximity of the Metro stations grew from 51% of the total county employment to 67% of the employment.

10. FINANCING MODEL(S)

- **Main source(s) of funding**

- **Contribution by each partner (amount and source)**
  - Developers pay *Washington Metropolitan Area Transit Association* periodic sums based on 8% of gross annual income above a threshold level for office/retail tower public facilities part of the site (leased by *Washington Metropolitan Area Transit Association*).
  - *Washington Metropolitan Area Transit Association* participates on gross proceeds from condominium sales and receives three lump sum progress payments for housing hotel part of site (conveyed to Ballston Metro Partnership).

11. RELEVANT LEGISLATION

- National Capital Transportation Act (1960): created an agency to plan a rapid rail system for Washington
- Subsequently, after completion of a plan for 25 mile system capable of regional expansion, the Washington Metropolitan Area Transit Authority created through Congressional action
- 1966: Interstate compact (an official agreement between different US-states) signed between Maryland, Virginia and District of Columbia envisioning a radial rail transit system from downtown Washington into suburbs

12. RELEVANT PUBLIC POLICIES AND STRATEGIES

**REGIONAL CONTEXT:**
- rail transit system became key component of guidelines for planned metropolitan growth patterns laid down by National Capital Planning Commission (TJD and TOD took place at many stations along the system)
  - transit corridors were defined
  - nodes of intensive development, which would serve naturally as station locations were identified (“development oriented transit”)
- guidelines had strong influence, even without creation of powerful regional planning board (National Capital Region Transportation Planning Board has no authority to encourage transit-focused development through project prioritisation)
- most recent policies of Transportation Planning Board provide no more than general support for transit-focused development
- jurisdictions involved understood relationship between rail-transit and development differently
  - the most immediately affected (District of Columbia, Montgomery (Friendship Heights located in both the latter) and Prince George’s Counties (both Maryland) and Arlington County (Virginia), City of Alexandria) were very receptive to potential advantages of rail-transit in promoting/directing development esp. economic: responded with supportive planning, zoning and
joint development actions and continue to do so
  o jurisdiction scheduled for later phases of Metrorail service (some of which are
    still not completed; Fairfax County, Prince George’s County) much less
    enthusiastic about transit supportive development

- Washington Metropolitan Area Transit Association set up Joint Development Policies
  and Guidelines in 1995 with following objectives:
  o Attract new riders to the transit system by fostering commercial and residential
    development projects on WMATA owned or controlled land, and on private
    properties adjacent to Metrorail stations;
  o Create sources of revenue for WMATA to operate and maintain the transit
    system by expediently negotiating Development Agreements between WMATA
    and public or private development entities; and
  o Assist the viability of WMATA local jurisdictions to recapture a portion of their
    past financial contributions and to continue making subsidy payments by
    expanding the local property tax base and adding value to local revenue
    sources.

- Washington Metropolitan Area Transit Association’s guidelines include procedures of
  publishing development opportunities, involving local jurisdictions, decision making
  criteria, developer duties after submitting proposals

LOCAL AREA:
- Arlington County most aggressive in Northern Virginia in seeking to focus growth near
  transit stations to achieve tax and job benefits
- Began planning as early as 1968 to evaluate potential ways in which transit might
  achieve economic development goals
- 1972: ’RB ’72: Rosslyn-Ballston Corridor Alternative Land Use Patterns > proposed to
  concentrate future intensive development around the five stations in that corridor
  also to protect existing neighbourhoods from commercial intrusions
- 1960’s building boom showed that focussing intensive development around stations
  meant a loss of pedestrian scale > citizen’s advisory group recommended such
  development be accompanied by attention to pedestrian access and mobility and
  architectural quality and amenities
- 1980 Ballston Sector Plan: envisioned Ballston as a new mixed use centre,
  combining high density residential and commercial development within a 400 m
  radius of the station; area was to include open space, neighbourhood retail shops,
  pedestrian walkways
- soon after plan was issued, area around station zoned for coordinated mixed-use
  dev, providing major density incentives for half commercial / half residential projects
  permitted floor are ratio of 3.5 for commercial uses could be increased to 6 and even
  higher rations could be achieved with more residential space; street level retail uses
  required in all buildings

13. RELEVANT ORGANISATIONAL STRUCTURES
- 1985: group of developers, businesses, residents and public officials formed Ballston
  Partnership (http://www.ballstonpartnership.com/) to promote high quality urban
  design and coordinate infrastructure improvements and marketing in the area. They
  had an advisory role for the county board
- private land owner and developers formed the Ballston Metro Partnership

14. PLANNING PROCESS OF PROJECT
- 1982 marketed site as joint development project, found no takers for 6700 sqm parcel
- granted owner of adjoining 2900 sqm parcel exclusive negotiating rights to find a developer for a mixed used project on combined tract
- 1984 owner of land entered into partnership with local developer and several minority partners
- issues resolved during negotiations:
  - The developer persuaded the transit authority and local government to accept seven, instead of 13 bus bays to simplify the site design;
  - The bus bays were provided on Stuart Street in front of the project and separated from normal traffic circulation by restricting movements of private vehicles on some parts of the street, thus effectively enlarging the site;
  - The county refused to grant additional density bonuses in return for the developer's construction of the public plaza, but did allow the buildings to rise 18 feet higher than nearby buildings;
  - Recognizing that condominium sales would require a fee-simple land transaction, the site was divided into two parts, one conveyed to the Ballston Metro Partnership for the residential and hotel tower and the other leased by WMATA for the office/retail tower and public facilities; for the latter part of the project, WMATA receives its usual periodic payments based on eight percent of gross commercial income above a threshold level; for the housing/hotel part, WMATA participates in the gross proceeds from condominium sales in addition to three lump-sum progress payments.

15. PROJECT EVALUATION

OVERALL REGIONAL SITUATION:
- Washington DC considered the “national leader” in Joint Development (first private development project completed in 1973, three years before opening of Metrorail system; programme has yielded €68.4 million in real estate income for Washington Metropolitan Area Transit Association, more than 1 million new rail trips over €22.8 million in annual taxes to local jurisdictions and 25,000 primary jobs)
- Most successful projects and project corridors in areas, where early support was provided
- Washington Metropolitan Area Transit Association’s transit joint policy had significant and very encouraging successes. As Washington Metropolitan Area Transit Association was owner of large portions of land adjacent to its stations, and as the regional real estate market was generally dynamic, the development of this policy took place under very favourable conditions that are difficult to copy, but, generally applicable under very different market, real estate, and even transit system conditions.

PROJECT:
- Some small problems have arisen:
  - Because there is only one access point to the rail station, the escalators and elevators often operate at capacity and experience frequent breakdowns. Constructing additional underground connections would be quite costly.
  - In addition, bus operations create a complex mix of bus, auto, and pedestrian traffic that will grow worse with increasing traffic.
  - Pedestrian movements also have been hampered by the state department of transportation’s insensitivity to pedestrian needs at intersections on the several state highways traversing the Ballston area.
- Parking is not a problem, however. The slowdown in real estate activity left many lots available for surface parking at relatively low rates.
- Nevertheless, the Ballston project has been commercially successful, and, it has produced € 684,000 yearly rent to the authority.

- McNEAL and DOGGETT describe the Ballston development as “an outstanding example of how a community can use transit for economic development purposes”. The entire Ballston-Rosslyn corridor, “along an older commercial boulevard, contains five Metrorail stations. The county targeted the corridor and station areas for intensive, transit-oriented growth and provided planning incentives such as density/height bonuses to achieve that end. It is probably the most successful public-private development corridor in the United States. Since the stations opened in late 1978, it has achieved twelve million square feet of new office development, in addition to significant multi-family residential, university and hotel facilities”. (McNEAL and DOGGETT, 1999).
BETHESDA
*Montgomery County, part of Washington DC Metrorail area, USA*

**Project:** new subterranean Metrorail station with large public plaza above flanked by hotel, retail and office developments, parking garage also included

**Terms and abbreviations:**
*WMATA:* Washington Metropolitan Area Transit Association

1. **DEMOGRAPHICS**
   - *Area size overall / district served by facility:*
     - Montgomery County: 128,500 ha
   - *Population density overall / in districts served by facility:*
     - Montgomery County: 793,903 people (1999) = 6.2 inhabitants / ha

2. **EXISTING CHARACTERISTICS**
   - Traditional commercial and business centre for Montgomery County but low key in character when Metrorail arrived in late 1970’s
   - Close proximity to highest income residential areas in the region
   - one mile south of National Institute of Health and Bethesda Naval Hospital
   - site located at major junction bordered by properties ripe for development

3. **EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES**
   - generally, new Washington Metropolitan Area Transit Association rail transit stations were known to attract good ridership numbers
   - *Washington Metropolitan Area Transit Association’s* and local jurisdictions policy and regulatory efforts at supporting development around transit stations / Metrorail corridors have transformed at least inner regional development patterns
   - Weak regional planning policies have meant that despite attractive Metrorail system, some major developments still occurred in areas outside the system’s reach
### 4. EXISTING RAIL TRANSIT FACILITIES
- None before arrival of Metrorail

### 5. EXISTING REAL ESTATE ISSUES
- Real estate market in the region has been booming for decades
- Locations in stations were considered prime locations in 1970's and 1980's
- Due to proximity to various positive determinants, developers had been showing increasing interest

### 6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
- **Public**
  - *Washington Metropolitan Area Transit Association*: solicitation for developer applications;
  - County: interested in good quality development at site already zoned as a regional centre
- **Private**
  - Developer: interested in project in central location with good PT connections

### 7. PPP PROJECT
- **Start date / (projected) completion date**
- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - Few high rise office and residential buildings but predominantly one and two storey buildings
- **(Planned) new facilities / land uses (see above):**
  - 17 storey building with 34,300 sqm of office and retail
  - 12 story 380-room Hyatt hotel
  - 3500 sqm retail space in food court on 8400 sqm plaza located in centre, stepping down to corner and incorporating clock tower, sculptures, fountains and landscaping
  - 1400 parking spaces
  - Metrorail entrance also located on plaza
  - Direct links to 17 storey office building constructed on the adjacent corner parcel
  - Planned connection also to another office building still to be developed.
- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - *Washington Metropolitan Area Transit Association*: land; design guidelines and concept; underground rail transit facility and escalators;
  - County Planning Board: design guidelines and concept;
  - County Council: land, instigation of optional zoning district procedure
  - Developer: constructed all buildings, including WMATA structures above the escalators, and public plaza
  - Developer and owner of corner building: co-operative agreement for maintenance of the plaza
- **TOD / TJD?**
  - TJD

- **Stage of development (proposed, planned, in progress or implemented):**
  - Implemented

- **Was there a bidding process, if yes, what was its nature?**
  Greatly:
  - Developers are invited to express an interest in properties included in Washington Metropolitan Area Transit Association solicitations for Joint Development (e.g. March 1996; February 1999, July 1999).
  - Selection is according to criteria developed in Washington Metropolitan Area Transit Association’s 1995 guidelines (see below).

For project:
- Washington Metropolitan Area Transit Association issued request for developer proposals incorporating the design guidelines in June 1980.
- Three serious proposals were achieved, one selected.

- **If not, how were partners selected?**

### 8. PROJECT COST (PLANNED / ACTUAL)

- **Total**
  - Tbc

### 9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- **The joint development project and the wider station area development have “transformed Bethesda’s downtown area.**
- Metro Centre garage (more expensive than nearby public spaces) is seldom full.

**Wider effects:**
- The optional zoning procedure instigated for the project also lead developers of other projects near the station to supply open space, public art and other community oriented facilities in the competition for approval.
- Development of commercial core of Bethesda was supported by county initiated programme to build and finance public parking structures > 6500 public spaces, can be rented monthly or for short term use, garages operate virtually at capacity.

### 10. FINANCING MODEL(S)

- **Main source(s) of funding**

- **Contribution by each partner (amount and source)**
  - **Developer:**
    - Annual payment of €1.8 million for 99 lease on the site, including easement.
leasebacks to *Washington Metropolitan Area Transit Association* for bus terminal, rail station access, storage facilities, kiss-and-ride facilities
- further 7.5% of project’s gross annual income above a base of € 35.3 million to *Washington Metropolitan Area Transit Association* (not yet achieved)

### 11. RELEVANT LEGISLATION

- **National Capital Transportation Act (1960):** created an agency to plan a rapid rail system for Washington
- Subsequently, after completion of a plan for 25 mile system capable of regional expansion, the *Washington Metropolitan Area Transit Association* created through Congressional action
- 1966: Interstate compact signed between Maryland, Virginia and District of Columbia envisioning a radial rail transit system from downtown Washington into suburbs

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES

#### REGIONAL CONTEXT:

- rail transit system became key component of guidelines for planned metropolitan growth patterns laid down by National Capital Planning Commission (TJD and TOD took place at many stations along the system)
  - transit corridors were defined
  - nodes of intensive development, which would serve naturally as station locations were identified ("development oriented transit")
- guidelines had strong influence, even without creation of powerful regional planning board (*National Capital Region Transportation Planning Board* has no authority to encourage transit-focused development through project prioritisation)
- most recent policies of Transportation Planning Board provide no more than general support for transit-focused development
- jurisdictions involved understood relationship between rail-transit and development differently
  - the most immediately affected (District of Columbia, Montgomery (Friendship Heights located in both the latter) and Prince George’s Counties (both Maryland) and Arlington County (Virginia), City of Alexandria) were very receptive to potential advantages of rail-transit in promoting directing development esp. economic: responded with supportive planning, zoning and joint development actions and continue to do so
  - jurisdiction scheduled for later phases of Metrorail service (some of which are still not completed; Fairfax County, Prince George’s County) much less enthusiastic about transit supportive development
- *Washington Metropolitan Area Transit Association* set up Joint Development Policies and Guidelines in 1995 with following objectives:
  - Attract new riders to the transit system by fostering commercial and residential development projects on WMATA owned or controlled land, and on private properties adjacent to Metrorail stations;
  - Create sources of revenue for WMATA to operate and maintain the transit system by expediently negotiating Development Agreements between WMATA and public or private development entities; and
  - Assist the viability of WMATA local jurisdictions to recapture a portion of their past financial contributions and to continue making subsidy payments by expanding the local property tax base and adding value to local revenue sources.
- *Washington Metropolitan Area Transit Association*’s guidelines include procedures of publishing development opportunities, involving local jurisdictions, decision making criteria, developer duties after submitting proposals

**LOCAL AREA:**
- Designated as a regional centre on county plans, sector plan approving major new development adopted in 1976
- County Planning Board designated a block including *Washington Metropolitan Area Transit Association* property and three other parcels (one originally purchased by the county for parking) for unified design treatment

**13. RELEVANT ORGANISATIONAL STRUCTURES**

**14. PLANNING PROCESS OF PROJECT**
- In 1977, as Bethesda Station was being completed, *Washington Metropolitan Area Transit Association* solicited interest of county planning staff to combine their joined properties to form a developable parcel
- Planning Board acted in late 1978 and agreed to consolidation after proposal for developing the corner property of the block had been submitted
- By end of 1979, design concept and urban design principles had been completed and planning board recommended council approval to concentrate planned business development around the *Washington Metropolitan Area Transit Association* station and to use optional zoning district procedure that permitted increase in densities from 3 to 6 floor/area ratio in exchange for contributions of public space and amenities

**15. PROJECT EVALUATION**

**OVERALL REGIONAL SITUATION:**
- Washington DC considered the “national leader” in Joint Development (first private development project completed in 1973, three years before opening of Metrorail system; programme has yielded € 68.4 million in real estate income for Washington Metropolitan Area Transit Association, more than 1 million new rail trips over € 22.8 million in annual taxes to local jurisdictions and 25,000 primary jobs)
- Most successful projects and project corridors in areas, where early support was provided
- Washington Metropolitan Area Transit Association’s transit joint policy had significant and very encouraging successes. As Washington Metropolitan Area Transit Association was owner of large portions of land adjacent to its stations, and as the regional real estate market was generally dynamic, the development of this policy took place under very favourable conditions that are difficult to copy, but, generally applicable under very different market, real estate, and even transit system conditions.

**PROJECT:**
- Due to favourable conditions (zoned for major regional level development, good location) private sector was ready to act and county government was interested in promoting joint development opportunities
- The Metro Centre project has proven commercially successful, although the retail shops have never functioned as well as hoped, and the office tower, whose financing was highly leveraged, was taken over by the lenders during the recent real estate recession.
Some of the problems are due to the postponement of the county’s residential and parking project west of the site, on which construction is now underway, and the third office building south of the site; completion of these buildings over the next few years will generate increased activity on the plaza level as well as additional rail and bus ridership.
FRIENDSHIP HEIGHTS
Montgomery County, part of Washington DC Metrorail area, USA

Project: underground Metrorail station with reconstructed bus terminal and retail/office tower with adjacent parking garage above

Terms and abbreviations:
WMATA: Washington Metropolitan Area Transit Association

1. DEMOGRAPHICS

- **Area size overall / district served by facility:**
  - Montgomery County: 128,500 ha

- **Population density overall / in districts served by facility:**
  - Montgomery County: 793,903 people (1999) = 6.2 inhabitants / ha

2. EXISTING CHARACTERISTICS

- In 1970’s area around site of new Metrorail station was a growing commercial, employment and high-density residential centre already featured mix used development, bus terminal existed,
- area was expected to develop as a major regional centre through major new development due to its accessibility to high income residents from nearby Northwest DC and Chevy Chase and Bethesda neighbourhoods

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES

- private car parking for employees was on offer in surrounding developments at Friendship Heights (cheaper and more plentiful then in more central areas, thus less pressure to use transit)
- generally, new Washington Metropolitan Area Transit Association rail transit stations were known to attract good ridership numbers
- Washington Metropolitan Area Transit Association’s and local jurisdictions policy and regulatory efforts at supporting development around transit stations / Metrorail corridors have transformed at least inner regional development patterns
- Weak regional planning policies have meant that despite attractive Metrorail system, some major developments still occurred in areas outside the system’s reach
4. EXISTING RAIL TRANSIT FACILITIES
   - no local rail transit facilities prior to completion of Friendship Heights Station

5. EXISTING REAL ESTATE ISSUES
   - real estate market in the region has been booming for decades
   - locations in stations were considered prime locations in 1970’s and 1980’s

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS
   • Public
     - WMATA (Washington Metropolitan Area Transit Authority):
       o required consolidated site to reconstruct bus terminal and provide convenient access to underground transit station
       o established basic guidelines for ensuring adequate bus and rail services (geometry, measurements, etc.)
     - Montgomery County Planning Board:
       o hoped for a well designed project, that would stimulate creation of attractive regional centre at key “down-county” location
       o created small design group, which worked with developer and Washington Metropolitan Area Transit Association to work out design issues (bus bays, pedestrian access, safety, security, etc.)
   • Private
     - Chevy Chase Land Company:
       o Had already expressed an interest in developing a mixed use property
       o required Washington Metropolitan Area Transit Association land in addition to properties already owned (shopping centre adjoining the site) to create a “buildable” site

7. PPP PROJECT
   • Start date / (projected) completion date
     - JD agreement signed in 1979 /
   • Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):
     Early 70’s:
     - Bus terminal
     - Adjoining Neighbourhood shopping centre
     - Two department stores, and some small retailers, offices, medical buildings and insurance comp. Headquarter within ¼ mile of bus station
     - Also “several” high rise residential buildings in the vicinity
   • (Planned) new facilities / land uses (see above):
     on 5,600 sqm JD site:
     - underground Metrorail station
     - reconstructed bus terminal
### PPP Transit Case Studies

#### European Centre for Transportation and Logistics, TU Harburg

- 13 storey building at major street intersection with two floors of retail space and 9 floors of office space built on top of new ground floor bus terminal and Metrorail escalators;
- three floors of private underground parking with 381 spaces
- “few” P&R spaces leased by Washington Metropolitan Area Transit Association serving the station, no other public parking

**Off-site:**
- considerable amount of car parking provided by existing facilities and all new developments constructed underground car parks (two hours free parking widely provided combined with relatively cheap long term parking)

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - Developer to construct all facilities including bus terminal facilities, except Metrorail entrance
  - *Washington Metropolitan Area Transit Association* to construct Metrorail entrance

- **TOD / TJD?**
  - TJD

- **Stage of development (proposed, planned, in progress or implemented):**
  - implemented

- **Was there a bidding process, if yes, what was its nature?**
  - Developers are invited to express an interest in properties included in WMATA solicitations for Joint Development (e.g. March 1996; February 1999, July 1999)
  - Selection is according to criteria developed in *Washington Metropolitan Area Transit Association’s* 1995 guidelines (see below)

- **If not, how were partners selected?**

### 8. Project Cost (Planned / Actual)

- **Total**
  - tbc

### 9. Projected / Observed Impact of the Project

- by 1995, Friendship Heights had become a premier regional office and shopping centre (five major department stores, two prominent retail arcades, top-of the line retailers, several major office buildings, additional luxury high-rise residential buildings
- rail station and bus terminal at the centre of the “mixed use regional complex” with direct pedestrian links via the JD project and three ‘system interface’ projects
- ridership has risen from an average of 5674 daily passenger boardings in 1985 to 8343 in 1995
10. FINANCING MODEL(S)

- **Main source(s) of funding**
  - Developer investment for all facilities except Metrorail entrance
  - *Washington Metropolitan Area Transit Association* investment for entrance to Metrorail

- **Contribution by each partner (amount and source)**

**WMATA:**
- land conveyed to developer in “fee simple”

**Chevy Chase Land Company:**
- Annual fee of €29,600 as license for direct access to Metrorail (on 30 year renewable contract)

**Other developers / property owners:**
- fees to *Washington Metropolitan Area Transit Association* for interface connections between transit facilities and nearby developments, sometimes paid over extended periods of time)

11. RELEVANT LEGISLATION

- *National Capital Transportation Act* (1960): created an agency to plan a rapid rail system for Washington
- Subsequently, after completion of a plan for 25 mile system capable of regional expansion, the *Washington Metropolitan Area Transit Authority* (WMATA) created through Congressional action
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12. RELEVANT PUBLIC POLICIES AND STRATEGIES

- rail transit system became key component of guidelines for planned metropolitan growth patterns laid down by National Capital Planning Commission (TJD and TOD took place at many stations along the system)
  - transit corridors were defined
  - nodes of intensive development, which would serve naturally as station locations were identified
- guidelines had strong influence, even without creation of powerful regional planning board (*National Capital Region Transportation Planning Board* has no authority to encourage transit-focused development through project prioritisation)
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  o Attract new riders to the transit system by fostering commercial and residential development projects on WMATA owned or controlled land, and on private properties adjacent to Metrorail stations;
  o Create sources of revenue for WMATA to operate and maintain the transit system by expediently negotiating Development Agreements between WMATA and public or private development entities; and
  o Assist the viability of WMATA local jurisdictions to recapture a portion of their past financial contributions and to continue making subsidy payments by expanding the local property tax base and adding value to local revenue sources.

- Washington Metropolitan Area Transit Association’s guidelines include procedures of publishing development opportunities, involving local jurisdictions, decision making criteria, developer duties after submitting proposals

13. RELEVANT ORGANISATIONAL STRUCTURES

14. PLANNING PROCESS OF PROJECT
- After conflicts with residents over initial development proposals, Montgomery County Planning Board adopted a special zoning district for the site > allowed and optional doubling of density under special hearing and design review procedures
- With new framework in place and co-operation from Planning Board, developer entered negotiations with Washington Metropolitan Area Transit Association
- Design issues worked out between developer, planning board and Washington Metropolitan Area Transit Association
- Reviews by local citizen groups (re proposed densities, impact on pedestrian movements and nearby uses) lead to special analyses and redesigns
- Washington Metropolitan Area Transit Association’s original plan to build a major garage was successfully opposed by local residents
- Negotiations over the JD agreement were long and complex > agreement was signed in 1979

15. PROJECT EVALUATION
OVERALL REGIONAL SITUATION:
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market, real estate, and even transit system conditions.

**PROJECT:**
- no studies have evaluated the portion of station area development generated ridership as part of the total
- pedestrian links between JD project and adjoining shopping centre remain a problem
- “overall functional and financial performance of the project has been exemplary”
- “completion of additional development is expected in next decade; expected that Friendship Heights will represent an unusually effective mix of employment, retail and residential uses closely associated with rail and bus transit”
ORENCO STATION, HILLSBORO,
Westside Metropolitan Area Express (MAX) Extension, Portland, Oregon, USA

Project: new MAX Light Rail Transit stop with associated large scale residential development (mixed types of residences) centred around a local service centre; a car oriented retail development further away from the MAX stop is also included in the scheme

Terms and Abbreviations:
MAX: Metropolitan Area Express
LRT: Light Rail Transit
Tri Met: Tri-County Metropolitan Transportation District, MAX and other PT operator
HEDC: Hillsboro Economic Development Corporation
ETA: Environmental Protection Agency

1. DEMOGRAPHICS
- Area size overall / district served by facility:
  - Overall: 107,700 ha
  - Hillsboro: 5,000 ha
  - Orenco Station Development: 80.7 ha

- Population density overall / in districts served by facility:
  - overall: 1,465,000 inhabitants = 13.6 people/ha (1999)
  - Hillsboro: 42,000 inhabitants = 8.4 people/ha (1993)
  - Orenco Station Development: 4,000 inhabitants = 49.6 people/ha (1999)
    22.7 units/ha

2. EXISTING CHARACTERISTICS
Hillsboro:
- wealthy, strongly growing community,
- computer hardware oriented economy, total employment of 25,000 people
- comparatively low density settlement

3. EXISTING TRANSPORT/TRAFFIC/LAND USE ISSUES
- Air pollution levels in and around Portland too high by EPA standards and according to existing legislation, enforcement due to non-compliance is being stepped up
4. EXISTING RAIL TRANSIT FACILITIES

Portland:
- **Eastside Metropolitan Area Express**: 15.1 miles, 30 stations (€244 million, 83% DoT, 17% state and local funds); operates since 1986; passenger numbers rising

New or in construction:
- **Westside Metropolitan Area Express**: 18 miles, 21 stations (€1089.4 million; 73% fed gov., 27% state and local funds); operates since 1998; lead to increase in ridership to 63,700 (July 1999)
- **Airport Metropolitan Area Express**: 5.5 miles, extension to Eastside MAX (€ 142.5 million; €32.3 million Port Authority, €51.9 millionTri-Met, €26.2 million City of Portland, €31.9 million Bechtel Development – latter will develop transit oriented business park at airport called Cascade Station; to be finished in 2015) operation to start 2001

5. EXISTING REAL ESTATE ISSUES

- lively housing market with almost 600 housing unit starts (by the time of the report 600 housing units were under construction or completed)
- total major building permit value of € 80.9 million in 1993
- existence of large vacant site (Ronler Acres) without infrastructure with 698 lots and 313 scattered owners (originally sold in 1959) > had to be purchased by Hillsboro Economic Development Council (established after public consultation with urban renewal remit) between 1989 and 1994
- perceived demand for residential property coupled with diminishing urban land (inside Portland’s Urban Growth Boundary) led to doubling of residential land prices within three years > land pricing for residential land beginning to outstrip multi-family feasibility under existing rents and densities
- real estate market and demand for types of units intended more favourable here then along East side Metropolitan Area Express, which was not bordered by any large vacant sites

6. PROJECT PARTNERS, THEIR ROLES & INTERESTS

**Public**
- **Washington County**: granted tax incentives to Intel in return for new jobs and local tax revenue
- **Tri Met**: hired a Station Area Plan co-ordinator; were interested in creating a demonstration project for transit oriented communities
- **Hillsboro City Council / HEDC**: original land purchase; selling on of land at cost price; involved in consultation and design phases; interested in aiding compliance with Clean Air Act (the Clean Air Act Compliance or better Non-Compliance opens the enforcement-means) and developing a well situated green field site within its boundaries with commercial and community benefits for the city

**Private**
- **Intel Corporation**: looking for a R&D site in 1994: wanted tax incentive from Washington County and State of Oregon; offered €2.51 billion investment, 1400 new permanent high wage jobs, 2500 associated jobs, €15.7 million Community Service
| **Fee (local tax); public supported intentions, tax incentive was granted** |
| Reimbursed all land costs; loaned €5.9 million to HEDC, repayment tied to Intel’s construction performance; donated €570,00 for development of a local park; paid all regularly assessed fees and charges (contributions to development costs, fees) |
| Began their project in 1994 |

- Pacific Realty Trust (PacTrust) > acquired remaining Ronler Acres land at cost price from Hillsboro City (1996) with both partners agreeing to rezone the land for mixed commercial and residential transit oriented development
- Would develop central area near station together with Costa Pacific Homes; sold 30 acres each to other residential developers and kept area most distant from station for original purpose of ‘regional commercial centre’ with ca. 100,000 inhabitants
- Remained in control of overall design (through review approvals) as part of contract with other developers

7. **PPP PROJECT**

- **Start date / (projected) completion date**
  - Intel: start 1994 Pac Trust et al.: tbc

- **Existing facilities / land uses prior to project (e.g. stops, shops, flats, offices, parking, etc.):**
  - Greenfield site

- **(Planned) new facilities / land uses (see above):**
  - new Westside Metropolitan Area Express LRT line and station (see also EXISTING RAIL TRANSIT FACILITIES)
  - 450 single family homes and town houses (Costa Pacific Homes)
  - (originally) 1384 high standard apartments (Fairfield Investments, Simpson Housing)
  - ‘Town Centre’ with 5200 m² retail & office space (small business ownership except for one Starbucks: restaurants, dentist, real estate agent, sports goods, flower shop, optician, wine shop, café), 22 lofts (1900 m²) and 12 live work apartments (2600 m²–another 16 units to be added later with 3500 m²)
  - pedestrian oriented urban design around the actual station and linking Intel plant and station; including several green spaces and narrow main street (with parking on both sides to ‘shield’ pedestrians from traffic); majority of homes and apartments are within ¼ to ½ mile of the station
  - commercial and retail centre: car oriented development context to attract big box retailers, including large grocer, video store, banks, fast-food outlets, gas station

- **Who will provide what (land, design, buildings, services, maintenance, marketing, etc.):**
  - Rail transit facilities developed by TriMet, financed through federal, state and regional money
  - land originally purchased by City Council from multitude of owners, then sold on to developers at cost price
  - design standards / master plan financed equally by private developer and City Council
  - design of Orenco Station "for sale" product through Iverson Associates; urban design by Fletcher, Farr & Ayotte (paid by the developer, PacTrust)
  - construction of residential and commercial units as well as larger commercial development through three different developers under auspices of PacTrust
- street cutting through commercial development financed by PacTrust allowing bus access

**TOD / TJD?:**
- TOD

**Stage of development (proposed, planned, in progress or implemented):**
- 2000 > in progress: half of central single family complex under construction, 166 homes finished, 199 sold
- rental apartments more difficult to market, some of original concept was changed to condominiums

**If not, how were partners selected?**
- Intel expressed interest in a site
- PacTrust has bought private and public land - in order to create an industrial area - it may be possible that they have won a bidding procedure
- Other partners - partly by the Orenco Station Masterplan PPP Group and mostly by the developer

### 8. PROJECT COST (PLANNED / ACTUAL)

**Total**
- €579 million
- Construction cost: € 48 mio.

### 9. PROJECTED / OBSERVED IMPACT OF THE PROJECT

- “Creation of a walkable suburban community, anchored by a light rail station” > Orenco Station Development received several awards for planned communities and various of its elements
- has already been deemed a great sales success in real estate terms prior to completion (despite prices being slightly higher than average and lots slightly smaller): average sales of 8 units per month
- impact on passenger numbers not known, but most residents work for Intel or other Hillsboro high-tech firms so probably will not commute to work by rail
- rail might be used for non-work related purposes
- town centre element showed that mixed used development not only socially but also economically viable (there was an initial loss, but a long-term return on investment)
- but: residents do all their grocery - and perhaps other major - shopping by car in the large commercial development, but only a small portion can be bought in the town centre - it’s just elements of town culture, town elements that is being introduced at this location - this is nevertheless fairly rare for a new single family development in the US

### 10. FINANCING MODEL(S)

**Main source(s) of funding**

**Contribution by each partner (amount and source)**
- PacTrust: 50% of cost for Orenco Station Development Master Plan (own capital);
- €9.12 million investment into town centre from own capital with expected little or negative returns (seen as necessary investment to realise other projects); cost of moving P&R site away from main entrance of station to maintain pedestrian friendly approach

- **Modes of evaluating investment risks**

  - Town centre only profitable in commercial part if fully rented (expected return rate of 11-12%); residential component will have little or even negative return (Pact Trust estimation)

### 11. RELEVANT LEGISLATION

- **EPA Airshed Requirements / Clean Air Act CAA (1990):** The Environmental Protection Agency EPA has stepped up enforcement of air quality requirements in the Portland Region due to rapid growth and simultaneous increases in VMT and resulting air pollution levels.

  - Hillsboro is an *Urban Renewal Districts* under Oregon state law; designation requires renewal to be of public interest and the process to be in need of the three associated tools:
    - Land purchase at pre-development prices (supported by possible expropriation)
    - Tax increment financing for public investments to improve the area
    - Most decisions can be taken by District management organizations, do not require lengthy administrative procedures

### 12. RELEVANT PUBLIC POLICIES AND STRATEGIES

- **Federal Transit Agency (FTA)** made regional and transit area planning a condition for funding the MAX projects; region had five years to adopt transit supportive plans based on Metro’s 2040 (see below) and the state transportation planning rule (see below) as well as develop station area plans to support ridership; otherwise FTA investment € 85.5 million) would have to be repaid in full

  - Oregon Transportation Rule: This Rule, effective May 1994, requires vehicle miles travelled (VMT) reductions by increasing development densities and improving opportunities for pedestrian access.

  - Metro’s (regional Government) *Housing Rule / Periodic Review:* requires that a minimum of 50% of all residential land be zoned for multi-family units. Often this has led to multi-family locations not easily accessible to transit.

  - Metro’s **RUGGOS:** Regional and Growth Goals and Objectives require greater integration of land-use and transportation planning. This will lead to new regional strategies to achieve compliance with Federal Clean Air Act requirements.

  - Metro’s 2040 Plan: This long range planning process is underway, and will test the ability of current transportation and land-use plans to accommodate growth within the region. > Hillsboro should increase density from 24 people per acre to about 60 and should become the “focus of compact development, redevelopment and high quality transit services”.

  - Tri-Met’s [Tri-County Metropolitan Transportation District] Strategic Plan (1993 - 1998): This plan recommends land-use intensification along bus and Light Rail corridors as one of several strategies to increase ridership and mobility. Further, the Strategic Plan recommends that 85% of new growth should occur within the Urban
Growth Boundary UGB, and within a five minute walking-distance from transit stations.

Three part station area development planning process of Hillsboro City:

1. Station Area Interim Protection Ordinance (SAIPO): prohibits non-transit supportive uses, min. density of 9-12 units per acre; min. floor/area ration of 0.5 for non-residential; design standards for pedestrian sensitive features; buildings to be oriented towards transit station – in effect till May 1996 at the latest, then station area master plans and station community plans were expected

2. Station Area Master Plans (STAM): Station Planning Advisory Teams for each master plan area; plans included site-specific proposals etc. but were not adopted by the city; instead zoning ordinances worked out directly on basis of master plan concepts; city entered into several planning agreements with private and institutional property owners

3. Station Community Plans (SCP): encompass larger areas than STAMs including LRT station, adjacent properties, existing single family neighbourhoods, apartment and townhouse communities, business centres and facilities within LRT station service areas; supposed to address issues such as more efficient land use, reducing traffic congestion, liveable neighbourhoods; long range (2015) plan were supposed to enhance land-use and infrastructure, incorporate transit supportive uses and pedestrian sensitive design into new devs. Within 10-15 mins walk from station (Orenco part of the Central Hillsboro SCP area with two others)

13. RELEVANT ORGANISATIONAL STRUCTURES

14. PLANNING PROCESS OF PROJECT
- Originally Orenco Station was zoned for industrial uses, but its code was changed to mostly mixed-use and residential. Working together, Pac Trust and the City of Hillsboro developed a code that balanced project feasibility with regional goals of higher-density mixed-use development around MAX station areas.
- Original planning of station locations and Westside Metropolitan Area Express route carried out by architects, urban planners, environmental planners and engineers; eliminated two stations planned, eliminated two others > alignment cost less and maximised potential for transit supportive developments
- Station originally planned south of rail line, next to historical neighbourhood of Orenco
- City of Hillsboro Station Community Planning Staff organized meetings with community and neighbourhood reps, developed 3 different concepts > station moved westward to allow direct access to PacTrust development site north of the line
- Orenco Station Master Plan developed by City, transit agency and land owners (PacTrust) > Public Private Master Planning (plan was approved by the City of Hillsboro in September 1997)
- Market assessment, design and transport consultants were brought in early on (Nov 1994) to create conceptual plan alternatives and to help making decisions about these alternatives
- two feasibility studies : transportation study > concluded that there were alternatives to the extension of a regional road, which would cut through PacTrust development; Economic Market Analysis (commissioned by consortium of property owners near Orenco Station) > presence of rail transit generates 7-10% increase in housing unit prices up to 550 metres from station, draws higher income and more educated demographic group
- based on economic reassurance, Master Plan and Design Guidelines were developed > development standards were agreed by city council and developers and adopted by the council
- open planning procedure (involving local public) and agreement on detailed design standards meant detailed zoning plan was not required, permits could be issued very quickly based on the contract and total planning time was reduced to three years
- mail survey to potential residents (from surrounding high-tech businesses) helped to determine floor plan mix and appearance of residences; details confirmed through consumer focus groups

15. PROJECT EVALUATION

- The existence of the urban growth boundary, the car-access problems to downtown Portland and the relatively high parking costs in downtown Portland allow high quality alternative concepts for suburban development.
- The urban growth boundary leads to a limitation of available and developable land. One consequence is that land values increase. Portland is supposed to have relatively high land prices. Another consequence is that real estate development becomes more predictable. As every developer faces the same rules, the risk for transit-oriented developments to be competed through projects with no transit context is reduced (especially for the medium to high standard categories).

POSITIVE FACTORS:

- The relatively low land price at the time of PacTrust’s land acquisition, the existence of an “Urban Renewal District” necessary for the city of Hillsboro to purchase all the land parcels of Ronler Acres and the fact that the assembled land was sold to PacTrust at the original price,
- The realization of the low revenue town centre – which was possible because of PacTrust’s own financing capacity,
- The possibility to avoid the original plan of the widening of Cornell Road, which took a heavy and risky effort by many influential persons
- The management of the public planning and zoning process through the city of Hillsboro and the involved consultants,
- The project flexibility, for example allowing the switch from rentals to condominiums at the multi-family housing units in proximity to the station,
- The readiness of the metropolitan government to accept lower housing densities than initially planned, to agree instead on a total number of housing units to be built and to accept the developers parking rations (based on a high level of mutual trust and avoiding to “create density for density’s sake” (Peter Becken, PacTrust president),
- The important financial participation of PacTrust for the entire local infrastructure, including the financing of all local streets, its design, the sewer system and the costs of removing the park & ride facility at the station and the financial participation in the planning phase.

- Orenco Station Community was voted the Best Planned Community by the National Association of Home Builders in 1999