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TRAVEL PLAN PLUS

T r a v e l R e d u c t i o n A t t a i n m e n t V i a E n e r g y - e f f i c i e n t L o c a l i t i e s P L A N N i n g

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Local Travel Plan Networks: Monitoring Report

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ABSTRACT

This deliverable provides an overview of the monitoring process to be performed within the TRAVEL PLAN PLUS project. It is a report on the development of the Data Monitoring and Evaluation framework (task 5.1), as described in work package 5.

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* The TRAVEL PLAN PLUS Consortium:

Loughborough University, Department of Civil and Building Engineering(U.K.)

Mobycon, The Netherlands

Cambridgeshire County Council Travel for Work Partnership, UK

Vägverket Region Stockholm (Swedish Road Administration), Sweden

Gyor Megyei jogú Város Polgármesteri Hivata (Municipality of Gyor) Hungary

Consell Comarcal Del Bages, Spain

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EXECUTIVE SUMMARY

TRAVEL PLAN PLUS stands for *Travel Reduction Attainment Via Energy-efficient Localities PLANning*. The project aims to deliver transport-sector energy savings by creating a new approach to site-based mobility management across Europe. It will see the concept of 'Local Travel Plan Networks' (LTPNs) being applied in several municipal areas.

The implementation of the LTPNs will consider a range of existing conditions and transport issues, including problems associated with transport for/around industrial estates, educational premises, airports and development corridors. The concept of 'Local Travel Plan Networks' will be applied in:

- **Cambridgeshire (UK):** the LTPN site comprises the Cambridge Science Park, the Cambridge Business Park and the St John's Innovation Centre. Businesses in the area are predominantly 'young' companies; therefore the LTPN can help to encourage more active travel patterns.
- **Stockholm (Sweden):** this site encloses a 9000 sqm freight terminal (Cargo City). The main challenge is to reduce the number of solo car journeys to and from work and to make sustainable travel options more attractive and reliable for the staff.
- **Gyor (Hungary):** within the Municipality of Gyor the LTPN project will promote the use of other transport modes than private vehicle in a central and suburb educational area.
- **Bages (Spain):** an industrial area difficult to access by any other mode of transport than the private vehicle. Car-pooling initiatives are the main challenges of this LTPN area.

This deliverable provides an overview of the monitoring process to be performed within the TRAVEL PLAN PLUS project. It is a report on the development of the Data Monitoring and Evaluation framework (task 5.1). It contains a short introduction of the methodologies used, the requirements imposed on the demonstration sites and it includes an overview of the data collection and evaluation procedures to be followed.



The following figure provides an overview of the different types of LTPNs (as detailed in D2.1a) and their relations with the demonstration sites.

	Cambridge	Stockholm	Gyor	Bages
1. Neighbourhood Transport Forum			✓	
2. Area Travel Plan	✓	✓		✓
3. Business Improvement District				
4. Transportation Management Association				
5. Local Transportation District				

- i. **Neighbourhood Transport Forums** are the simplest form of LTPN, consisting of informal gatherings of organisations and usually acting primarily as a venue for information exchange, which can sometimes lead to measures such as car sharing schemes being adopted.
- ii. **Area Travel Plans (ATPs)** are local networks that typically form in Development Zone-type environments. ATPs tend to operate as travel plans do at large single organisation sites such as large hospitals, universities and large company campuses – the main difference being that several organisations are involved instead of only one.
- iii. **Business Improvement Districts (BIDs)** are self-assessment districts formed by property or business owners. BIDs enjoy significant participation from their members and are formed for many reasons of which transport is sometimes one.
- iv. **Transportation Management Associations (TMAs)** are generally private, not for profit corporations formed so that employers, developers and/or retailers can collectively address transport-related problems.
- v. **Local Transportation Districts (LTDs)** are probably the most complex type of LTPN to set up and the most resource intensive. This is because they are effectively a Government body, unlike the other network types described above. However, they can also potentially be the most effective in delivering transport goals due to the greater range of instruments available.



Evaluation procedures

This deliverable contains the framework by which the individual LTPNs will be monitored and evaluated. The evaluation methodology consists of the following steps:

1. First the site objectives are determined per stakeholder. Objectives and targets are often confused with each other. They both describe things one wants to achieve or desired outcomes of work done. Objectives however refer to a higher vision and do not define specific quantitative thresholds that must be achieved.
2. Secondly, site-specific targets have been set, upon which the effectiveness of the measures will be assessed. The targets are based on the SMART model (Specific, Measurable, Ambitious, Realistic and Time-limited). It is however important to realize that targets are not made so ambitious as to become unrealistic. One has to prevent that targets are set so unrealistically high that they are considered unattainable and hence lead to people giving up.
3. It is often difficult to assess travel habits and the impact of mobility measures on individual users and society as a whole. Indicators are therefore developed for each target. Indicators are data that are easy to measure and ensure that results at field level can be aggregated and compared at project level.
4. Finally for each indicator the corresponding data collection method (instrument and parameter) has been determined (see section 4.3).

Assessment categories

The output of the evaluation procedure will be presented in several assessments. Throughout the project the categories listed underneath will be measured for each stakeholder per site. They consider the different effects a LTPN has on the individual sites and stakeholders.

- The operational assessment addresses aspects like the awareness and the acceptance of the services introduced of both companies and individuals.
- The financial assessment is related to the costs and benefits for the involved stakeholders. Does the LTPN bring value for money?
- The political assessment focuses on the management reasons to participate. This activity will have a descriptive character. It also includes possible additional external funding that has been generated by the LTPN.
- The energy assessment focuses on the question whether a reduction of approximately 10% in transport energy use -at each site- has been achieved by the end of the project. And if a modal shift of approximately 15% from single occupancy car use for each site has been achieved by the end of the project.
- The socio-economic assessment includes the overall effects on for example congestion and safety aspects. It thus addresses the benefits for society as a whole.



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1. Introduction

This section provides details of how the monitoring and evaluation activities contribute to TRAVEL PLAN PLUS and the implementation process later on in the project. It is important to realise that the evaluation process focuses on the individual sites; it does not evaluate the project itself or the overall project results.

1.1. Overall description of the TRAVEL PLAN PLUS Project

TRAVEL PLAN PLUS stands for Travel Reduction Attainment Via Energy-efficient Localities PLANning. The project aims to establish travel plan networks at sites in the UK, Sweden, Hungary and Spain to deliver energy savings.

Problem: A travel plan is a package of measures tailored to the needs of individual organisations and aimed at promoting greener, cleaner travel choices and reducing reliance on the car. Unlike the traditional approach to addressing transport problems of providing more capacity, travel plans can be quick, cheap, effective and popular. Yet they remain uncommon. This is because they rely on organisations to help solve a problem that is not usually a core concern.

The solution: To establish a local group or Local Travel Plan Network (LTPN) of organisations to share resources and ideas for developing and implementing a travel plan in their area.

1.2. Objectives of this project

The TRAVEL PLAN PLUS project aims to deliver transport-sector energy savings by creating a new approach to site-based mobility management across Europe. It will see the concept of 'Local Travel Plan Networks' (LTPNs) – which can offer economies of scale in terms of resource availability and political influence over traditional organisation-focused travel plans – being applied in the municipal areas of Cambridgeshire (UK), Stockholm (Sweden), Gyor (Hungary) and Bages (Spain). These implementations will consider a range of existing conditions and transport issues, including problems associated with transport for/around industrial estates, educational premises, airports and development corridors.

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The overall objective of TRAVEL PLAN PLUS is to promote energy efficiency through the use of LTPNs across the EU, and it will:

- Develop a framework in order to aid and promote the implementation and dissemination of LTPNs in a systematic way
- Implement four LTPNs in representative locations across the EU
- Monitor and evaluate these LTPNs
- Provide recommendations for developing an effective policy framework
- Encourage and support the widespread adoption of LTPNs across the EU

The work undertaken will also provide important guidelines on the implementation process, which will be of use to policy makers and implementers.

1.3. TRAVEL PLAN PLUS Project Overview and Structure

The TRAVEL PLAN PLUS project is organised into eight work packages. These are:

- Work package 1 – Project Management
- Work package 2 – State of the Art Review
- Work package 3 – Planning for LTPN Implementation
- Work package 4 – LTPN Implementation
- Work package 5 – LTPN Monitoring and Evaluation
- Work package 6 – Policy Framework and Implementation Guidelines
- Work package 7 – Communication and Dissemination
- Work package 8 – Common Dissemination Activities.

The function of work package 5 is to activate the systematic collection of the data needed, not only to derive the transport and energy impacts of the LTPNs, but also to provide information on the implementation process that will be of use to policy makers and other implementers. WP5 thus provides direct input for WP6.

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1.4. Structure of this deliverable

This deliverable provides an overview of the monitoring process to be performed within the TRAVEL PLAN PLUS project. It is a report on the development of the Data Monitoring and Evaluation framework (task 5.1). It contains a short introduction of the methodologies used, the requirements imposed on the demonstration sites and it includes an overview of the data collection and evaluation procedures to be followed.

This report consists of the following sections:

- Section two contains a short description of the LTPNs.
- Section three contains the validation framework and methodology.
- Section four contains an overview of the objectives of the different stakeholders involved in the trials. These objectives are transferred into measurable indicators, upon which the data collection method is based.



2. The TRAVEL PLAN PLUS demonstration sites

This section briefly summarises the main characteristics of the four demonstration sites in terms of context, objectives and measures.

2.1 Overview of the sites

The next figure provides an overview of the different types of LTPNs (as detailed in D2.1a) and their relations with the demonstration sites.

Figure 2-1 The TRAVEL PLAN PLUS sites and types of LTPNs

	Cambridge	Stockholm	Gyor	Bages
1. Neighbourhood Transport Forum			✓	
2. Area Travel Plan	✓	✓		✓
3. Business Improvement District				
4. Transportation Management Association				
5. Local Transportation District				

- i. **Neighbourhood Transport Forums** are the simplest form of LTPN, consisting of informal gatherings of organisations and usually acting primarily as a venue for information exchange, which can sometimes lead to measures such as car sharing schemes being adopted.
- ii. **Area Travel Plans (ATPs)** are local networks that typically form in Development Zone-type environments. ATPs tend to operate as travel plans do at large single organisation sites such as large hospitals, universities and large company campuses – the main difference being that several organisations are involved instead of only one.
- iii. **Business Improvement Districts (BIDs)** are self-assessment districts formed by property or business owners. BIDs enjoy significant participation from their members and are formed for many reasons of which transport is sometimes one.
- iv. **Transportation Management Associations (TMAs)** are generally private, not for profit corporations formed so that employers, developers and/or retailers can collectively address transport-related problems.
- v. **Local Transportation Districts (LTDs)** are probably the most complex type of LTPN to set up and the most resource intensive. This is because they are effectively a Government body, unlike the other network types described above. However, they can also potentially be the most effective in delivering transport goals due to the greater range of instruments available.



2.2 Cambridgeshire

Within Cambridgeshire County Council / Travel for Work Partnership (CCC/TfW), UK the NORTH MILTON ROAD EMPLOYMENT AREA – Cambridge, UK has been identified as the LTPN area. This area of Cambridge has been chosen because there are several large neighbouring employment sites consisting of many companies. In addition, the LTPN area has significant issues with congestion and there is considerable existing monitoring data for some of the area.

There is significant potential to co-ordinate a travel plan network at this site. TfW will work with five employment sites to establish a Local Travel Plan Network. These sites consist 190 employers and 12000 employees and students.

The LTPN site is adjacent to a large, new mixed residential development called Orchard Park. This location has been subject to a recent, successful personal travel plan marketing project. Should the LTPN at the north Milton Road site be successful, it may be able to engage with this residential community to make the LTPN initiatives even more effective.

2.2.1 Description of the geographical location and context

The LTPN site comprises the Cambridge Science Park, the Cambridge Business Park and the St John's Innovation Centre. These are purpose built parks of serviced offices.

There is very good **road access** to the site. The A14 links the LTPN area to the towns of St Ives, Huntingdon and the city of Peterborough to the North; and to Newmarket and the county of Suffolk to the East. The local motorway (M11) and, via a short stretch of the A14, links the LTPN site to towns south of Cambridge City, to Stansted Airport and to London. The A10 trunk road directly links the site to the town of Ely and further north to the Norfolk county coast. Within the LTPN area there has been much development in recent years to improve vehicle access from the A14 into the LTPN area.

The LTPN area is very well placed at the northern end of the Cambridge **cycle route network**. There are several on-road, shared pedestrian/cycle routes and quiet local road links from Cambridge City centre and suburbs. Linkages to the village of Milton to the north are also very well served by a recent cycle/pedestrian bridge across the A14. Access from other villages to the north of the A14 is possible, with some use of on-road or shared footpath cycle routes. In addition, Cambridgeshire County Council is currently implementing a recently won initiative that will make Cambridge a UK 'Cycling Town'. A new Guided Bus route will provide a significant cycle 'highway' from the north directly into the LTPN area from early 2010.

The area is currently serviced by four **bus services** departing from several villages near Cambridge passing through the city centre terminating at the LTPN site. One of the services is Park and Ride. This bus visits the Science Park site during the morning rush hour. From late Summer 2009 the LTPN area will be directly served by Europe's longest **guided busway system**. This will see a new and attractive public transport option, with high quality buses running up to every 10 minutes.

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Cambridge City **railway station** is approximately 3 miles from the LTPN area. The station has direct linkages to many of the region's larger towns. However, there is no direct bus link to the LTPN area. Waterbeach station is located in a village approximately five miles north of the LTPN area. There is a cycle route linkage to this station.

2.2.2 LTPN characteristics

The main characteristics of the site are:

- a) The LTPN area is 'fed' by the major A14 trunk road, which is notoriously congested and often suffers from significant delays due to road crashes. The LTPN should do much to alter the perception that employer action can affect **congestion**.
- b) **Parking** is a problem for several employers in the area. However, there is significant on-road parking currently permitted in parts of the LTPN area. The initial phases of the implementation process will review the parking situation.
- c) The LTPN area is located just outside two **Air Quality** Management Areas (AQMA). However, traffic to and from the area will impact on both AQMAs. Therefore positive modal shifts should have a positive effect on air quality in these AQMAs.
- d) CCC/TfW is keen to highlight the added benefits of encouraging more **active travel**. Businesses in the area are predominantly 'young' companies. There is an active gym and fitness centre available to employees in the area.

The objectives of the LTPN site are mentioned in the next table. In the last column the potential measures are outlined, sorted by objective. Please note that measures can support the realisation of more than one objective.



Table 2-1 LTPN objectives in Cambridgeshire

Ref.	Objective	Potential measures
O1	To reduce CO2 associated with travel to and from the CCC/TfW TRAVEL PLAN PLUS LTPN site	1) Promote car sharing 2) Promote cycling to the LTPN area 3) Promote bus use e.g. 4) Promote train use e.g.
O2	To reduce congestion around the CCC/TfW TRAVEL PLAN PLUS LTPN site	5) Promote walking to the area 6) Consider feasibility of establishing a car club at the LTPN site 7) Promote work-life balance initiatives
O3	Increase organisational efficiency	7) Promote work-life balance initiatives 8) Promote use of Business Travel Plans 9) Promote/facilitate use of Video and Audio Conferencing 10) Establish and maintain travel website for the LTPN area 11) Develop and implement a communications plan
O4	Increase sustainable/green image of the LTPN area	12) Promote area as sustainable travel destination

Details of the measures to be introduced can be found in the detailed implementation plan (D3.1) for the specific LTPN site.

2.2.3 Stakeholders involved in the demonstration

The following stakeholders are involved in the Cambridgeshire demonstration:

- UK Highways Agency (HA)
- Bidwells, Property Agents
- King Sturge, Property Agents
- St John's Innovation Centre Management
- Cambridge Regional College (CRC)
- Taylor Vinters Solicitors
- TRAVEL PLAN PLUS TP Coordinator
- TRAVEL PLAN PLUS Project Manager
- Company employee representatives



2.3 Stockholm

The Swedish demonstration site will be implemented within the Stockholm-Arlanda Airport boundaries. The LTPN area encloses a 9000 sqm freight terminal, called Cargo City. By 2012 two additional freight terminals will be realised at Cargo City, which will then have a total area of 150,000 sqm and thousands of staff.

Cargo City is a manual labour intensive work place specialising in freight management. Most employees work shifts (a normal day is divided into three shifts including the night) and rarely use computers in their daily work activities.

This site has been chosen as LTPN area by the involved stakeholders due to the airport's environmental permit regarding the 'emission cap' for CO₂ emissions. The 'emission cap' is currently a guideline for the accepted level of pollution generated by Arlanda. However, from 2016 the airport is committed by law to keep within this specific limit. The limit has already been exceeded in 2007 and 2008.

2.3.1 Description of the geographical location and context

Stockholm-Arlanda Airport is located approximately 45km north of Stockholm in the Municipality of Sigtuna and in the County of Stockholm. The airport is situated directly to the east of the E4 motorway, the main route travelling to the north and south of Sweden.

The airport's **road access** is very good. Arlanda, including Cargo City, connects with the nearby towns of Märsta and Sigtuna via the 273 and 263 whilst the 77 and E18 link the LTPN site to Norrtälje. The E4 provides access to Uppsala and Stockholm.

The provision of **bus and train services** (long-distance, high-speed and commuter services) is also very good. However, Cargo City is located 2km south west (approximately a 20 minute walk) away from the main terminals of the airport where the train and bus stations with frequent services are situated. The bus routes servicing Cargo City by Stockholm Public Transport (SL) are 583 and 538 between Märsta and Arlanda providing four services in peak hours. Uppland Public Transport (UL) run services 801 and 806 to Uppsala from all the airport terminals. The bus stop (called Fredriksbergsvägen) is located on Cargo Cityvägen outside the Cargo City security gate. Stockholm Public Transport (SL) is currently planning to increase the number of services on the 583 route.

There are recently upgraded **cycle and pedestrian routes** (partly segregated from traffic and partly shared with vehicles on the local roads) between Cargo City and Märsta/Sigtuna. These routes and other possible routes will be investigated in detailed during our second site visit in the early autumn (Sep-Oct 2009).



2.3.2 LTPN characteristics

The main characteristics of the site are:

- **Reduce the CO2 emissions**, as the airport's set 'emission cap' needs to be kept within the limits. However, the more specific focus of the LTPN area is to introduce sustainable travel options for staff working at Cargo City, which in turn will contribute to an attractive workplace.
- The main challenge is **to reduce the number solo car journeys** to and from work and to make sustainable travel options more attractive and reliable. According to the LVF Group, the majority of Cargo City employees travel to work by car and often on their own. Parking as such is not an issue as there is currently sufficient number of spaces in the allocated staff car park approximately 200m from the Cargo City staff entrance but public transport links are poor with only one bus servicing the site.

The objectives of the LTPN site are mentioned in the next table. In the last column of the table the potential measures are outlined, sorted by objective. Please note that measures can support the realisation of more than one objective.

Table 2-2 LTPN objectives in Stockholm

Ref.	Objective	
O1	In accordance with the Letter of Intent, to help reduce the airport generated pollution by encouraging sustainable staff travel to and from Cargo City which will: <ul style="list-style-type: none"> • Reduce CO2 emissions from staff travel; and • help the expansion of local Arlanda businesses and enable for new businesses to locate in the area 	<ol style="list-style-type: none"> 1) Improve Public transport 2) Car sharing 3) Cycling and Walking 4) Car parking
O2	To help improve and coordinate/sync sustainable travel options	
O3	Increase awareness among staff of possible alternatives other than the private car when travelling to and from work	<ol style="list-style-type: none"> 5) Newsletters on billboards incorporating benefits and 'success stories' of sustainable mode users 6) Investigate the need for a specific Cargo City website with travel information 7) Information in pay packets to reach all staff, including the night shifters 8) Set up a User Groups for cyclists, public transport users etc. 9) Provide up to date public transport timetables and provide free walk/cycle maps 10) LTPN events such as 'info breakfast

		<p>meetings' to remind and inform staff reluctant to change</p> <p>11) Investigate cost for using 'Personalised Travel Planning'</p> <p>12) Interest for events such as a launch party, 'cycle to work week' etc. will be investigated</p>
O4	To become a good example for the wider region, including additional Arlanda companies/staff, to take part in actions similar to those initiated at Cargo City	<p>13) Monthly update on the airport's intranet site/newsletter</p> <p>14) Issue press releases</p> <p>15) Airport wide presentations on LTPN progress</p>

Details of the measures can be found in the detailed implementation plan (D3.4) for the specific LTPN site.

2.3.3 Stakeholders involved in the demonstration

The following stakeholders are involved in the Stockholm demonstration:

- SL (Public transport company)
- Sigtuna Municipality
- Swedish Road Administration (SRA)
- The LFV Group
- The Stockholm Chamber of Commerce (Local committee for the Arlanda region)
- TRAVEL PLANplus Coordinator
- Private companies



2.4 Gyor

Within the Municipality of Gyor (Hungary), a central and suburb educational area have been identified as LTPN site. These educational sites have been chosen, because they have a high number of structural traffic problems. The Local Travel Plan Network has to transport more than 20,000 passengers to the educational sites. This means there is a significant potential to co-ordinate a travel plan network at this site.

The LTPN area will be served from June 2009 by new bus lines. A new bicycle strategy for the city is in planning stage; this will be finished in November 2009. These developments offer good opportunities to encourage a change in the modal shift towards public transport and bicycle use.

In addition, the municipality offers additional support for the project e.g.: financial funding to purchase new bikes for the children and to realise a rent-a-bike station with free travel courses.

2.4.1 Description of the geographical location and context

Gyor is located half way between Budapest, Vienna and Bratislava. Within the Municipality of Gyor, a Central and suburb educational area has been identified as LTPN area. All the educational Institutions in the City Centre are located next to main roads with high traffic intensities.

There is very good **road access** to the site. Within the city 80% of the roads is paved with asphalt. This offers easy accessibility to all schools by private vehicle. The M1 motorway connects many suburban areas to the entrance of the LTPN site. In the last two years there have been many road reconstructions in the area.

In the past two years there have not been many bicycle or pedestrian road initiatives. The challenge of the next years is how to improve walking and cycling facilities in the area, especially focusing on the different target groups e.g. students and parents.

All schools are easy accessible by bus services. The bus services supply all the city areas, however the timetables and the level of service have to be improved. The municipality and the public transport company working together hand in hand on a huge public transport develop project, that will be able to improve the level of services. Around all the schools there are several bus stations within 300 metres.

The **railway station** is approximately 500 metres from the LTPN site. The station has direct linkages to many of the region's larger towns. However, the trains are not really reliable on a daily basis and the railway company is owned by the state so the municipality is not able to change anything on this sight.

The LTPN area is part of the Gyor **bicycle route network**. There are several pedestrian/cycle routes and quiet local roads that connect Gyor City Centre and the suburbs to the schools. In addition, Gyor is currently planning its cycling strategy that will make Gyor the best 'Cycling Town' in Hungary. Extra funding has been provided by the municipality to improve the cycling infrastructure and to encourage and promote bicycle use.



2.4.2 LTPN characteristics

The main characteristics of the site are:

- a) Gyor and the major roads feeding it suffer from significant **congestion**.
- b) **Parking** is a problem for several parents around the schools. On-road parking is currently permitted in parts of the LTPN area. The initial phases of the implementation process will review the parking situation. None of the main employer sites that we have spoken to currently suffers extreme car park pressures.
- c) The **air quality** (pollution) is around the acceptable limit in the City Centre, this implies that the concentration of polluting particles is pretty high. A change in modal shift should achieve a positive effect on air quality.
- d) Sport activities and facilities (**Health and fitness**) are available for students in the schools, however children have to learn to live healthy outside school hours as well. This means encouraging more active travel like walking or biking to school on daily basis.

The objectives of the LTPN site are mentioned in the next table. In the last the potential measures are outlined, sorted by objective. Please note that measures can support the realisation of more than one objective.

Table 2-3 LTPN objectives in Gyor

Ref.	Objective	
O1	To reduce CO2 emission of the travel to schools site	1) Promote car pooling 2) Promote cycling 3) Promote bus use 4) Promote walking 5) Promote healthy and sustainable life style 6) Promote use of travel plans 7) Establish and maintain travel website for LTPN area 8) Develop and implement a communications plan 9) Promote area as sustainable travel destination
O2	To reduce congestion around the schools site	
O3	Increase organisational efficiency	
O4	Increase sustainable/green image of the LTPN area	

Details of the measures can be found in the detailed implementation plan (D3.3) for the specific LTPN site.



2.4.3 Stakeholders involved in the demonstration

The following stakeholders are involved in the Gyor demonstration:

- Road Organisation of the Municipality of Gyor
- National Authority of Transport -West-danubean Region,
- Transportation Authority of Gyor-Moson-Sopron County
- Transportation Organisation of the City of Hungarian Transportation Authority
- Széchenyi István University
- NYME
- TRAVEL PLAN PLUS Coordinator and Project Manager
- KERET, REFLEEX Fehér Nyíl
- Schools in the LTPN area

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2.5 Bages

The Santa Anna industrial area, in the central parts of Catalonia has been identified as the Spanish LTPN area. This has approximately 6,000 employees and around 300 companies (2009). Trips between residence and work are dominated by the use private vehicles (98%), while the use of public transport is remarkably low. The important share of employees that travel as private vehicle passengers (21%) indicate the existence of an important number of informal (self-organised) car-pooling initiatives and thus the need and possibility to develop these further.

2.5.1 Description of the geographical location and context

The selected site consists of a number of industrial estates situated within the limits of the municipalities of Santpedor and Sant Frutos. The Santa Anna industrial area includes the industrial estates of Riu d'Or, Santa Anna I, Santa Anna II and Santa Anna III in the municipality of Santpedor and of Pla de Sanata Anna, La Serreta, Carretera de Berga and Sant Isidre in the municipality Sant Fruitos del Bages.

The Santa Anna industrial area is difficult to access by any other mode of transport than private vehicle. The industrial area is close to one of the most important road crossing points in Central Catalonia: the C25 highway connecting East-West Catalan counties and the C16 highway connecting North-South counties. These connections offer quick and good accessibility by private vehicle. However the dependency of private vehicle transport causes certain congestion problems at peak hours and also means problems of parking management at part of the estate.

As there are no public transport services nearby, Santa Anna is practically inaccessible by public transport. The services at the industrial estates of Santa Anna are inexistent. There is a number of company bus services in operation, offering services to the employees at Santa Anna. The services are however reported to have rather low numbers of users, although no official data is available.

The accessibility for pedestrians and cyclists unsatisfactory is also unsatisfactory. This is explained partly by the distant location of the Santa Anna industrial area far from the residential areas and partly by a general lack of adequate infrastructure. With better infrastructure, many work trips could and would be made by these modes of transport.



2.5.2 LTPN characteristics

The main characteristics of the site are:

- a) poor prevailing mobility conditions, meaning that the need for improvements is significant for all transport modes;
- b) informal car-sharing initiatives among the employees in the area;
- c) limited funds for mobility measures.

The main challenge is the low accessibility with all other modes of transport but private vehicle. This means that the current transport model is inefficient, discriminatory and leads to high-energy consumption and emissions. It also leads to problems with parking, traffic safety and high travel expenses.

The objectives of the LTPN site are mentioned in the next table. In the last column the potential measures are outlined, sorted by objective. Please note that measures can support the realisation of more than one objective.

Table 2-4 LTPN objectives in Bages

Ref.	Objective	Potential measures
O1	<i>Establish network for sustainable mobility management</i>	<i>Dissemination workshop, Promotion of sustainable transport area</i>
O2	<i>Improve accessibility to Santa Anna</i>	<i>Vanpool, Promotion of use of travel plans</i>
O3	<i>Reduce energy use</i>	<i>Vanpool, Promotion of public transport, Promotion of use of travel plans, Promotion of sustainable transport area</i>
O4	<i>Reduce CO2 emissions</i>	<i>Vanpool, Promotion of public transport, Promotion of use of travel plans, Promotion of sustainable transport area</i>
O5	<i>Reduce accidents</i>	<i>Vanpool, Promotion of public transport, Promotion of use of travel plans, Promotion of sustainable transport area</i>
O6	<i>Reduce costs</i>	<i>Vanpool, Promotion of public transport, Promotion of use of travel plans, Promotion of sustainable transport area</i>

Details of the measures can be found in the detailed implementation plan (D3.4) for the specific LTPN site. Please note that further measures are considered for future implementation. However, due to lack of necessary funding these are not included in the list and are not likely to be implemented within the time schedule of the project.



2.5.3 Stakeholders involved in the demonstration

The following stakeholders are involved in the Bages demonstration:

- County Administrative Board of Bages
- Municipality of Santpedor
- Municipality of Sant Fruitos de Bages
- Chamber of commerce of Manresa
- Santa Anna industrial estate employers organisation
- CCOO – trade union
- UGT – trade union
- Private companies: Regio 7, Denso, Caixa Manresa, Metalbages, Indepol, DHL, Pujol Muntala, Freigel, Vilardell Purti, Magneti Marelli, Friman



3 The Travel Plan Plus evaluation framework

This section presents the framework by which these individual and the overall TRAVEL PLAN PLUS results will be monitored and evaluated. It is important to realise that the evaluation process focuses on the individual sites, it does not evaluate the project itself or the overall project results.

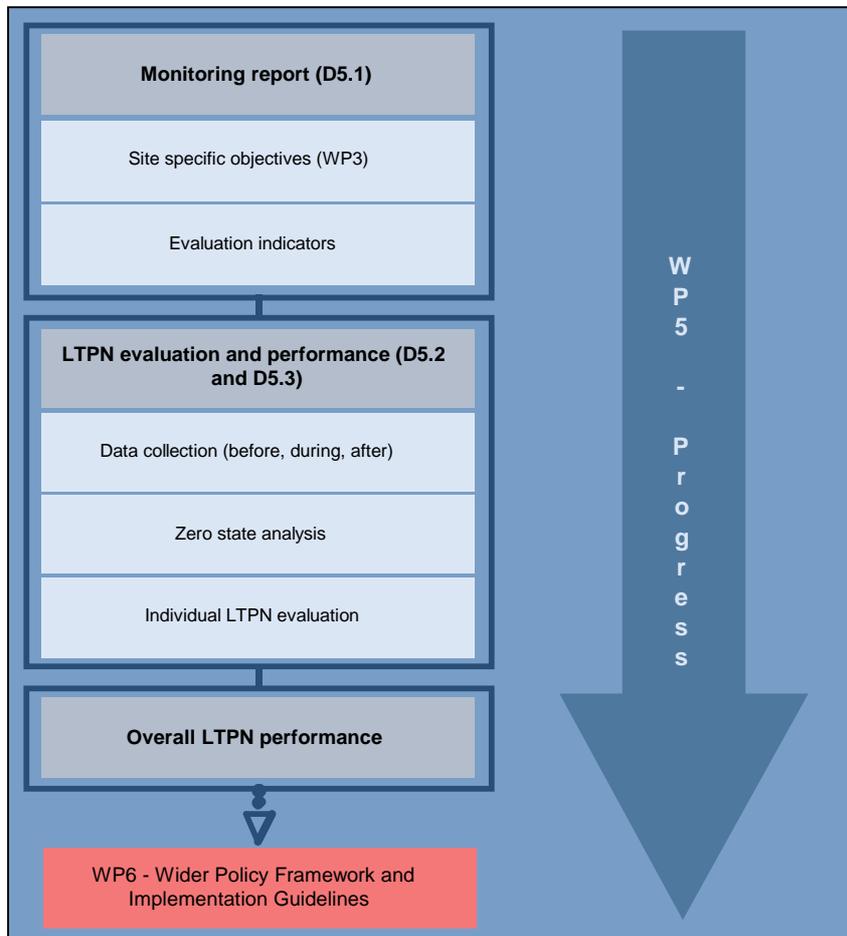
3.1 The monitoring and evaluation framework

The main aim of the monitoring and evaluation performed within WP5 (LTPN monitoring and evaluation) is:

1. to assess the effectiveness of LTPNs for the stakeholders involved,
2. to assess the impacts of the LTPNs on transport and energy,
3. to provide input for the policy framework to be developed in WP6.

In this section the **monitoring framework** will be described in more detail. The following figure gives an overview of the different steps.

Figure 3-1 The TRAVEL PLAN PLUS monitoring and evaluation framework





3.1.1 The monitoring report

In the monitoring report (this deliverable) a general approach is described to ensure that results at site level can be aggregated and compared at project level. Besides the methodology by which the individual LTPNs and the overall project results will be evaluated it provides guidelines for LTPN sites how to describe the site-specific objectives. Both steps are described briefly in the following paragraphs.

3.1.2 Analysis of site objectives

LTPN have the potential to achieve significant reductions in single occupancy car use and hence transport energy consumption. Accordingly, the specific aim of the TRAVEL PLAN PLUS project is:

to work towards the realisation of the 10-20% savings in transport-related energy consumption achievable at a local level through a comprehensive and holistic approach to transport planning, with LTPNs as the core component.”

While the overall project objectives imply for all demonstration sites, site-specific objectives may be added based on the local circumstances, problems, expectations etc. For each **stakeholder** involved in the project the **objectives** therefore need to be determined.

The determination of site objectives (=expectations) before the actual implementation of the LTPNs is a crucial factor for a sound assessment process, since it forms the base for the evaluation process later on. In particular, it is essential for determining the overall performance (WP5), as well as local set-up and implementation (WP4). The outcomes are presented in table 4.1.

For all stakeholders the defined objectives will be classified into evaluation categories and translated into targets and measurable indicators. Hereafter, the data collection per indicator needs to be described. The results of these activities are described in work package 3 and summarized per site in section 4 of this deliverable.

Complementary information is documented in the following deliverable reports:

- D3.1 - Detailed LTPN implementation Plan – Cambridgeshire
- D3.2 - Detailed LTPN implementation Plan – Stockholm
- D3.3 - Detailed LTPN implementation Plan – Gyor
- D3.4 - Detailed LTPN implementation Plan – Bages



3.1.3 The zero-state analysis

The objective of the zero state analysis (ZSA) is twofold.

- I. First of all it describes the **current situation** of the processes under investigation, i.e. the situation before the LTPN has been implemented.
- II. Furthermore it includes the **expected impacts** of the stakeholders involved in the different LTPNs.

The ZSA is necessary to have a starting point for measuring the real impacts in the evaluation phase. The actual impacts will be compared with the expected impacts in order to evaluate the performance of the LTPNs. Hence, the methodology used in the ZSA is part of the monitoring and evaluation methodology as described in this deliverable. The ZSA is based on the indicators developed in the analysis of the site-specific objectives.

The outcome of this activity will be included in Deliverable 5.2 and compared to the interim evaluation results (see section below).

3.1.4 LTPN evaluation and performance

The actual evaluation of the LTPNs will take place throughout the process. Results will be presented halfway and at the end of the project (Deliverable 5.2 & 5.3). Therefore, monitoring data –as set out in the Detailed LTPN Implementation Plans- will be collected throughout the project. In the TRAVEL PLAN PLUS evaluation there will be five categories of assessment: the operational, financial, political, energy and socio-economic assessment.

Throughout the project these categories will be measured for each stakeholder per site. They consider the different effects a LTPN has on the individual sites and stakeholders.

- The operational assessment addresses aspects like the awareness and the acceptance of the services introduced by both companies and individuals.
- The financial assessment is related to the costs and benefits for the involved stakeholders. Does the LTPN bring value for money?
- The political assessment focuses on the management reasons to participate. This activity will have a descriptive character. It also includes possible additional external funding that has been generated by the LTPN.
- The energy assessment focuses on the question whether a reduction of 10 to 20% in transport energy use -at each site- has been achieved by the end of the project. And if a modal shift of 15% from single occupancy car use for each site has been achieved by the end of the project.
- The socioeconomic assessment includes the overall effects on for example congestions and safety aspects. It thus addresses the benefits for society as a whole.



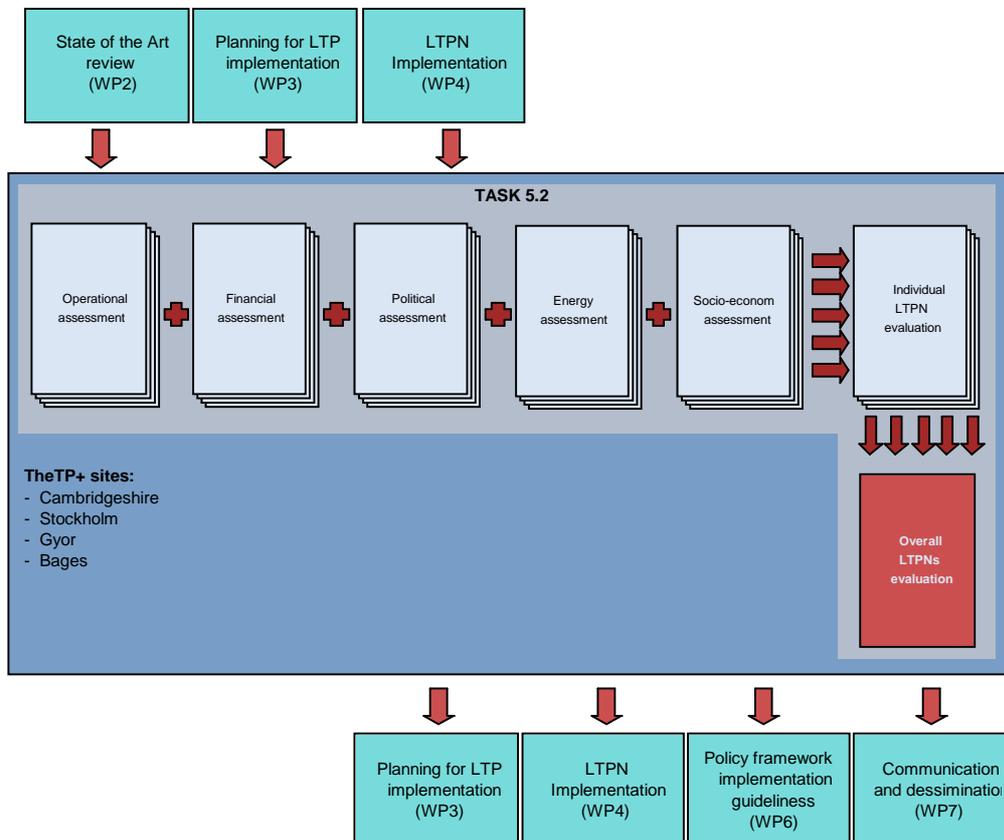
In the assessment one should be aware of the fact that e.g. registered changes in modal split are not necessarily the result of the measures taken within the scope of the TRAVEL PLAN PLUS project. It could also be that the change in modal split is caused by the opening of a new railway station or new bus lines, which was not part of the project. Similarly, a new housing project in the neighbourhood of the site could result in a significant shift, which is not the result of the project. Therefore it is very important for all sites **to carefully describe the external factors** that might have an impact on the results of the project.

3.1.5 Overall LTPN performance

As presented in the following figure, the five evaluations elements resolve in an overall individual LTPN evaluation per site. Hereafter a **cross-site common evaluation** will be carried out for the five defined categories (operational, financial, political, energy and socio-economic).

The outcomes will be held again against evidence collected in WP2 of how existing LTPNs in for example the US have performed. This enables the effectiveness of the LTPNs to be realistically evaluated and demonstrated. The lessons learnt will be captured and included in the Implementation Guide (D6.2), thus making it easier for future implementers to evaluate their own LTPNs.

Figure 3-2 The TRAVEL PLAN PLUS evaluation process





3.2 Data collection methods

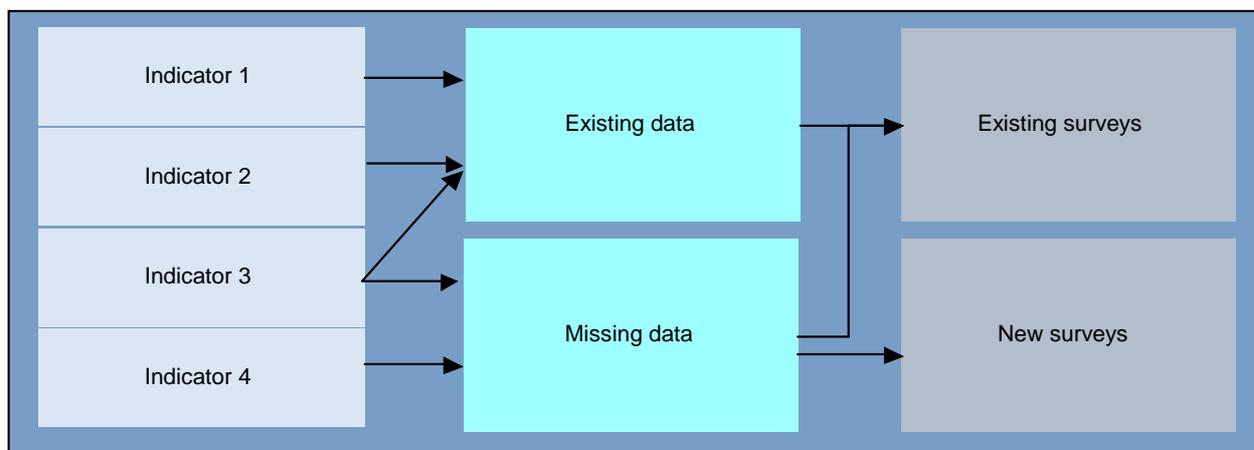
The data needed for the evaluation of the LTPNs will be collected in a variety of ways. Each data collection method uses **uniform formats** (indicators and parameters), so that results are comparable. Wherever possible, traffic figures or other quantified data are collected. In cases where quantified data is not available, the evaluation will be based on qualitative information.

The proposed data collection methods are:

- Interviews
- Existing local / in-company surveys
- Specific project related surveys / questionnaires
- Local workshops
- Traffic counts
- Data analysis
- Recording of external factors that might have an influence on the outcomes of the project (e.g. new infrastructure, economic development, new bus services, etc.)

All site-leaders are responsible for choosing the appropriate data collection method. However, in order to get the necessary performance indicators and experiences of the different stakeholders involved, analysis of the modal-split, the transport energy use and interviews with direct involved stakeholders are indispensable.

Figure 3-3 The TRAVEL PLAN PLUS data collection methods





3.3 Time schedule

Since WP5 includes both pre-demonstration and post-demonstration actions the following time schedule has been made.

Deliverable	Title	Due date	Responsible
D5.1	LTPN : Monitoring Report	Month 9 (Sept. 2009)	MOBYCON
D5.2	LTPN : Interim Evaluation Report	Month 18 (April 2010)	CCCTfW
D5.3	LTPN : Their Evaluation and Performance	Month 28 (February 2011)	CCCTfW



4 ANALYSIS OF SITE OBJECTIVES

The analysis of objectives forms the starting point for the evaluation of the TRAVEL PLAN PLUS trials. The determination of site objectives is always a crucial factor for a sound assessment process, since it forms the base for the evaluation activities later on. In particular, it is essential for the implementation of the Travel Plan network and the measures associated (WP4) as well as the evaluation activities later on (WP5).

In the first part of this section the stakeholders of the various demonstration sites are identified and classified into different categories. It gives an overview of how the different stakeholders are connected with each other.

In section 4.2 the objectives per stakeholder are presented. In the final section of this section the objectives are translated into indicators upon which the demonstration will be evaluated.

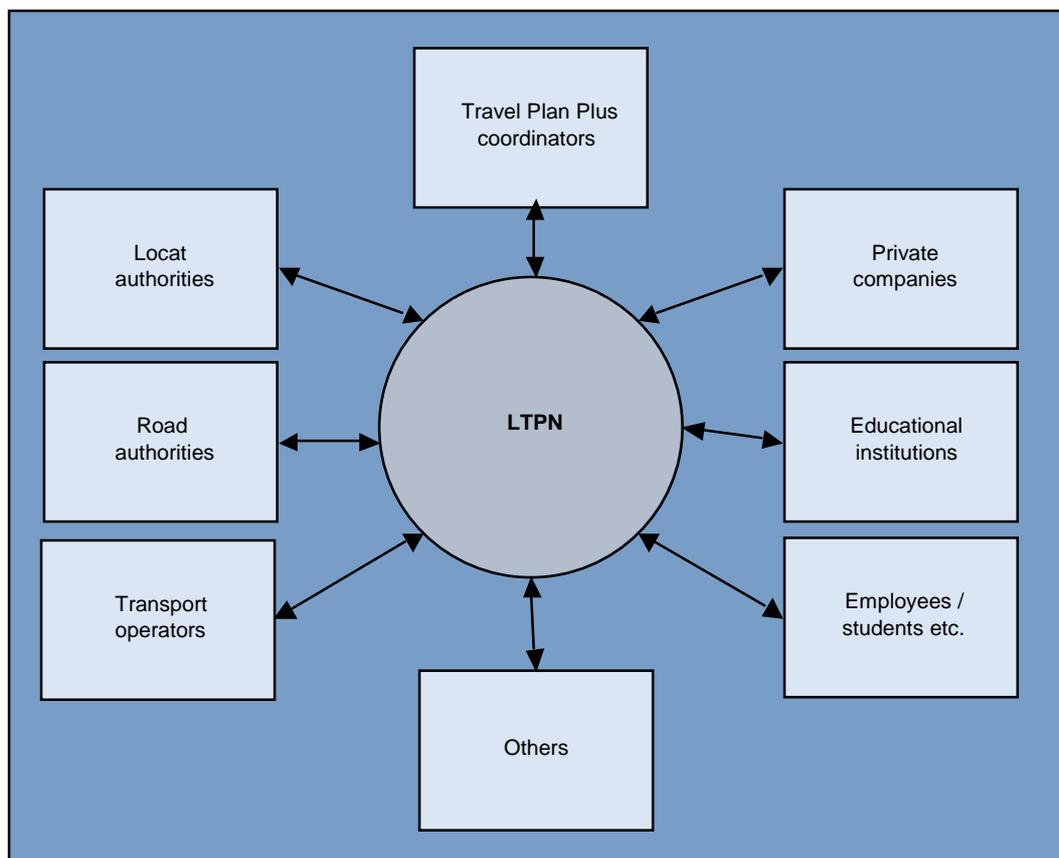
4.1 Classification of stakeholder

Based on the detailed implementation plans (WP3) a classification of the stakeholders at each site has been made. In the following tables we have clustered the different stakeholders in the following categories:

- Local TP coordinators
- Local and regional authorities
- Road authorities (UK Highways Agency, Swedish Road Administration, etc.)
- Private companies (including trade unions in Bages)
- Educational institutions
- Transport operators
- Employees
- Others (including society as a whole)



Figure 4-1 The TRAVEL PLAN PLUS stakeholders



For more details of the stakeholders involved we refer to the deliverables of WP3.

4.2 Overview of the site objectives

The information about objectives derives from a wide investigation among the above-defined stakeholders. The determination of site objectives is always a crucial factor for a sound assessment process and is a complex issue since the objectives are combined from many different actors involved, especially in a project like TRAVEL PLAN PLUS.

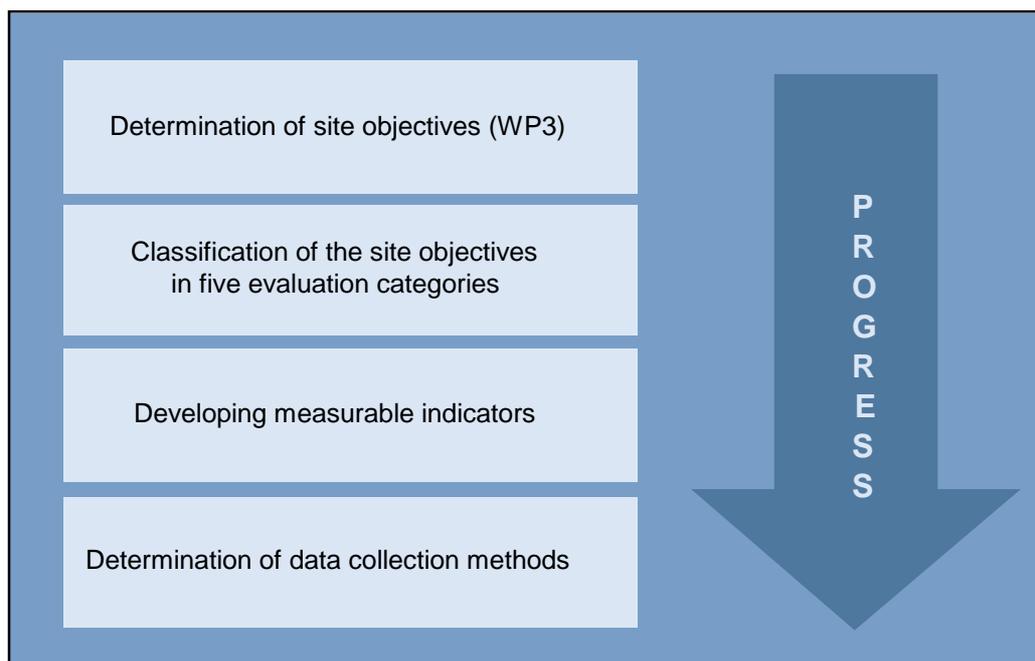
The analysis of site objectives forms the starting point of the evaluation, since the zero state analysis and the evaluation activities during the project will be based upon the objectives defined in the beginning of the project. The methodology for the analysis of the objectives is described in section 3.1.2 and consists of four steps:



1. First the **site objectives** are determined per stakeholder. Objectives refer to a higher vision and do not define specific quantitative thresholds that must be achieved. Objectives and targets are often confused with each other. They both describe things one wants to achieve or desired outcomes of work done. Objectives however refer to a higher vision and do not define specific quantitative thresholds that must be achieved.
2. Secondly, site-specific **targets** have been set, upon which the effectiveness of the measures will be assessed. The targets are based on the SMART model (Specific, Measurable, Ambitious, Realistic and Time-limited). It is however important to realize that targets are not so ambitious as to become unrealistic. One has to prevent that targets are set so unrealistically high that they are considered unattainable and people consequently give up.
3. It is often difficult to assess travel habits and the impact of mobility measures on individual users and society as a whole. **Indicators** are therefore developed for each target. Indicators are data that are easy to measure and ensure that results at field level can be aggregated and compared at project level.
4. Finally for each indicator the corresponding **data collection method** (instrument and parameter) has been determined (see section 4.3).

The objectives identified at the TRAVEL PLAN PLUS sites are presented in the following table. The site-specific targets are detailed in the separate Detailed Implementation Plans (WP3).

Figure 4-2 Translating site objectives into measurable indicators (per LTPN)





Ref.	Objective	Cambridgeshire	Stockholm	Bages	Gyor
O1	To reduce fuel consumption (energy use) of commuters to the LTPN	CO, LA, RA, PC, ED	CO, LA, RA, PC,	LA, PC	LA, ED
O2	To reduce CO2 emission of commuters to the LTPN	CO, LA, RA, PC, ED	CO, LA, RA, PC,	LA, PC	LA, ED
O3	To reduce congestion around the LTPN	CO, LA, RA, PC, ED			LA, ED
O4	To increase organisational efficiency / reduce costs	CO, PC		PC	
O5	To increase sustainable image of the LTPN area	CO, LA, PC	PC		
O6	To improve and coordinate sustainable travel options / establish network		RA, PC, TO	LA, PC	LA, ED
O7	To raise awareness of alternative for the private car for commuting		RA, PC, TO		
O8	To improve accessibility			LA, PC	
O9	To reduce accidents			LA, PC	

Table 4-1 Overview of the objectives per site

The abbreviations refer to the stakeholders as defined in section 4.1.

CO = TP coordinator

PC = private companies

LA = local authority (municipality)

ED = educational institution

RA = road authority

EM = employees

TO = transport operator



4.3 Evaluation indicators

The following table provides an overview of the general TRAVEL PLAN PLUS indicators, which will be used by the site-leaders to assess the impacts of the travel plan services. Site-specific elements will be added if needed to support the collection and analysis of the data needed.

It is important to realise that one should not only focus on quantifying the changes in behaviour, such as the number of motorised kilometres or fuel consumption (energy-use), but it is also important to study *why* changes have taken place. This means the data collection also includes reasons for participating in the LTPN.

Table 4-2 Evaluation indicators and data collection method LTPN.

		Indicators
<i>Background</i>	<i>External factors</i>	<ul style="list-style-type: none"> - availability of cycle routes - availability of public transport: routes, service, frequency etc. - parking facilities - shower and changing facilities
	<i>Person-related factors</i>	<ul style="list-style-type: none"> - gender - age - distance to work (km) - type of companies involved (offices, industrial, etc)
<i>Operational</i>	<i>Awareness of services</i>	<ul style="list-style-type: none"> - number of TP information meetings - number of posters at workplace, leaflets, articles, publications - number of people (employees, students etc.) - number of people (%) that are aware of the TP meetings - number of people (%) attending the TP meetings - number of people (%) aware of the services (alternatives) offered - number of companies (%) that are aware of the LTPN
	<i>Acceptance of services</i>	<ul style="list-style-type: none"> - number of people (%) tried the services offered - number of people (%) that are satisfied with the services offered - number of people (%) that have changed their travel behaviour - number of contacted companies - number of companies (%) that are positive towards a LTPN - number of companies (%) that have joined the LTPN - number of companies (%) that are satisfied with the services
<i>Financial</i>	<i>Costs and benefits of services offered</i>	<ul style="list-style-type: none"> - investments in physical measures (€) - costs of mobility services (€) - costs of promotion (€ & personal efforts) - direct benefits (€) for the individual stakeholders



<i>Political</i>		<ul style="list-style-type: none"> - management decisions to take part in LTPN (qualitative reasons) - number of companies (%) including business trips in travel plan - additional funding (€) generated by LTPN - media coverage of LTPN area as sustainable travel destination
<i>Energy</i>	<i>Direct impacts</i>	<ul style="list-style-type: none"> - influence on modal split (% per mode) - reduced vehicle kms per year - reduction in energy-use (fuel consumption in litres)
<i>Socio-economic</i>	<i>Indirect impacts</i>	<ul style="list-style-type: none"> - improvement in accessibility (qualitative description) - reduction on congestion (traffic jams: kms or hours) - reduction in number of accidents / fatalities - benefits for society as a whole (€) – for instance less emissions

Within Deliverable 5.2 the results of the zero-state analysis (“the before situation”) and the expected impacts (“the targets set in WP3”) will be held against the interim evaluation results. As detailed in this report, this enables the effectiveness of the LTPNs to be realistically evaluated and demonstrated.



5 Acknowledgements

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