



LAST MILE

Interreg Europe



European Union
European Regional
Development Fund



Analysis of the technical state of the art of regional public transport systems and particularly flexible systems in rural tourism regions

Final Report

Upper Sûre Nature Park

May 2017



NATURPARK
ÖEWERSAUER

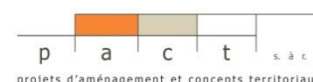
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Grevenmacher, Esch-sur-Sûre, 18.05.2017

All of the representations and graphics: pact s.à.r.l.

All of the maps are non-scaled

The report is available in pdf format. In the maps used in this report, the representation of locations of tourist accommodations and attractions is simplified to stay viewable. The detailed locations can be found on the map in the appendix containing all the information on points of interest and public transport network, which is also available as separate high quality pdf files.

For some themes, where it has been evaluated that this would be sufficient for the relevant statement, data is taken from the ten-yearly population census from 2011.

Data that is not available for Luxembourg respectively the territory of analysis is specifically marked by an orange box.

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1. Context of the report and methodology

The aim of this report is to describe the region of *Upper Sûre* and *Our Nature Parks* in Luxembourg by using the same universal system of indicators as for the other regions participating in the Last Mile Interreg Europe project.

The territory includes most of the northern region of the Grand-Duchy of Luxembourg with all the municipalities of the two Nature Parks¹. The southern border is represented by the town of Ettelbruck, which has an important strategical role as a hub for public transport (railway and bus exchange).

Based on the analysis of the general framework and the current situation in the region concerning the equipment and facilities for tourists and the public transport system and inspired by other examples for flexible transport systems in Luxemburg, a regional action plan for flexible transport systems in the tourism region ("last mile") is proposed².

The document is structured as follows:

1. Structural data of the region
2. Existing systems of planning aims/action plans/mobility concepts
3. Existing mobility systems
4. Communication
5. Need for action and analysis of lacks and potentials with SWOT analysis and action plan

Apart from an internet research by the contractor on the different themes, the main part of the information gathered in this document is based on the following sources:

- Structural data on the region concerning population and tourist infrastructure: data received by *Ministère du Développement Durable et des Infrastructures (MDDI) – Département de l'Aménagement du Territoire* (P. Groen)
- Data on public transport system – routes and bus stops – received by the Verkéiersverbond – situation of January 2017
- Information on public transport system: interview with Alex Kies – MDDI Département du Transport – 26.10.2016 and different internet sites (mainly www.mobiliteit.lu)
- Information on Bummelbus: interview with Sven Mausen and Claude Bertemes from *Forum pour l'Emploi (FPE)* – 02.02.2017– + internet site www.fpe.lu www.bummelbus.lu + data received per mail by FPE

All raw data is treated by the contractor depending on the focus that has been set for the analysis in this report. The complete sources are listed in the bibliography chapter at the end of this document.

¹ The 3 municipalities of Bourscheid, Goesdorf and Weiswampach are part of the Ardennes but not participating in the Nature Parks.

² Best practice examples taken from study visits are not part of the present report, but will be taken into consideration for the further development of the action plan.

2. Structural data of the region

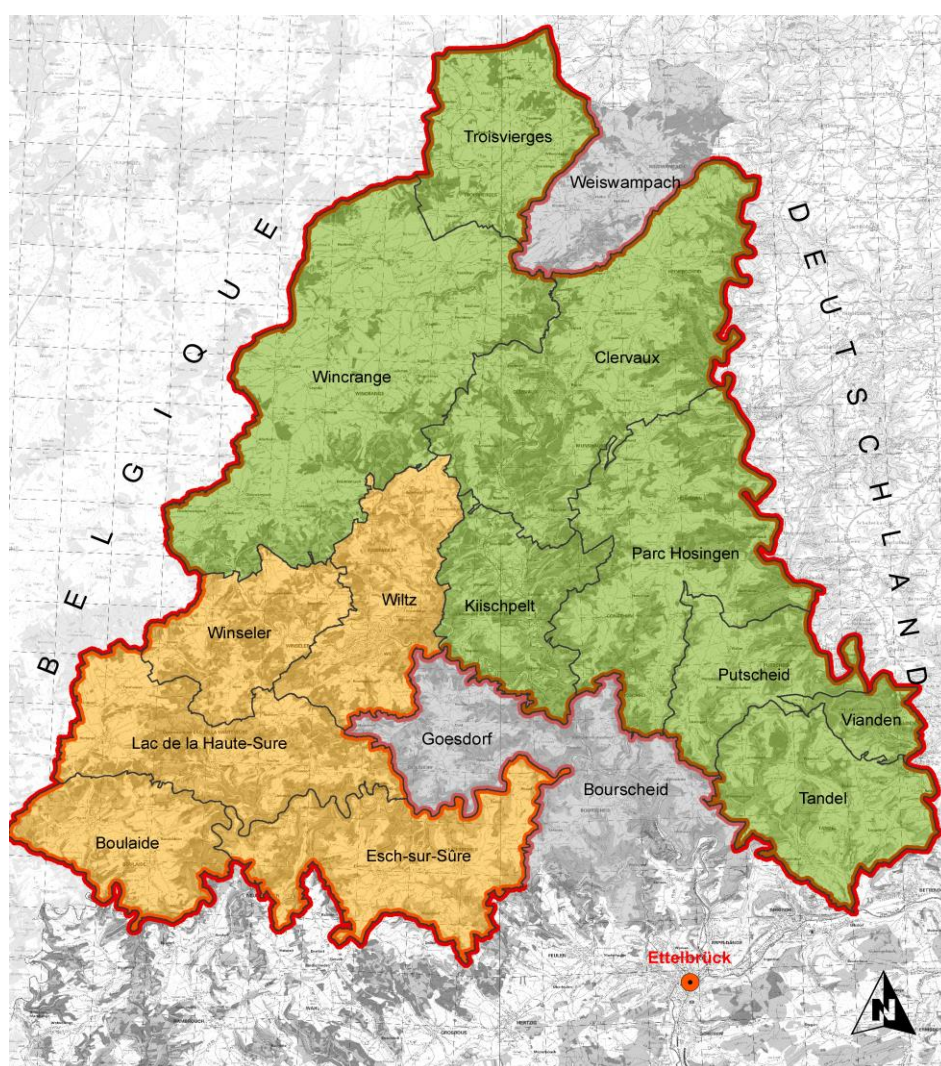
2.1. Region characterization

Territory

The territory has a mainly rural characterization and is part of the Ardennes Region (*Eislek* in Luxemburgish).

The following map shows the territory of analysis: the region of northern Luxembourg with the municipalities of the 2 Nature Parks (Upper Sûre in yellow and Our in Green), the municipalities in between (Weiswampach, Goesdorf and Bourscheid) and the public transport hub of Ettelbruck (railway and bus exchange).

Figure 1 : Study area

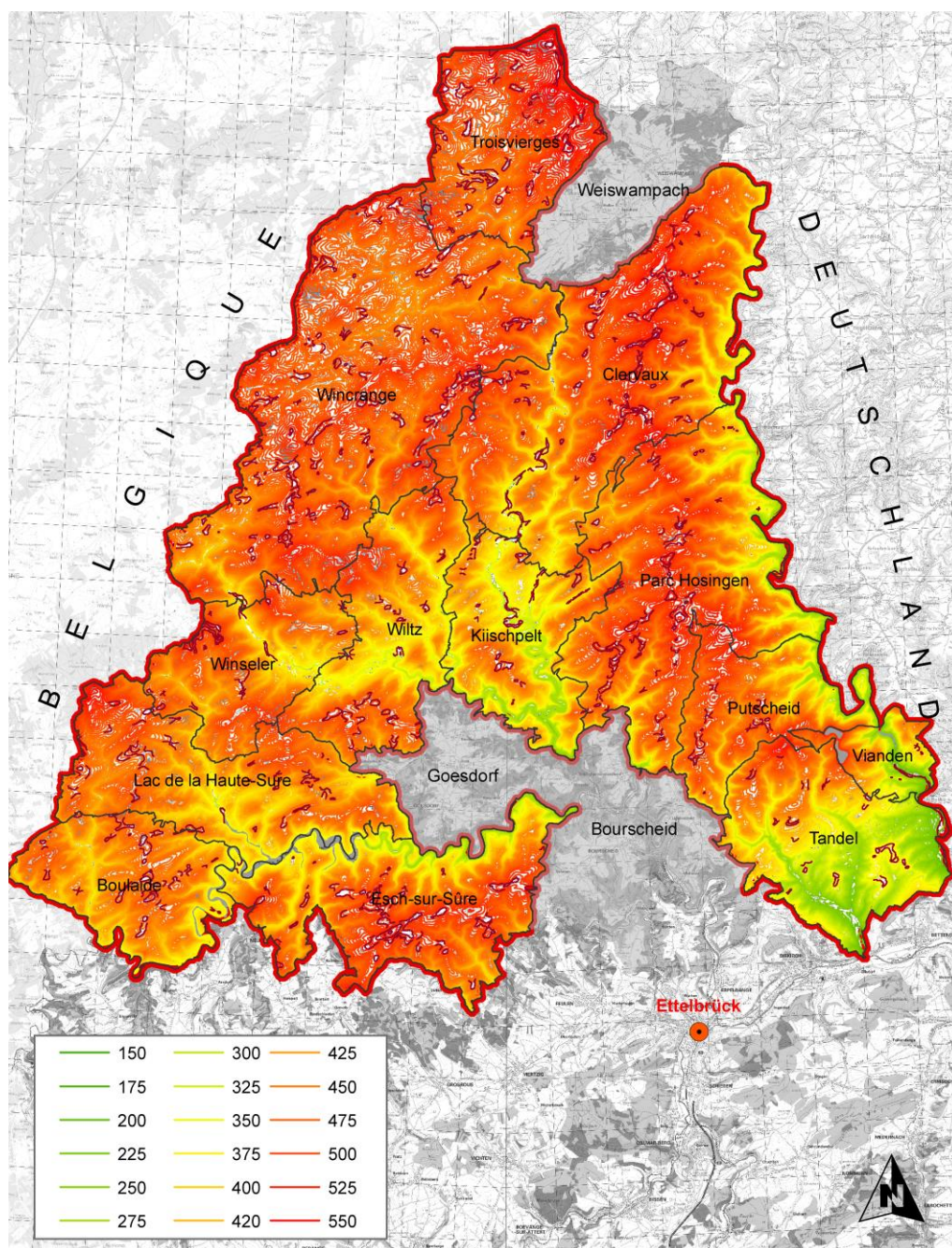


Source: Representation pact s.à r.l. – based on carte topographique 1:50.000 © ACT Luxembourg

The area of the 2 Nature Parks is approximately 621 km². With the 3 municipalities of Weiswampach, Goesdorf and Bourscheid, this makes a total area of 722 km². This correlates to ~24% (two Nature Parks) respectively 28% (including Weiswampach, Goesdorf and Bourscheid) of the territory of the grand-duchy of Luxembourg.

Territory	Surface	% of total area country
Upper-Sûre Nature Park	201 km ²	7,8 %
Our Nature Park	420 km ²	16,2 %
3 municipalities in between	101 km ²	3,9 %
Total territory	722 km ²	27,9 %

Figure 2 : Relief map



Source: Representation pact s.à r.l. – based on carte topographique 1:50.000 and BD-L-TC ©
ACT Luxembourg

The northern part of Luxemburg is characterised by a varied topography formed by the valleys
of the rivers *Sûre*, *Wiltz*, *Clerve* and *Our* with elevations between 150 and 550 m above sea
level.

Spatial planning objectives

The territory of analysis is a weakly structured and rural area. A railway line from Ettelbruck to Troisvierges, with a junction from Kautenbach to Wiltz and two national routes (*route nationale*) are the important traffic axes. The national spatial planning programme (*Programme Directeur d'Aménagement du Territoire - PDAT*) defines the three regional centres Clervaux, Wiltz and Vianden as development poles in the region. They are called *centres of development and attraction (CDA)*. The three cities have an importance for the area and also for the neighbouring municipalities because of the supply, the public infrastructure and their function as a work place. Furthermore the cities Ettelbruck and Diekirch, located in the south of the territory, have a great importance for the whole region, as they should function together as an *average (moyen) CDA* within the *Nordstad*.

The categorisation and localisation of the CDA and the urban system with the current economic system and the major trunk routes are shown in the following maps.

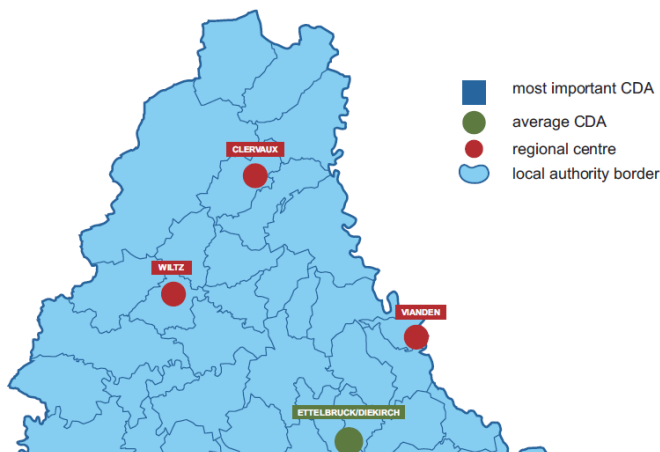
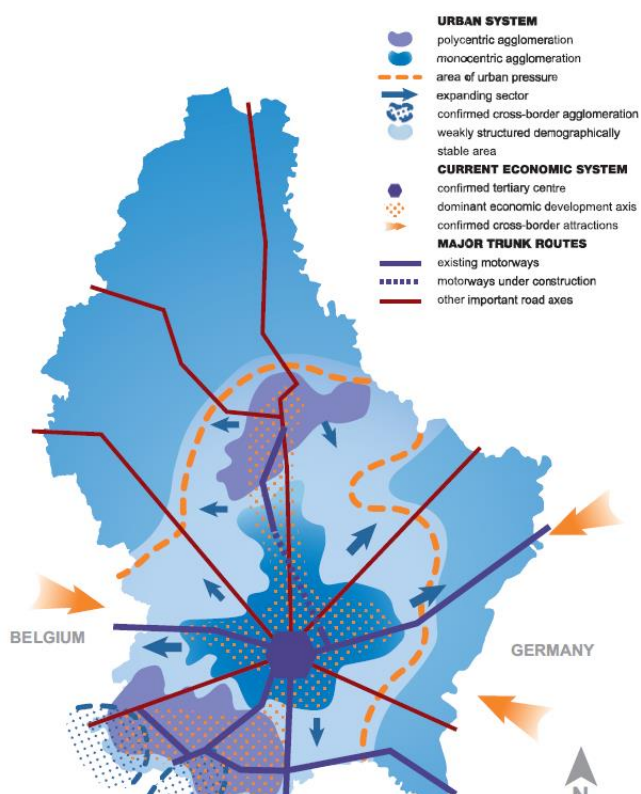
Figure 3: *Centres of development and attraction and urban system (PDAT)*

Source : Programme Directeur d'Aménagement du Territoire (2003)

Land cover

The two Nature Parks are mainly covered by forests and agriculture. To express this in terms of numbers it means that the landscape of Upper Sûre Nature Park is about 50% forest and 40% agriculture. With approximately 50% agriculture and 40% forest, this relation is reversed and the territory of the Our Nature Park is slightly more dominated by agriculture. In both Nature Parks, only 10% of the area are sealed surface.

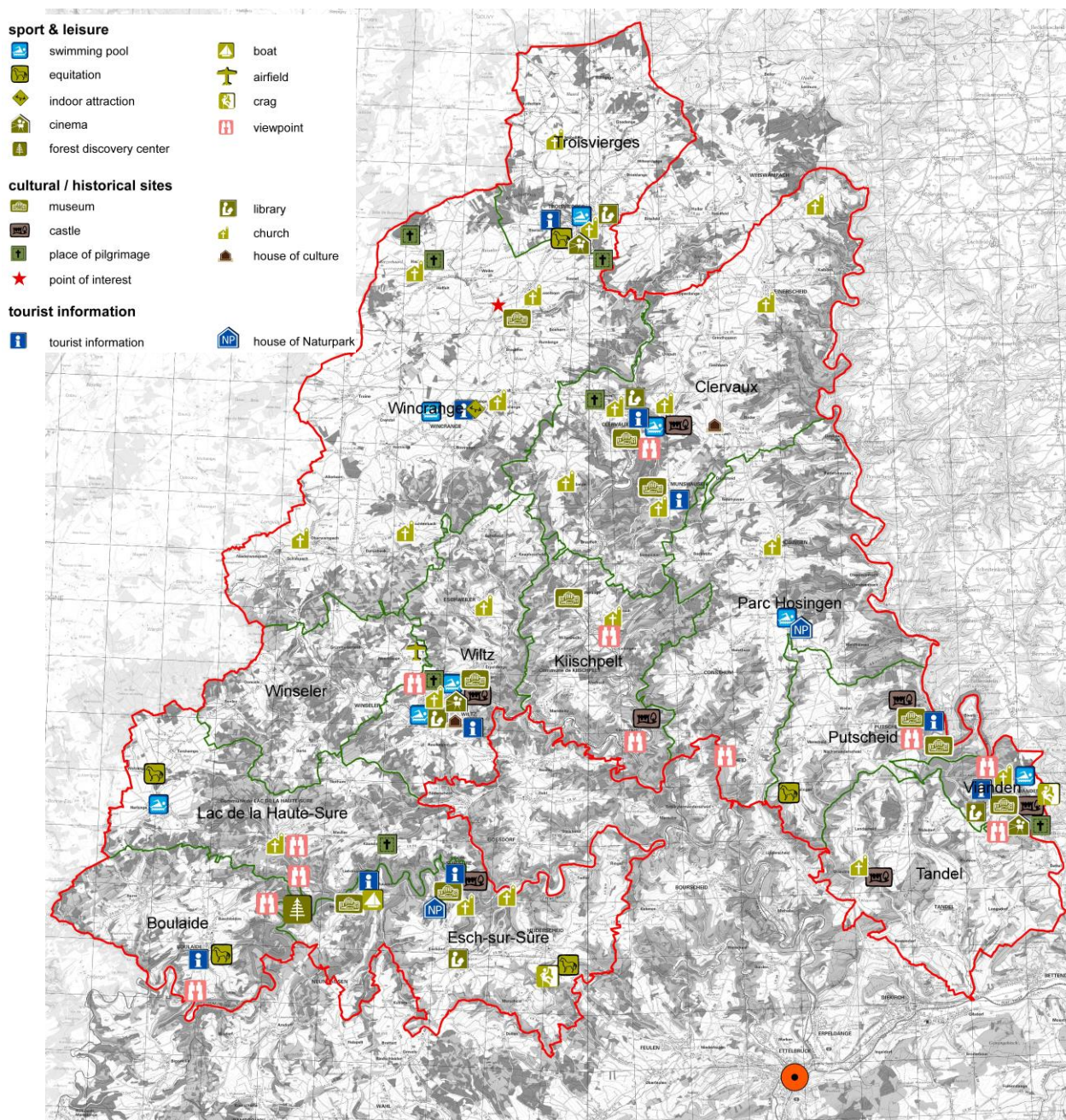
Another indicator for the high quality of the natural environment is that approximately 25% of the territories of both parks are covered by environmental protection zones (European Natura 2000 Zones or national environmental protection zones).



Tourist sites

The following figure shows the main tourist sites and tourist attractions in the two Nature Parks. This includes tourist information points, sports and leisure attractions and cultural / historical sites.

Figure 4 : localisation of tourist destinations and points of interest



Source: Representation pact s.à r.l., based on carte topographique 1:50.000 © ACT Luxembourg – information from points of interest gathered and prepared by MDDI DATER (details see bibliography)

There are several “Hotspots” where tourist destinations and attractions are concentrated, especially in the region of the barrier lake (Sûre) with the town of Esch-sur-Sûre, as well as the towns of Wiltz, Vianden, Clervaux and Troisvierges³.

2.2. Rural area characterization

Demographic situation

By the end of 2016 the Grand-Duchy of Luxemburg had a population of 576.249 inhabitants. The total population in the territory of the two Nature Parks is about 35.000 people, which accounts for approximately 6% of the country’s population. In comparison to the country (223 inhabitants/km²), the population density in the area is quite low with 56 inhabitants per km². In 2011, the population average age was 37, 8 years compared to 38, 8 years for the country.

Table 1 : population and density of population in the 2 Nature Parks

Territory	Population (inhabitants)	% of total population country	Density of population	Inhabitants / household
Upper Sûre Nature Park	13.100	2,3 %	65 inhabitants/km ²	2,66
Our Nature Park	21.515	3,7 %	51 inhabitants/km ²	2,70
Total territory	34.615	6,0 %	55 inhabitants/km ²	2,68

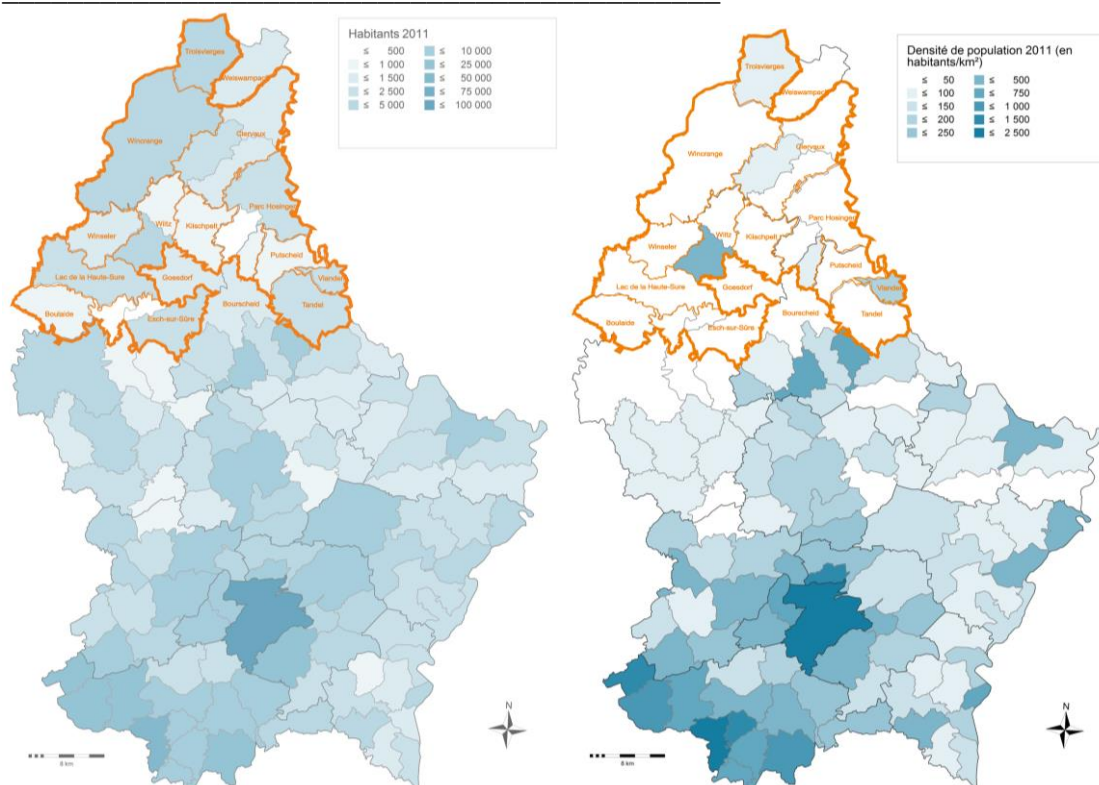
Source: Representation pact s.à r.l. based on data by STATEC gathered and prepared by MDDI DATer

The following figures show the population situation and density of population in 2011 compared to the other municipalities in the Grand-Duchy⁴. It shows, that Wiltz has the highest population density, followed by Vianden (they also represent the smallest territory as a municipality in the region).

Figure 5 : Maps showing population situation 2011 and density of population 2011

³ These hotspots will be analysed further in the context of public transport coverage in chapter 6.1

⁴ The picture with actual numbers would look the same. These maps have the advantage, that they show the situation before the merger of the municipalities Parc Hosingen, Clervaux and Wiltz.



Source: Representation pact s.à r.l. based on maps from STATEC – recensement de la population 2011

Demographic evolution

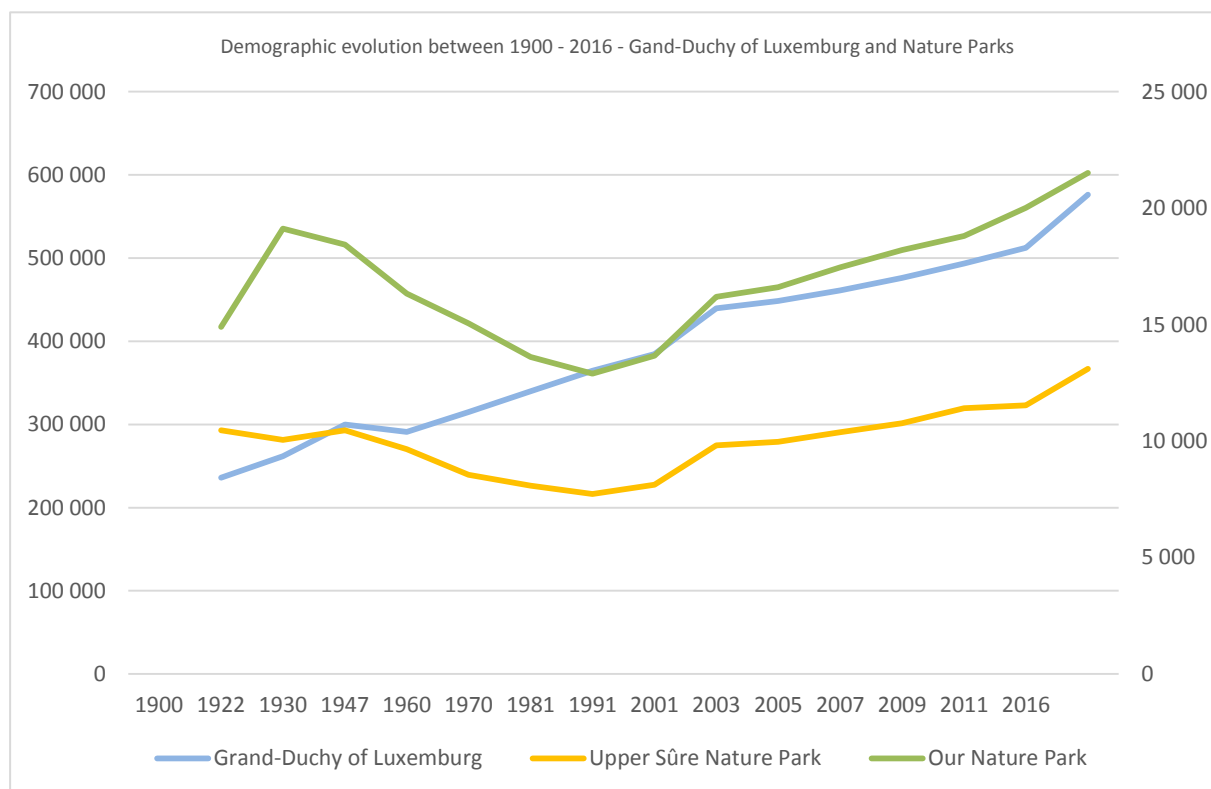
The following graphic shows the demographic evolution between 1900 and 2016 for the two Nature Parks compared to the Grand-Duchy of Luxembourg. While there has been a constant increase for the Grand-Duchy over the whole time period, there was a decrease in the two Nature Parks between the 1940s and 1990. Since then, there has been a constant growth, comparable to the rest of the country. As the following table shows, this increase has been stronger in the Nature Parks between 1981 and 2001, while it has been on the same level as the country between 2001 and 2016.

Table 2 : Population growth comparison between the country and the two Nature Parks

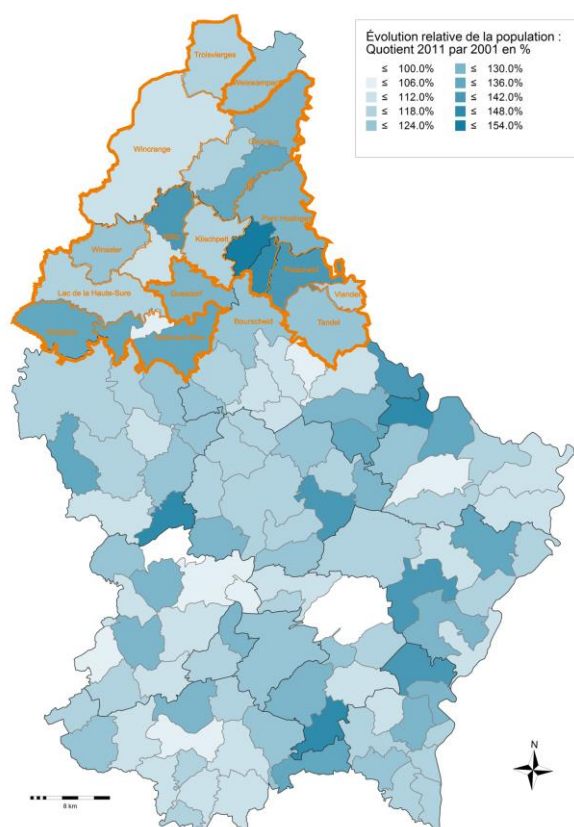
Territory	Growth % 1981-2001	Growth % 2001-2016
Grand-Duchy of Luxembourg	20,6 %	31,1 %
Upper Sûre Nature Park	27,1 %	33,5 %
Our Nature Park	25,6 %	32,9 %

Source: Representation pact s.à r.l. - based on data by STATEC gathered and prepared by MDDI DATer

Figure 6 : Demographic evolution between 1900 and 2016 - Grand-Duchy of Luxembourg and Nature Parks



Source: Representation pact s.à r.l. based on data by STATEC - gathered and prepared by MDDI DATer



This figure shows the population growth (in %) between 2001 and 2011 and the fact that in all the municipalities of the two Nature Parks the population has increased.

Figure 7 : Map showing population growth (%) 2001-2011

Representation pact s.à r.l. based on data by STATEC

Floating population

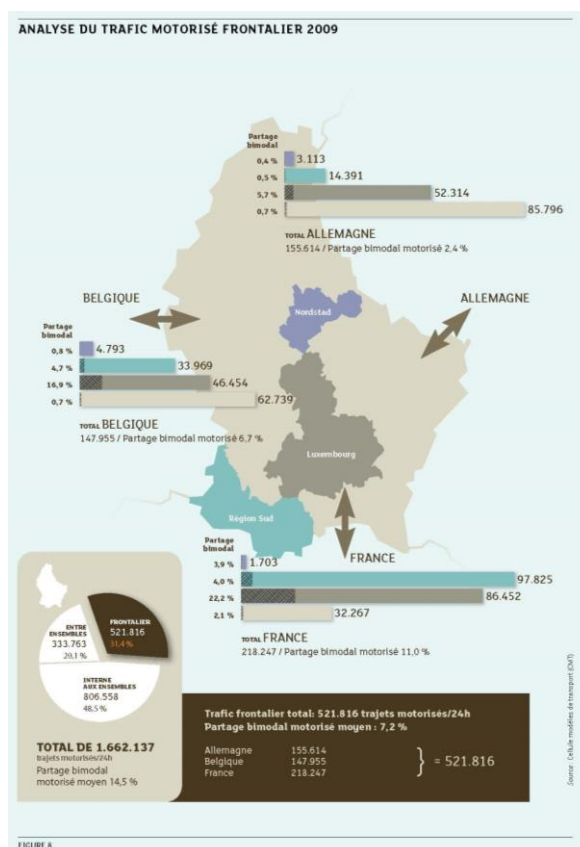
The economic situation in Luxembourg is characterised by a large amount by cross border commuters from Belgium, France and Germany. Due to a concentration of employments around the capital of Luxembourg, the largest part of commuting movements takes place in the southern part of the country.

For the area of the two Nature Parks, the main commuting movements take place over the 2 major roads RN7 (north) an RN15 (west) from Belgium.

Figure 8 : General situation of cross-border commuting Source: Modu page 25

Motorization level (vehicles/citizen)

In 2011, 78,4% of households were owning a private car.⁵ In 2014, there were 678 particular vehicles registered on 1000 inhabitants⁶.



⁵ www.statistiques.public.lu - Équipement des ménages privés en biens de consommation durables au 1er février 2011

⁶ Source : http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=road_egs_carhab&lang=fr

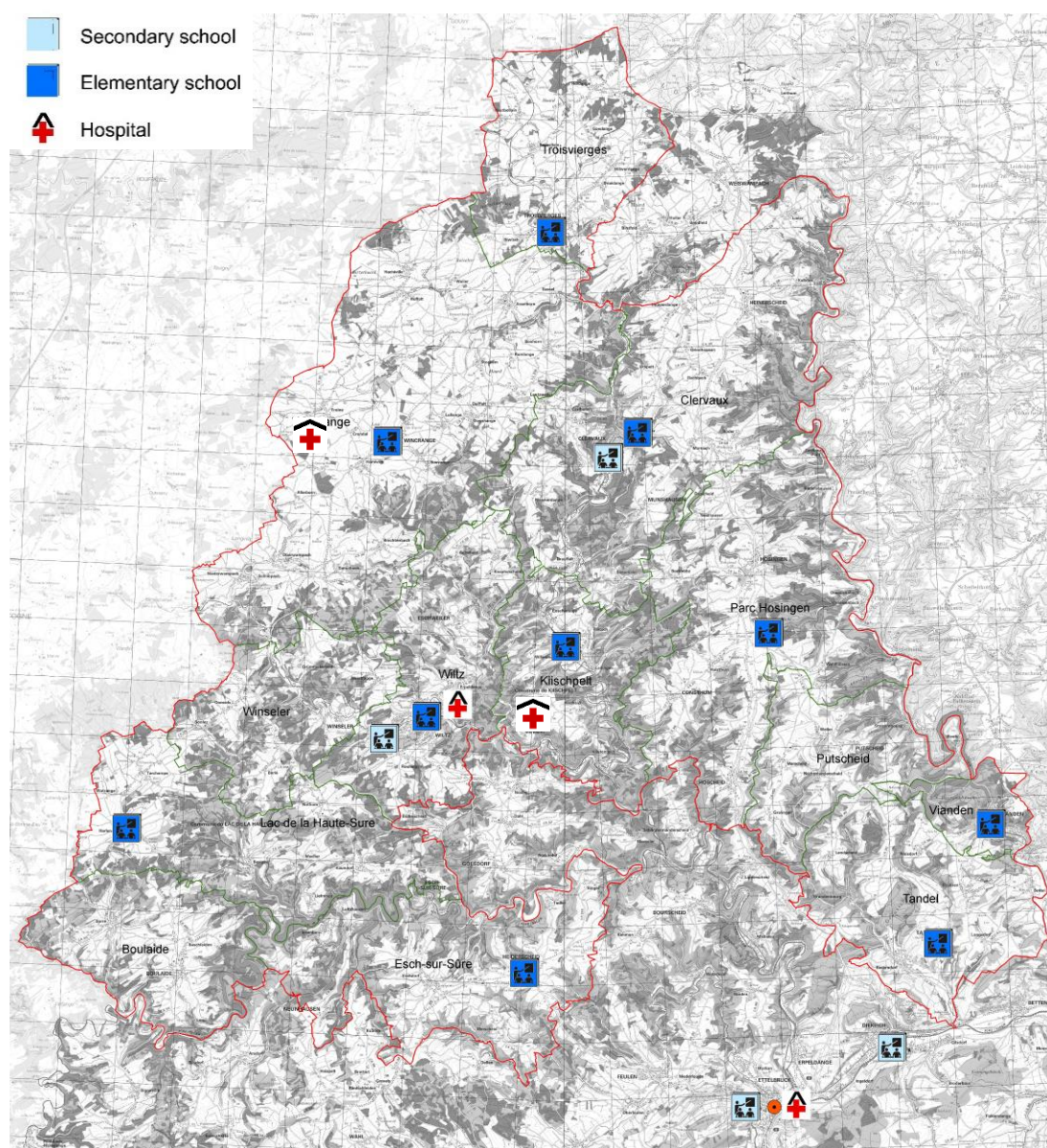
Distance to nearest educational and health facilities

In the territory of the two Nature Parks, a hospital is located in Wiltz, which is (meanwhile) a part of the hospital in Ettelbruck.

The system of elementary schools in this region is mainly characterised by centralised structures, where the pupils of different villages or even municipalities come together in one school location. The school transport to the elementary schools is organised by the municipalities.

The secondary schools (gymnasium) in the northern region are concentrated in Wiltz and Clervaux (in construction). The school transport to the secondary schools is organised in collaboration between the schools and the MDDI and Ministry of Education (and is free of charge for the pupils).

Figure 9 : Localisation of educational and health facilities



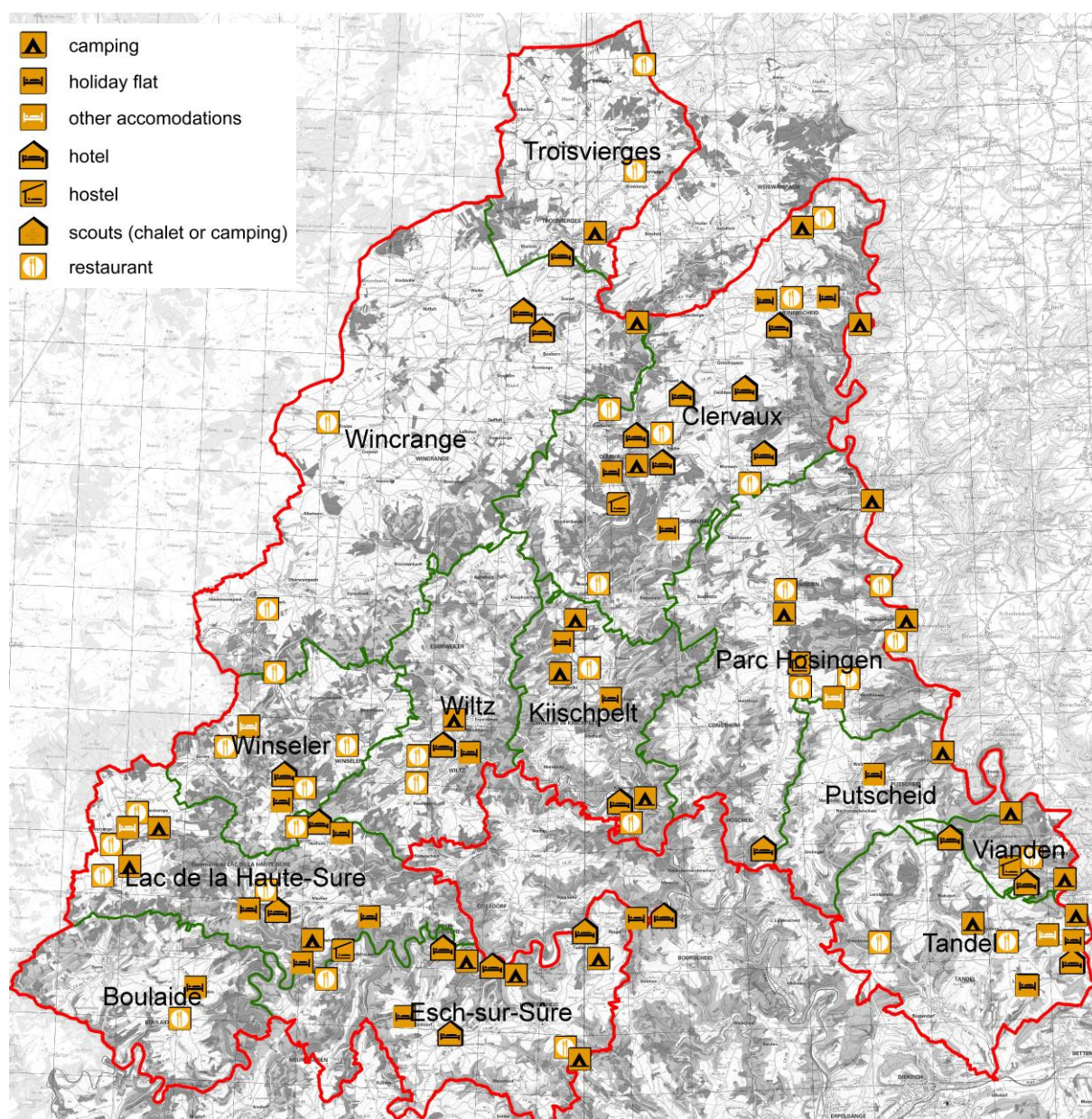
Source: Representation pact s.à r.l. - basemap carte topographique 1:50.000 © ACT Luxembourg - information elementary schools gathered and prepared by MDDI DATer (details see bibliography)

2.3. Tourist demand characterization

Number of accommodations and number of beds

The following maps show the distribution of the different accommodation categories and restaurants in the region. The total numbers are listed in the table below.

Figure 10 : Localisation of accommodations and restaurants



Source: Representation pact s.à r.l. - basemap: carte topographique 1:50.000 © ACT Luxembourg - information on accommodations and restaurants gathered and prepared by MDDI DATer (details see bibliography)

Table 3 : Accommodations in the two Nature Parks

Nature Parks	Hotels	Hotel Rooms	Camping	Camping pitches	Youth Hostels	YH rooms (beds)
Upper Sûre	19	136	10	1.555	1	26 (112)
Our	32	648	22	2.429	1	10 (66)
TOTAL	51	784	32	3.984	2	36 (178)

Source: Representation pact s.à r.l. - information gathered and prepared by MDDI DATer (details see bibliography)

Number of tourists per year

Comparable data for arrivals and overnight stays for the years 2014 and 2015 are provided in the following table. It shows an increase in both Nature Parks, with considerably more arrivals and stays in Our Nature Park.

Table 4 : Arrivals and overnight stays in the two Nature Parks

				Variation 2014-2015 %	
Year	Nature Parks	Arrivals	Overnight stays	Arrivals	Overnight stays
2014	Our	81.705	286.617		
2015	Our	84.451	295.223	+3,4%	+3,0%
2014	Upper Sûre	14.334	62.176		
2015	Upper Sûre	15.182	62.521	+5,9%	+0,6%

Source: Representation pact s.à r.l. - information gathered and prepared by MDDI DATer (details see bibliography)

These specific information are not available for the analysis territory: Number of one-day tourists from focus region per year / Number of one-day outsider tourists per year / Seasonality demand: monthly breakdown of tourist demand

2.4. Mobility demand characterization

Mobility behaviour

There is no specific data available in Luxembourg for trips per working day, trips per holiday, average length of trip on working day, average length of a trip on holiday, main reasons for trips on working days or weekend and public holidays, as well as details on the means of transport for the modal split for working day or weekend and public holiday.

Modal split for Luxembourg in 2009: ~73% used a car, 14,5% public transport and 13% soft mobility means of transport. The goal for the year 2020 is 56% car, 19% public transport and 25% soft mobility⁷.

⁷ Source: MODU - It is clear that the percentage of use of public transport and soft mobility is higher in the south and around the capital (~22%) due to a higher density of people and workplaces than in the rest of the country (~9%).

2.5. Tourists

The statistics for arrivals and overnight stays of tourists in the region are provided in chapter 2.3.

There is no specific data available in Luxemburg for estimating the percentage of tourists coming from a "distance class" or the modal split for on-site mobility during the stay (local inland <50km , regional inland 50-150km or supraregional inland >150km).

3. Existing systems of planning aims/action plans/mobility concepts

3.1. Existing planning documents

Modu – MObilité DUrable



The main planning document for a sustainable, future oriented transport system in Luxemburg is the MODU (*stratégie globale pour une mobilité durable* – strategic plan for sustainable mobility), which is aimed on residents and cross border commuters. It follows

an integrated approach and puts a focus on the complementarity between the different transport modes and provides a reference and guideline for spatial and environmental planning projects. As mentioned before, due to the growing problematic situation of rising commuter numbers, the focus is clearly laid on the way to work and not on improving leisure or tourist traffic behaviours.

Change of the public transport system

As a consequence of this planning strategy, the public transport system is currently in the process of being renewed. There has been a large survey with passenger counts that were conducted in 2016. The public was implemented in the process with public workshops by the end of 2016 and the call for bids addressed to public transport enterprises will start mid-2017. The new system is planned to become implemented in 2018.

The concept of the public transport system will change as follows: there will be running fast bus systems with regular schedules on the main axes (as a complement to the railroads). They bring people to the points of intersection with the railroad or directly to the main employment centres (CDA) respectively Luxemburg City. A first step into this direction – with importance for the focus area - has already been implemented with higher frequencies on the railroad to the north (Line 10).

These main axes will be served by a flexible transport system - that still has to be implemented – and that will mainly serve the rural areas – hence the largest part of the territory of the 2 Nature Parks.

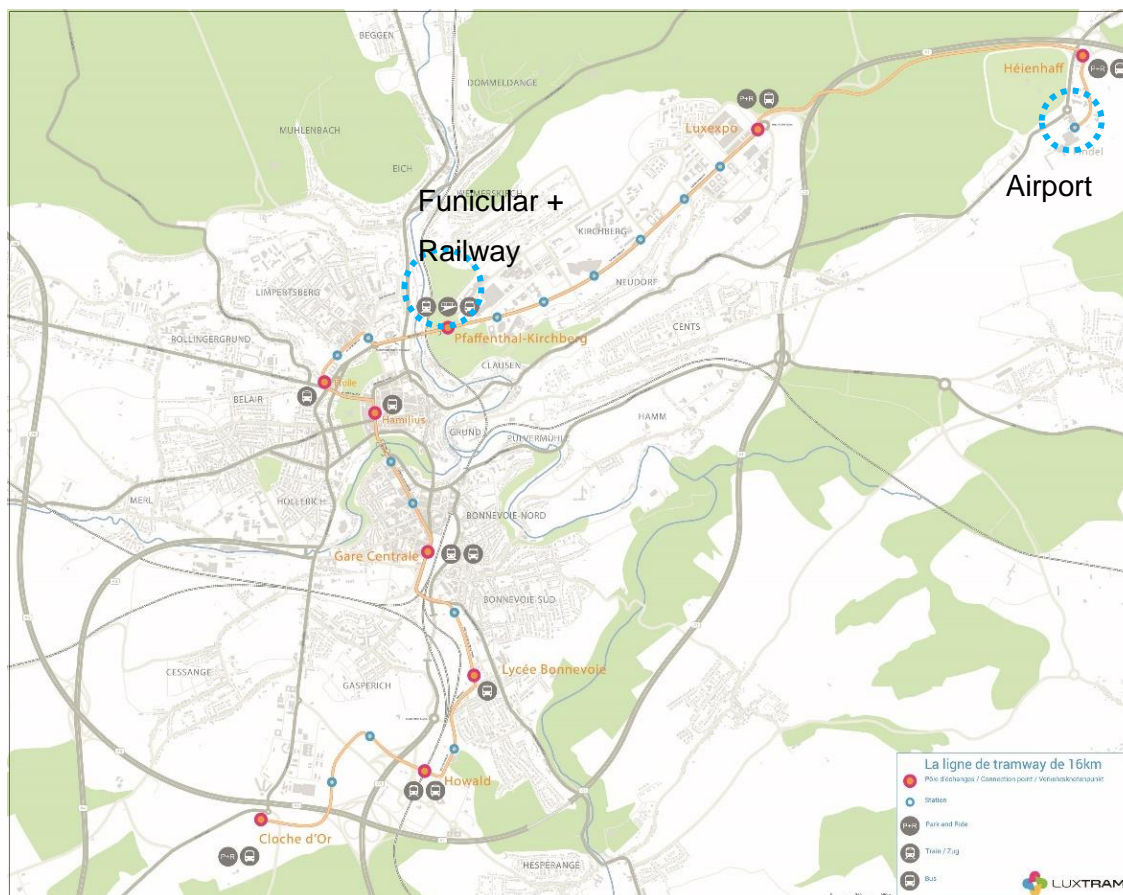
It is clear that this flexible transport system will also create a new potential offer for tourists and visitors to cover the last mile to the specific points of interest.

Tram project

The tram project in Luxemburg City is currently being implemented. It provides multiple phases, of which the first one (Kirchberg) will be finished by the end of 2017. A medium term connection

to the airport is planned for the year 2021⁸. In combination with the funicular railway, that will connect the railway to the tram in Kirchberg, a reduction of travel time on the railway line from the north of up to 30 minutes is going to make the public transport offer more attractive for commuters and visitors to the region (especially when the connection to the airport will be functional). The following map shows the planned route of the tram line and the locations of the airport and the funicular in Luxembourg City.

Figure 11 : Map of the planned tram line in Luxembourg City



Source: Representation pact s.à r.l. based on map by LUXTRAM – www.luxtram.lu

3.2. Existing action plans

View previous point

3.3. Existing mobility concepts

As described before, the offer for flexible transport systems for the region will be implemented with the new nationwide system in 2018.

There have been tests with flexible transport systems in other parts of the country, for example a pilot project in the Capellen Region in 2011⁹.

There is also a public transport concept realised in the Nordstad Region (6 municipalities with the centres of Ettelbruck and Diekirch), that will have consequences for bus lines and

⁸ For further details see : <http://www.luxtram.lu>

⁹ The other flexible transport systems are described in chapter 4.3

schedules in the north. A new railway station in Ettelbruck is being developed at the moment. It will function as a new exchange pole and hub for railway and bus traffic in the whole region.

3.4. Programs and financing instruments that are available for region

European level

The mobilisation of financing programs on a European level could only be claimed in the context of pilot projects, which would have to fit in the relative program or fund. There has been no such financing in the context of public transport projects in Luxemburg in the recent past.

National level

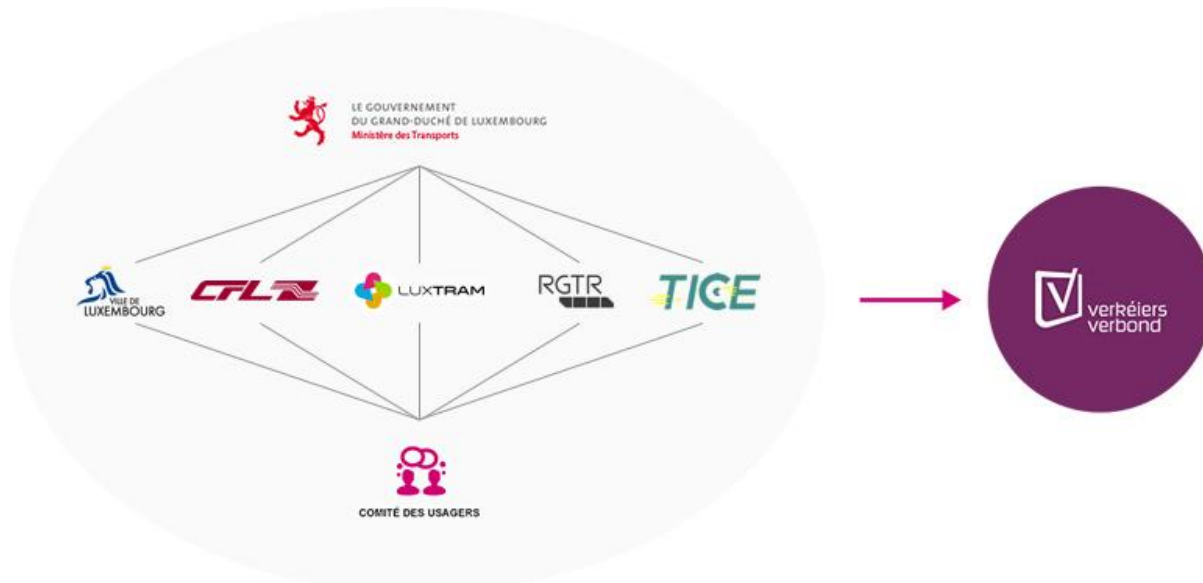
The whole public transport bus system in Luxemburg is financed by the national government (*Ministère du Développement Durable et des Infrastructures (MDDI) – Département du Transport*) – Ministry for sustainable development and infrastructure - Transport Department.

The national bus system is organised in 3 regions:

- TICE (*Transport Intercommunal de Personnes dans le Canton d'Esch-sur-Alzette*) in the south region, www.tice.lu
- AVL - *Autobus de la Ville de Luxembourg* - bus system in Luxembourg City www.vdl.lu/Mobilité/Autobus.html
- RGTR Regime (*Régime général des transports routiers*) for the rest of the country (so also the northern region)

Other partners are CFL (national railroad society) and Luxtram (responsible for the implantation and future operator of the tram project in Luxembourg City).

Figure 12 : Organisation of the public transport in Luxemburg



Source: <http://www.mobiliteit.lu/verkeiersverbond/operateurs>

The RGTR regime is organised by the MDDI Transport Department together with the *Verkeiersverbond (Communauté des Transports - Etablissement public)*. Essentially all buses of the RGTR regime belong to the government of Luxembourg. They are operated by 34 different private companies, based on call for bids and contracts between the relative company and the government (which are going to be renewed in 2018 – see previous points). The (fundamental) school transport is organised by the respective municipalities and is reserved to the respective pupils / children.

Regional level

Due to the restricted size of the country, there is no special offer on a regional level in Luxembourg. (see also chapter 4.3 for flexible transport offers on a regional level).

4. Existing mobility systems

4.1. Supraregional transport infrastructure

The description of the public transport organisation and its financing can be found in the previous chapter. This chapter looks at the infrastructure of the different transport modes connecting the focus area with the rest of the country and the international connections.

Railway

All the railways in Luxembourg are operated by the *société nationale des Chemins de Fer Luxembourgeois* (CFL). The railway line that connects the northern region to the south of the country is line 10, which runs between 6.00 and 24.00h, every 1/2h during rush hours and every 1h for the rest of the day.

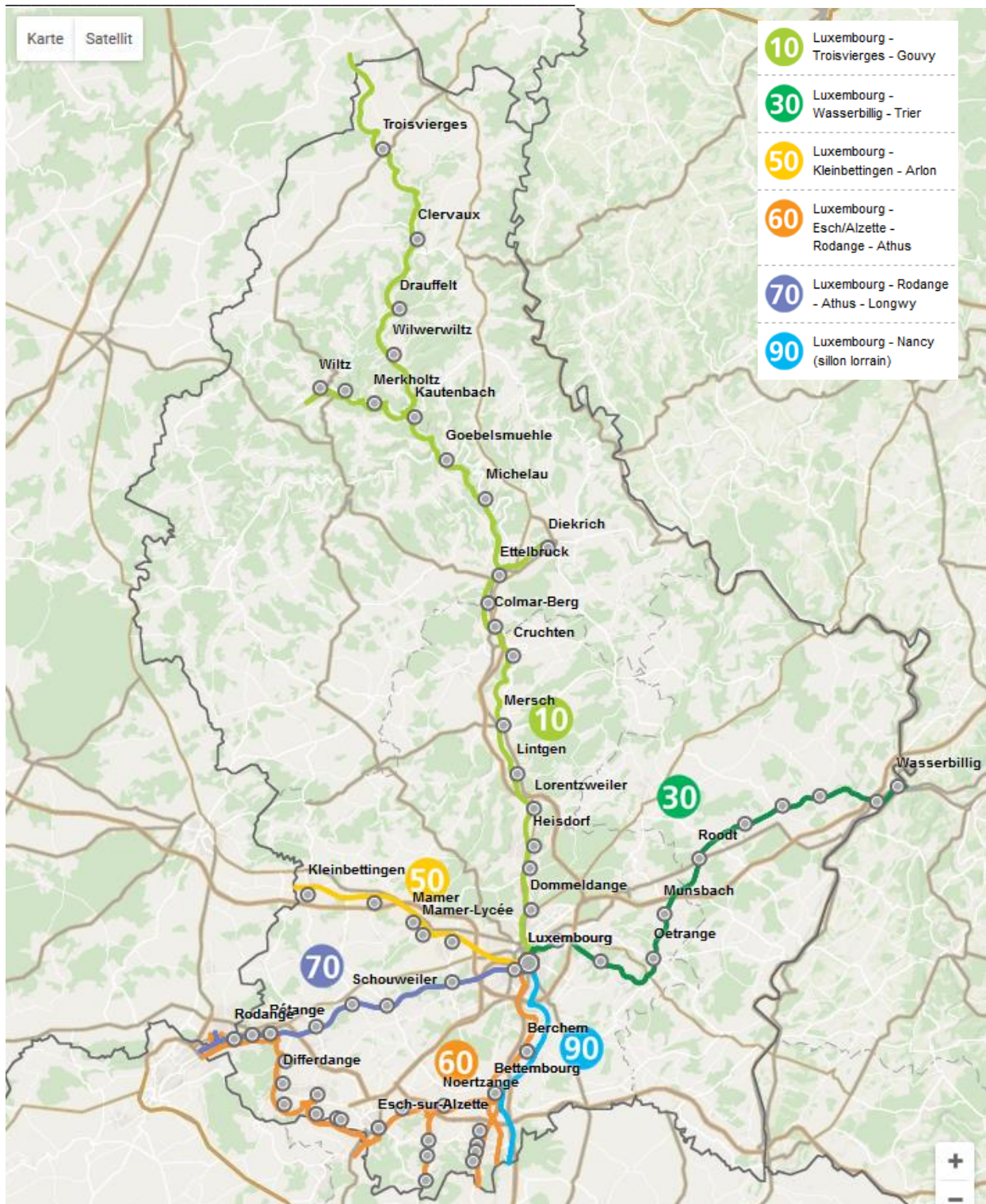
CFL is making efforts to adapt the accessibility of all trains and railway stations for mobility reduced people. All the new trains are already equipped with the necessary access ramps, doors or toilets. On older trains or some international trains, mobile access ramps or elevators are used. There is a service to help people with their transport and luggage that can be ordered 1 hour before the ride (48 h for international trains)¹⁰.

There are a total of 8 railway stations in the area of the two Nature Parks. The travel time by train from Ettelbruck to Troisvierges (most northern destination) is 40 minutes, from Ettelbruck to Wiltz 30 minutes¹¹.

Figure 13 : National railway map with lines and stations

¹⁰ Source: www.cfl.lu

¹¹ Source trip planner in www.mobiliteit.lu

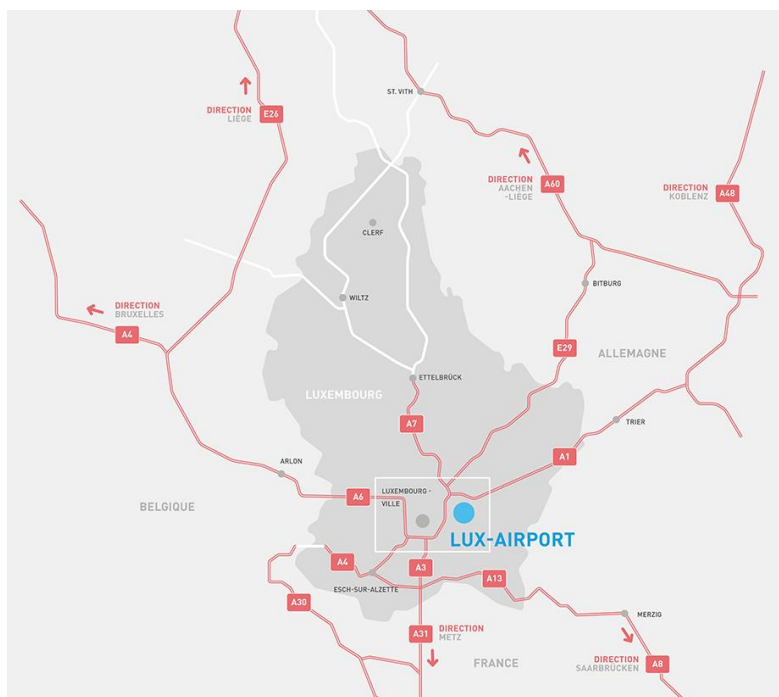


Source: <http://www.cfl.lu/espaces/voyageurs/de/horaires/carte-du-r%C3%A9seau>

Airports

Luxemburg airport is located on the eastern border of Luxemburg city. *Luxair* - as the national airline connects up to 40 destinations in Europe. Furthermore, there are currently 15 other international airlines with 22 destinations in Europe (some with expansion plans).

Figure 14 : Situation of Luxemburg airport with motorways



Source: <https://www.lux-airport.lu/de/passengers-visitors/from-the-airport/getting-to-the-airport/>

Figure 15 : Map showing destinations for Luxair Airline



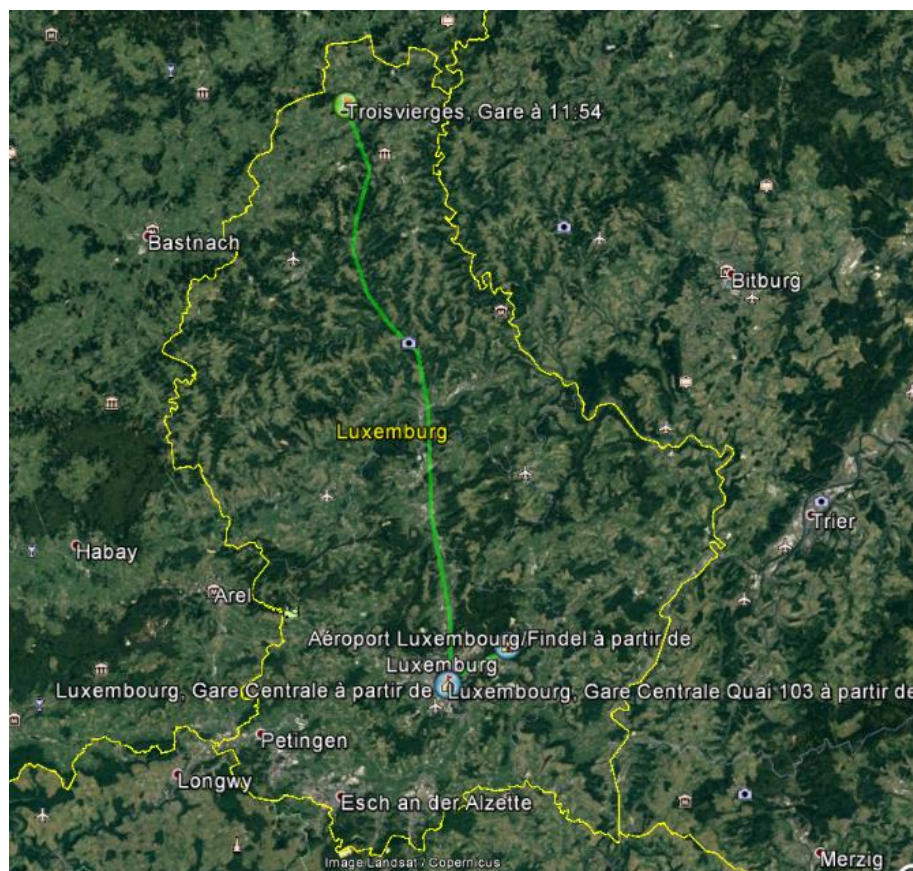
Source: <http://www.luxair.lu/cms/page?p=EN,42356,1001,1,>

The annual passenger traffic has constantly increased over the last years. In 2016, the mark of over 3.000.000 passengers has been reached and there are approximately 800 flights per week -including passenger and freight. There are currently expansion plans for the airport underway and as mentioned above, the connection to the rail network is going to be optimised with the extension of the tram line till 2021.

For the moment, Luxembourg airport is connected by bus lines to the central railway station in Luxembourg City. A travel example from Luxembourg Airport to Troisvierges during the week around 10.00h on www.mobiliteit.lu - visualised on google earth - shows the following travel times by means of transport:

Bus (17 minutes), on foot (5 minutes), train (69 minutes), total travel time: 1 hour 37 minutes

Figure 16 : Travel example Luxembourg Airport - Troisvierges on mobiliteit.lu / googlearth



Heure	Actuel	à partir de	Findel, Cité Aéroport
10:17	Bus 29	Direction Gasperich/Howald, P+R Howald accessibilité totale pour les personnes à mobilité réduite; Prestataire: Ville de Luxembourg - Service des Transports en Commun	
10:34		à	Luxembourg, Gare Centrale Quai 103 - Changement
10:34	Trajet à pied	5 Min., ca. 106 m	
10:39		à partir de	Luxembourg, Gare Centrale - Changement
10:45	CRE 3810	Direction Troisvierges, Gare Prestataire: Chemins de Fer Luxembourgeois	
11:54		à	Troisvierges, Gare

Durée: 1:37; Relation opérationnelle Lu - Ve, non 17. Avr, 1. Mai

Source: <http://travelplanner.mobilit.eit.lu/hafas/query.exe/fn?OK#focus> / google earth

Motorways

The motorways are shown in Figure 14. The connection to the north is the motorway (*autoroute*) A7. Its construction had begun in 1997, only to be finished in September 2015. It connects the city of Luxemburg to Ettelbruck. Compared to the example before, the journey from Luxemburg Airport to Troisvierges would take approximately 57 minutes (~72km)

Examples for distances from Ettelbruck to cities in the greater region (source: www.mappy.com):

- Luxemburg: 37 km
- Brussels : 195 km
- Maastricht: 150 km
- Cologne: 177 km
- Treves: 62 km
- Metz: 104 km

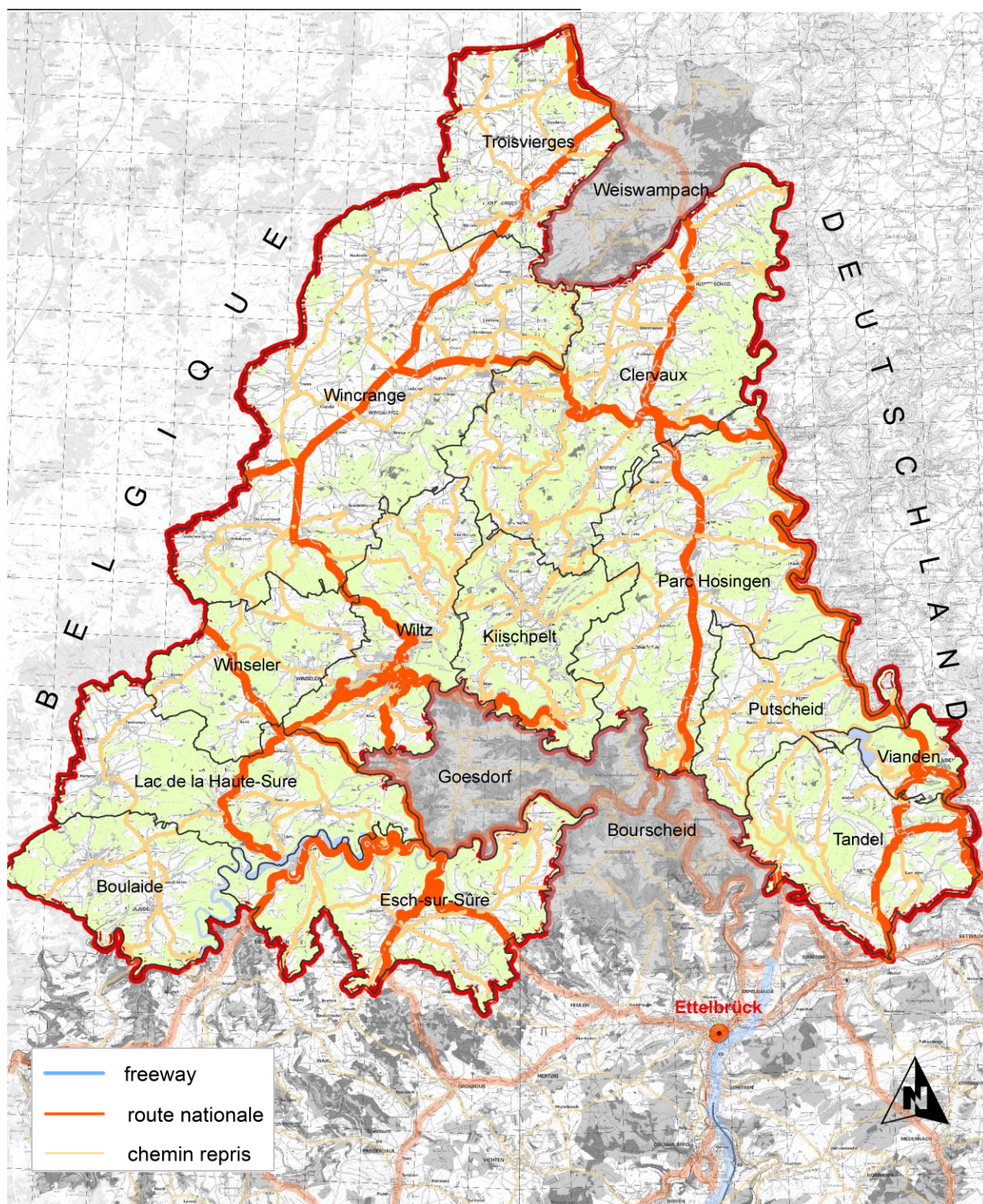
National road network

The following maps show the national road network as well as the traffic intensity on the roads for the area of the two nature parks. The system in Luxemburg knows 3 categories for roads owned and managed by the national state (motorways (*autoroute*), main state roads (*route nationale*) and state roads (*Chemins repris*)). All the other roads are municipal roads, owned and managed by the respective municipality where they are located.

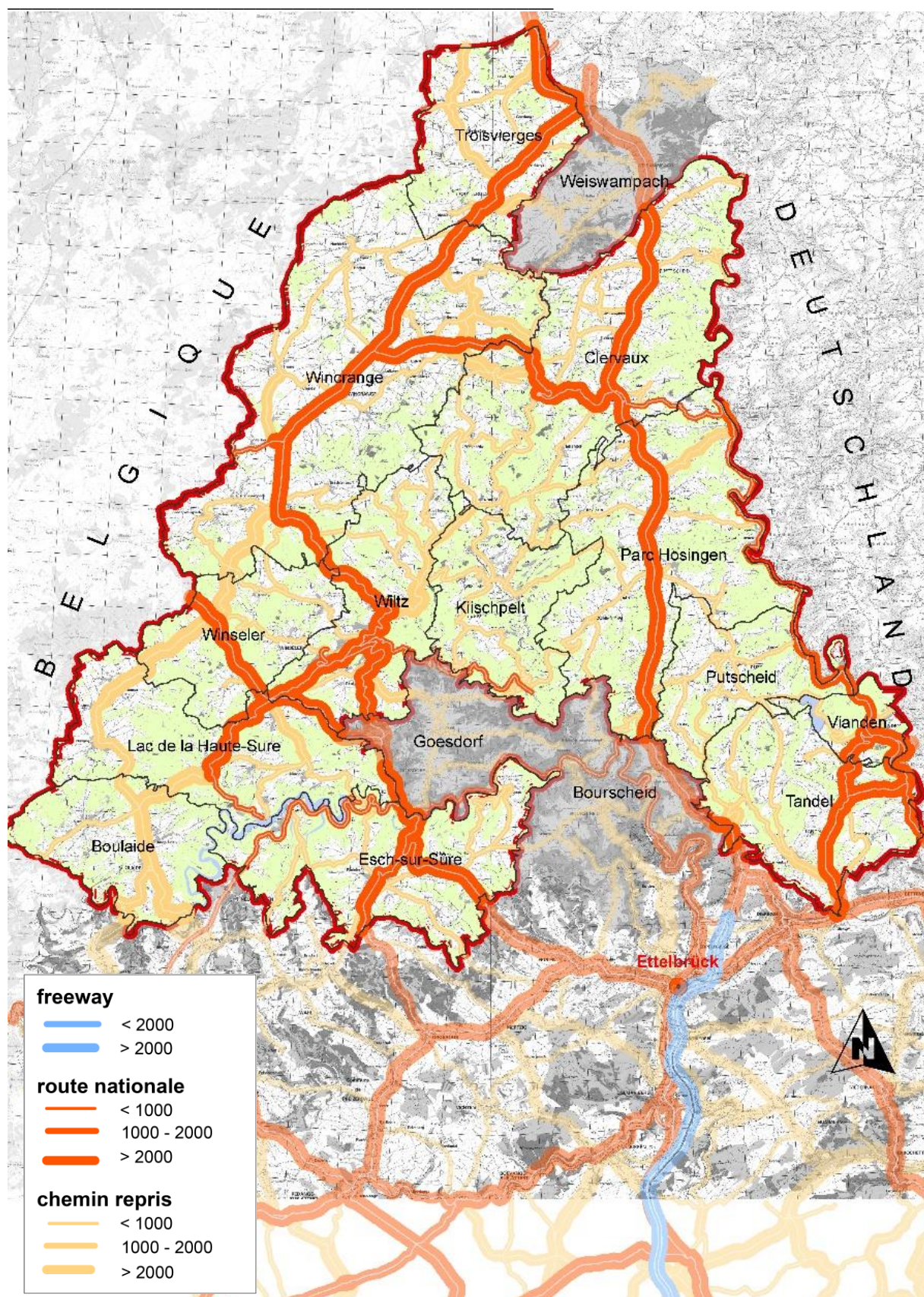
The main state roads in the north with the most traffic volume are:

- The route nationale 7 Diekirch – Wemperhaardt with ~11.400 motorized vehicles / day
- The route nationale 15 Ettelbruck – Bastogne with ~8.000 motorized vehicles / day
- The route nationale 12 Wiltz – Wemperhaardt ~1.500-3.000 motorized vehicles / day

Figure 17 : road network



Representation pact s.à r.l. based on data from BD-L-TC, basemap: carte topographique 1:50.000 © ACT Luxembourg
 Figure 18 : Traffic intensity map (2012)



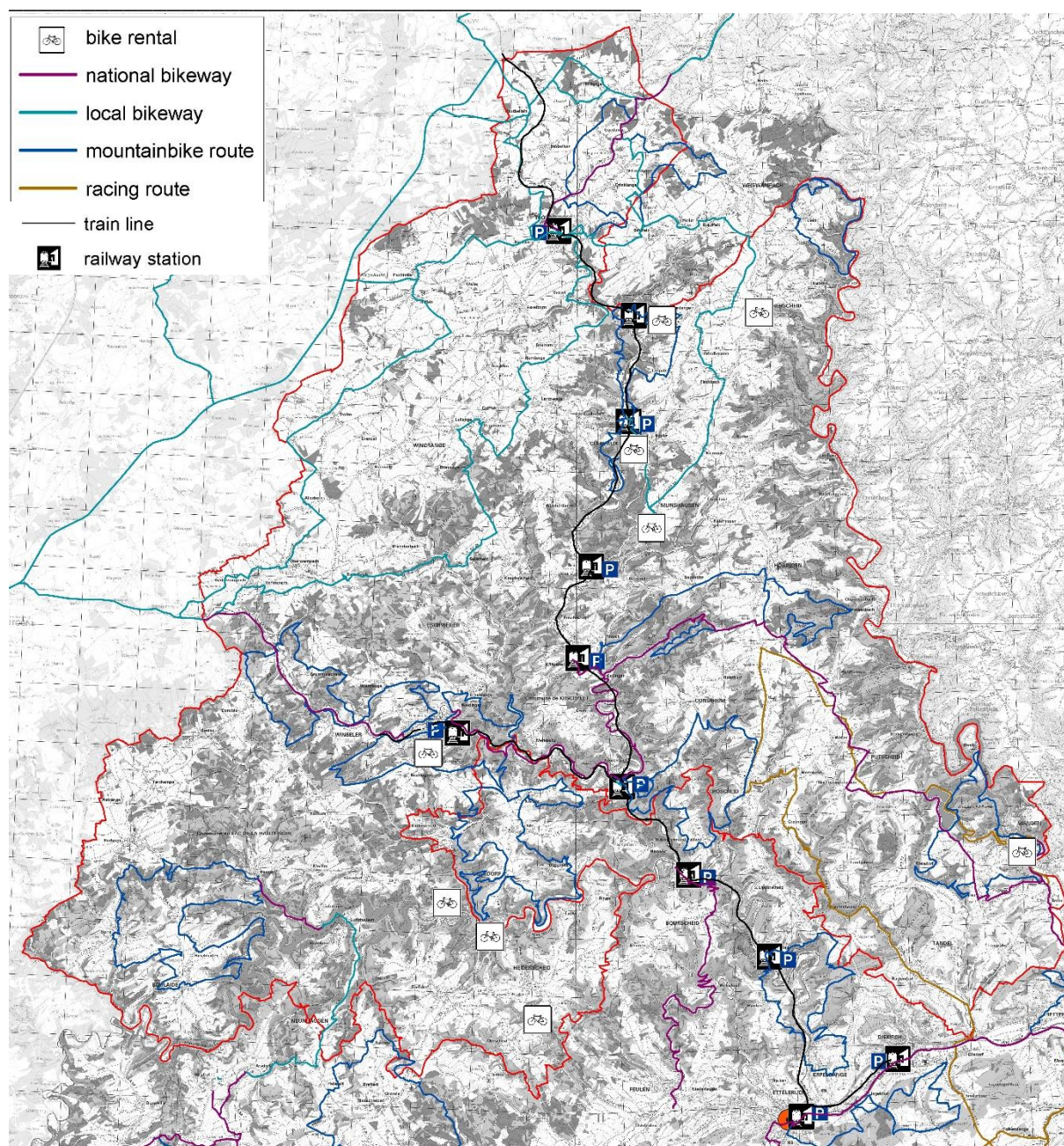
Representation pact s.à r.l. based on data by administration des ponts et chaussées 2012,
basemap: carte topographique 1:50.000 © ACT Luxembourg

4.2. Existing sustainable transport systems

Bicycle network

The cycling network in Luxemburg – which has a potential for commuter use - is mainly composed by a network of national bikeways (23 for the moment) of 600 km (950 km are planned). The number of bike rental points has risen in recent years and is planned to be extended further. Actually there are 14 bike rental points in the Ardennes region and 10 in the area of the two Nature Parks. The offer (rates, stations, rental procedure) is clearly addressed to tourists and visitors to the region (and not commuters). The offer in e-bikes is expendable.

Figure 19 : Bicycle network in the two Nature Parks



Representation pact s.à r.l. based on data from www.geoportail.lu and http://www.visitluxembourg.com/de/erleben/sport-freizeit/fahrradverleih?area%5B%5D=1&locality=&locality_autocomplete= - basemap: carte topographique 1:50.000 © ACT Luxembourg

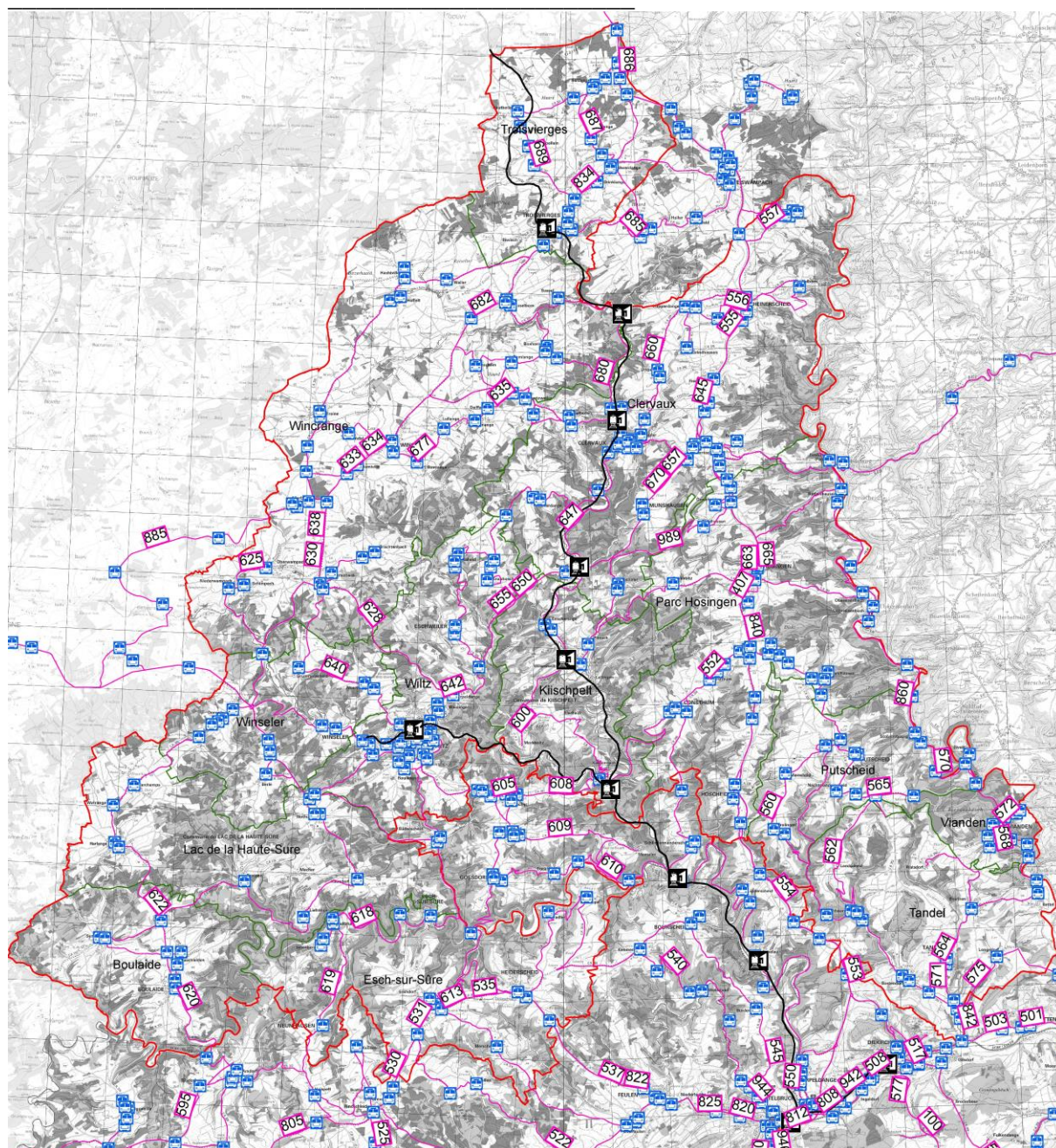
Regional road public transport system analysis

The following map shows the public transport network for the focus area, with the routes and stops of the bus lines and the railway with the train stations¹².

Figure 20 : Map of the public transport network (railway and bus)

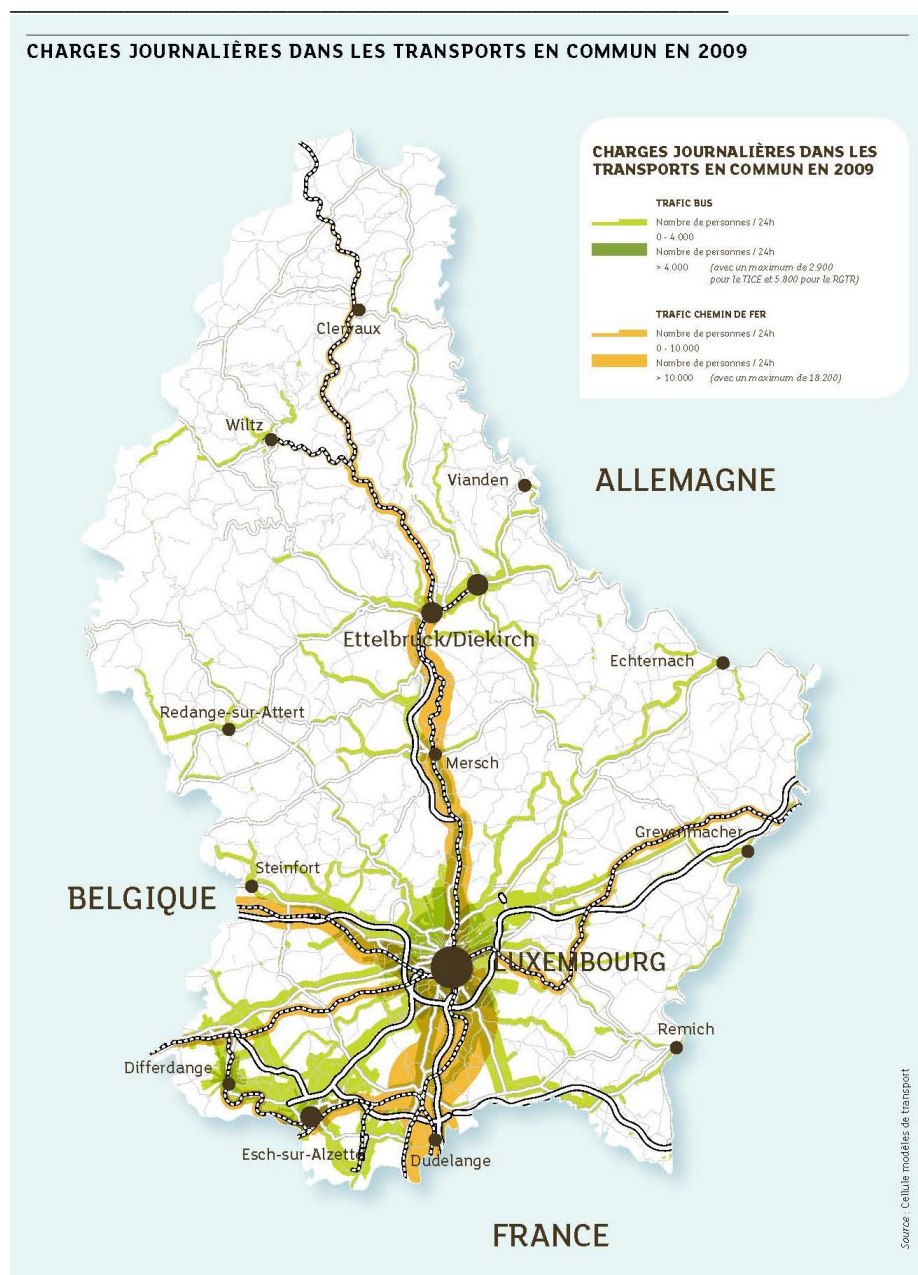


will be renewed in 2018, an in depth analysis of the current bus network ; was not seen as necessary for this report.



Representation pact s.à r.l. based on data by Verkeiersverbond, (buslines and busstops) - basemap: carte topographique 1:50.000 © ACT Luxembourg

Figure 21 : Daily passenger traffic in public transport (2009)



Source: Modu page 31

Accessibility of transport for particular target groups

All public buses are currently being switched to low floor buses. The implementation of the new public transport system in 2018 will also take care of this issue.

Pricing and ticketing in public transport and ticket accessibility

In Luxembourg, all information on pricing, ticketing and ticket accessibility is available over the mobility centre (*Mobilitéitszentral*) with call center, internet platform and smart phone app. It is run by the *Verkéiersverbond* Luxembourg (see graph in chapter 3.4). An overview of the different offers and services are shown as follows:

www.mobiliteit.lu

- internet platform providing all the information on national and international public transport (mainly in French and German, some parts in English)
- Free to use over the internet
- Information on routes, timetables, ticket pricing, perturbations, general information
- trip planner

Recherchez un itinéraire

De
Gare, Arrêt, Adresse,...

À
Gare, Arrêt, Adresse,...

Date
11.04.2017

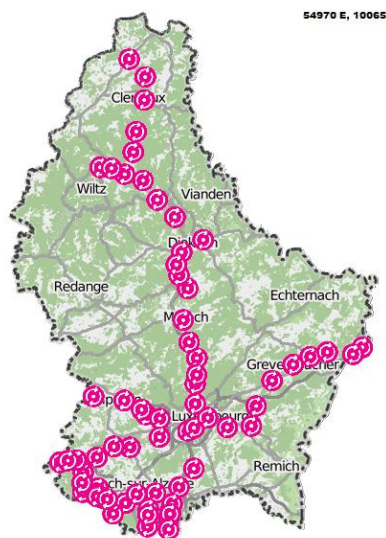
Heure
15:58

☒ Heure de départ ☐ Heure d'arrivée

RECHERCHER

Mshop (www.mshop.lu) :

- online shop with focus on regularly users / commuters,
- can only be used by creating an online account and in combination with an mKaart
- products can be picked up at pick-up points



Personal data Register card Create account

ENTER YOUR PERSONAL DATA!

Login Information

Email address

* Password

* Confirm new password

Personal information

* First name

* Last name

* Primary phone number

* Date of birth

Address

* Address line 1

Address line 2

* City

* ZIP code

* Country

Same billing address


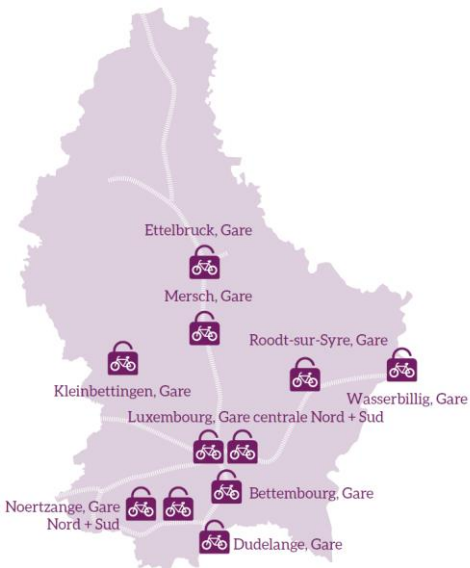
* Mandatory fields

CONTINUE

Mkaart

- reusable mobility card,
- can be charged with different public transport products



<p>Mticket</p> <ul style="list-style-type: none"> ▪ mobile app ▪ long or short term tickets can be bought with app, online payment ▪ smartphone used as public transport ticket 	
<p>Mlive</p> <ul style="list-style-type: none"> ▪ real time passenger information in buses and over the internet / mobile app ▪ is being implemented on the main stations / lines (since 2014) 	
<p>Mbox</p> <ul style="list-style-type: none"> ▪ covered and secured bicycle park / box ▪ currently at 11 railway stations, but none in the northern region of Luxemburg ▪ only accessible with mKaart (focus on commuters) 	

Source: all information in this table are from www.mobilitet.lu – Verkéiersverbond 2017

The offer has been extended to Googlemaps (<https://www.google.com/maps>), which provides all the information on public transport system, based on the current location and different transport modes.

Tickets can be bought at the railway stations, as well as in buses and trains. Tickets can also be bought by Hotels and resold to tourists.

A short term-ticket (validity 2 hours) costs 2€ (5 tickets for 16 €) and a long-term ticket (validity whole day) costs 4€ (10 tickets for 16€). Both can be used on the whole public bus and railway network in Luxembourg.

4.3. Existing demand-oriented transport systems

In general, the change of the public transport system (to be implemented in 2018 as described before), with fix fast bus lines and regular schedules on the main axes and a demand oriented service for the surrounding territory, can provide opportunities for the last mile coverage and accessibility for tourists.

The following flexible transport systems are currently operated in Luxembourg:

Bummelbus („stroll / ramble bus“)

The *Bummelbus* is a flexible bus service, operated in the majority of the municipalities in the northern part of Luxembourg for the inhabitants of the region (for the moment 255 towns and villages in 39 municipalities with 80.000 inhabitants are participating). It functions as a complement to the general public transport offer from Monday to Saturday. It is especially interesting for people who don't own a car or don't want to take the car for certain activities (f.ex. for adults: shopping, medical visits, activities for elderly people, restaurant, hair dresser, work,... and for children: sport activities, music or dance school, day care,...).



The following map shows the municipalities that are partners in the *Bummelbus* convention (yellow) as well as the limits of the service area (neighbouring municipalities in blue).

Figure 22 : Map showing the coverage of the “Bummelbus”



It is available to every person living in the participating municipality, who wants to travel on demand on short distances. The system offers door-to-door transport. The general operating

times are between 06.30h and 21.15h from Monday to Friday and between 06.30h and 17.15h on Saturday. From 2001 to 2014, the Bummelbus has carried 1 million passengers.

The *Bummelbus* is co-financed by the municipalities and the government (*Ministère du Travail*) and organised by *Forum pour l'emploi* (a regional employment initiative that evolved from ERDF (European Regional Development Fund) projects in 1998.

Figure 23: Printscreen of the online form to reserve the Bummelbus



People have different options to reserve a ride:

- By telephone from Monday to Friday between 07.00 and 21.00h (+35226803580)
- By email bummelbus@fpe.lu
- By online form on www.bummelbus.lu

The call centre is in permanent contact with the clients and drivers of the cars / buses. The requests are integrated into the schedule, depending on capacity and availability. Every ride has to be reserved at the latest the day before. For periodic rides (for example music school every week), one

Figure 24: SMS service Bummelbus



reservation is sufficient.

In 2015, a SMS service has been implemented, which sends a

confirmation SMS to the passenger 2 hours before the ride. If there is a divergence of minimum 5 minutes in the schedule, the passenger will be informed of the delay by a second SMS.

The fares are fixed between a minimum of 1,5 € and a maximum of 7,0 €, depending on the distance (maximum of 35km for a one way ride) and age (there are different pricing for children and adults).

Figure 25: Fares for the Bummelbus

Fares	Children	Adults
Starting – end point <10km	1.5 €	2.0€
Starting – end point 10km<x<20km	2.0€	2.5€
Starting – end point 10km<x<25km	3.0€	3.5€
Starting – end point 25km<x<35km	6.0€	7.0€

Source: Forum pour l'Emploi 2017 (translated to English)

The fleet is majorly composed by smaller vehicles, which corresponds to the demand oriented philosophy.

Figure 26 : Vehicle fleet Bummelbus

22 x Caddy



3 x VW Crafter



21 x Ford Transit



Source: Forum pour l'Emploi 2017

The technology used for managing the rides is provided by the Trapeze (www.trapezegroup.eu). It has the potential to be developed further and become more customer friendly, for example online access to trips and personal profiles 24h a day. The development of a mobile application is also being considered at the moment.

Figure 27 : Management software Bummelbus

PASSENGER PORTAL
Providing Riders the Tools to Manage Their Experience

Riders appreciate having more control over their transit experience. By offering riders a user-friendly, web portal they have immediate and personal access to their trip details, personal profiles and can know exactly when their vehicle will arrive. Over the web riders can manage their entire personal schedule. With reduced work for your on-call staff and improved functionality to your riders, this is a tool that can easily transform the way you currently operate.

HOW IT WORKS FOR YOUR RIDERS
With a simple login and password from any browser window (including mobile devices), your riders have the ability to review, confirm, cancel their own trips as well as view trips visually on a map. They can see where their vehicle is on a map to have precise estimates of when it will arrive. Our application makes it easy for riders to perform many different tasks. With a push of a button, riders can notify the agency when they're ready to be picked up, rather than having to call in. From any web-enabled device, riders can:

- Book, review, confirm and cancel trips
- Generate a return trip or notify of a desired pickup with a click of a button
- Review or edit their personal profiles
- View and edit all upcoming and previously booked trips

Additional features shown: Broadcast alerts or information, Create recurring trips easily, Suggests previous or stored addresses.

Trip Booking Page

HOW IT WORKS FOR YOUR STAFF
The system can email passengers with confirmation of scheduled trips. Because so much valuable trip information is available to riders, they experience better service, without needing direct contact with your agency. Your staff experiences less stress and more time to attend to pressing matters such as improving customer service or to those with special needs. Dispatchers can rely upon the accuracy of information because there are fewer points of data entry and possibility of error.

- Reduced stress on call centers
- Limited need for training
- Limited need for IT intervention
- Easy customization and configuration without contacting TripSpark

HOW IT WORKS FOR YOUR AGENCY
Rather than hiring costly web designers and developers, a functioning site can be set up in no time. As well, it can be fully branded to your agency's color scheme and logo. Because the site is a web-based application, you won't require a great deal of IT expertise to maintain it. Ultimately, involving your riders in the trip booking process means they're getting better service and a highly personalized experience, which can result in major benefits:

- Fewer no shows and driver wait times
- Improved customer satisfaction by reducing on hold queue times
- Accessible service 24 hours a day

Simple view of all trips, Easily cancel a booked trip, View scheduled trip page.

www.tripspark.com

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TripSpark

www.tripspark.com

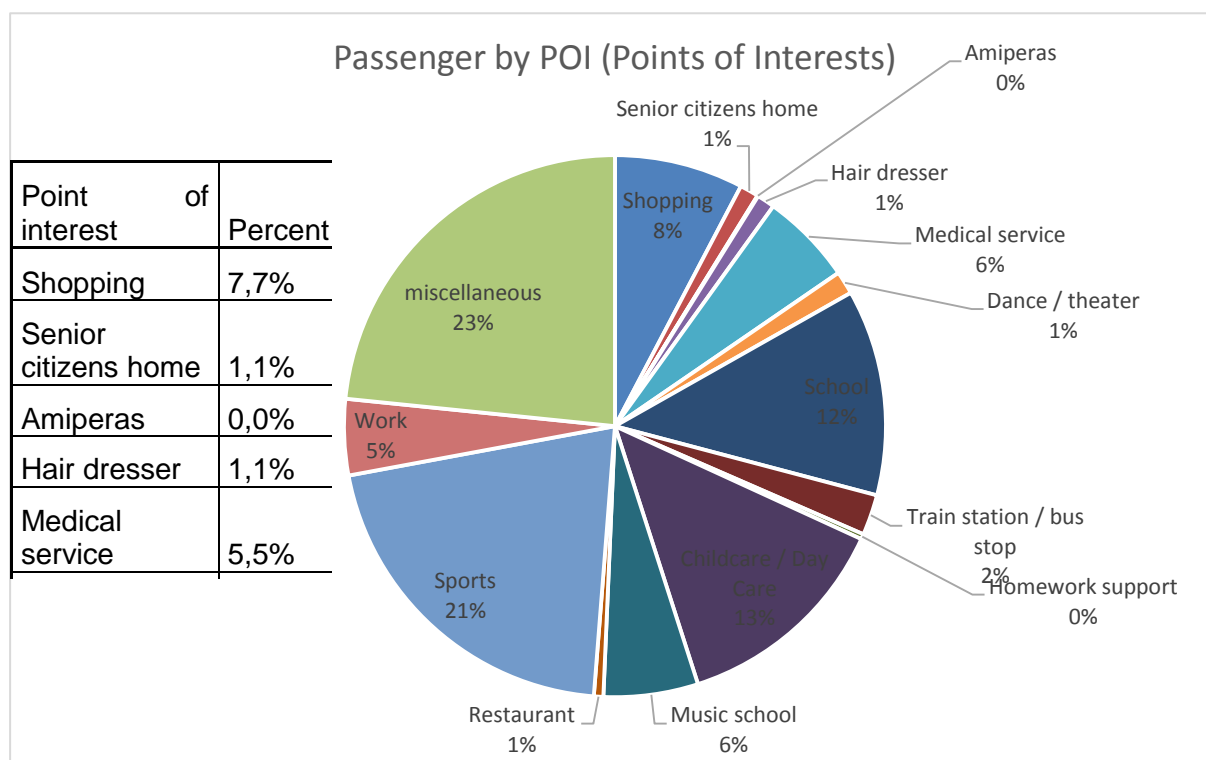
©2014 TripSpark Technologies, its subsidiaries and affiliates. All rights reserved. Any trademarks or registered trademarks mentioned herein are the property of their respective owners.

TripSpark

Source: Forum pour l'Emploi 2017 - TripSpark

The next graphic shows the distribution of destinations / points of interest of the Bummelbus rides in 2015. Approximately 60% of the riders are children and 40% adults. Around 1/5 of the trips were for sporting activities, 12% for school and 13% for day care.

Figure 28 : Passengers of the Bummelbus by points of interest in 2015



Source: Forum pour l'Emploi 2017 – translated by pact

The advertisement for the Bummelbus is guaranteed by its visibility on the media provided by the participating municipalities (internet sites, periodicals) and is also implemented in the internet presentation of the *Mobilitéitszentral* on www.mobiliteit.lu.

Figure 29 : Examples of advertisements for the Bummelbus



Source: Forum pour l'Emploi 2017

In cooperation with local tourist businesses or associations from the participating municipalities, the *Bummelbus* offer can also be extended to concrete activities, for example excursions, travels to exhibitions or markets, or other activities that attract a certain amount of people. In this context, the holiday periods are especially interesting for the *Bummelbus*

operators, as there are less trips by “commuters” or “every day users” and thus there is more potential capacity of the fleet for other target groups.

Figure 30 : Examples of flyers for specific activities involving the Bummelbus

Excursion sans stress*
Excursie zonder stress*
Ausflug ohne Fahrtstress*

*nur in den Schullerien - tijdens de schoolvakanties alleen - pendant les vacances scolaires uniquement

	ALLER / HINFAHRT	RETOUR / RÜCKFAHRT
Lundi/Maandag/Donstag: VITARUM (ROOST)	DEPART FUSSEKAUL: 14H00	DEPART VITARUM: ca. 17H00
Mardi/Dinsdag/Dienstag: KANU EKURSION	DEPART FUSSEKAUL: 08H30	DEPART ECHTERNACH: ca. 14H00
Jeudi/Donderdag/Donnerstag: MOSEL	DEPART FUSSEKAUL: 09H30	DEPART GREVENMÄCHER: ca. 16H00
Vendredi/Vrijdag/Freitag: VIANDEN	DEPART FUSSEKAUL: 09H15	DEPART VIANDEN: ca. 16H00
Dimanche/Zaterdag/Zonntag: MULLERTHAL	DEPART FUSSEKAUL: 10H00	DEPART MULLERTHAL: ca. 16H00

Samedi, Dimanche sur demande / Zaterdag, zondag op aanvraag / Samstag, Sonntag auf Anfrage

Reservierung/Reservation/Reservieren
Montag bis Freitag spätestens zwei Tage vorher bis 12 Uhr
Auskunft und Einschreibungsformular **Rezeption Fusseskaul**.
Au plus tard deux jours à l'avance avant 12 h, du lundi au vendredi
Renseignements et formulaires d'inscription à la **rezeption Fusseskaul**.
Minimaal twee dagen vóór 12 uur, van maandag tot vrijdag
Informatie en inschrijfformulieren **Receptie Fusseskaul**.

TRANSPORT à la demande par le BUMMELBUS
pour vos randonnées, visites touristiques et culturelles,
transports vers les communes avoisinantes et autres déplacements,
si vous êtes hébergés à Beaufort, Dillingen ou Grundhof

Réservation au plus tard la veille avant 18h00, du lundi au vendredi
Vente des tickets dans le bummelbus
Renseignements et formulaires d'inscription :
Beaufort : Camping Plage - SIT Beaufort (87, Grand-Rue)
Dillingen : Camping Wies-Neu (12, Rue de la Sûre)
Grundhof : Hôtel-Restaurant L'Ernz Noire (2, Route de Beaufort)
www.bummelbus.lu

Source: Forum pour l'Emploi 2017

Another example of cooperation that is currently in the discussion in the canton of Redange, is the use of the Bummelbus service for bicycle trips. The cyclists who don't want to do the whole trip or would like to have a transportation alternative for difficult parts of a route, could use the transport offer of the *Bummelbus* for these parts.

In cooperation with the operator *Forum pour l'Emploi*, the field of application could be expanded to complement the offer for the last mile for tourists and visitors of the two Nature Parks¹³.

¹³ The *Forum pour l'Emploi* has a running agreement with the Ministry for Employment (*Ministère du Travail, de l'Emploi et de l'Économie sociale et solidaire*) for operating the Bummelbus in its current form. The agreement allows the extension on the target group of tourists and visitors to the region already today. The agreement would only have to be extended if the capacities of the bus drivers were not sufficient as a result of the rising passenger transport.

Flexibus (<http://www.sales-lentz.lu/en/individuel/flexibus>)

The *Flexibus* is run by a private operator (Sales Lentz) and disserves the municipalities in the south: Bettembourg, Esch-sur-Alzette, Mersch, Roeser, Rumelange, Walferdange (*Walfy*), Sanem (*ruff Bus*), Garnich, Koerich + Steinfort (*Proxibus*), Contern (*Conti Bus*).

It runs from Monday to Friday from 5.45am until 8pm and on Saturday from 7.45 am until 6.00 pm within the district. There is a 45 minutes' notice of departure time.

NightRider (<http://www.nightrider.lu/info>)

The NightRider is run by the same private operator (Sales Lentz) as a private night bus with no fixed timetable or route (group service with more destinations in dependence of the passengers starting and end points, no direct route to the destination). People can be picked up at the desired time with door-to-door transport. It works only at weekends (Fridays and Saturdays from 6pm to 5 am), throughout Luxembourg and must be booked in advance. Here are some more information from the internet site:

Night Rider is available to anyone who wishes to travel within Luxembourg car-free on weekend evenings. It is available to wheelchair users and pushchairs can also be carried (please mention this at the time of booking under 'Options')

If the desired departure time is already fully booked, the booking system will automatically suggest another slot depending on availability. The cost of a journey is based on the travel distance -regardless of the number of people that are booked on the same journey. The price is always calculated on the shortest distance, even if the bus picks up and drops off other people en route. The minimum price of a journey is 12 Euros. If, for example, 3 people wish to travel from the same pick-up point in Luxembourg City to the same destination in Mersch, the journey will **only be calculated once** (24 Euros). So it only costs 8 Euros per person. The total cost of 24 Euros can be payed per credit card or Digicash. Another example: if 5 people (3 of whom have a Night Card) are travelling from the same pick-up point in Belvaux (Beles) to the same destination in Luxembourg City, the journey will **only be calculated once** (25.20 Euros). This fare is then split in 5. Only the price for those 2 people without a Night Card will be displayed at the time of booking and will be charged to your credit card (10.08 Euros).

The Night Card is a locally supported travel card for the Night Rider. Residents of communes where the Night Card is available can buy a Night Card at a fixed price and enjoy unlimited free or discounted travel on the Night Rider. The only condition is that either the departure point or the destination of the journey must be in the commune in which the Night Card holder lives.

The arrival time at the pick-up point may vary by +/- 10 minutes, depending on traffic and weather conditions. For this reason you will receive an automatic pick-up SMS about 10 minutes before the Night Rider arrives.

Project Kussbuss

Another flexible transport system, that has been in the media recently, is the initiative (in cooperation with a cross-border commuter platform www.lesfrontaliers.lu) Kussbuss, a private “commuters door-to-door shuttle service” currently in search for financing. Here is a short description of the information available on the internet site <http://kussbus.lu/>

“Kussbus is an eco-friendly door-to-door shuttle service for your daily commute. The Kussbus algorithm optimises the requested journeys and defines collective stops for several passengers in close proximity to your home and workplace. This ensures that our service is offered at an affordable price, whilst including guaranteed seating, free internet and being a transfer-free commute.”

“Kussbus is a mode of transportation for everyone who wants to commute more comfortably and eco-friendlier between their home and workplace while using their time more wisely. With Kussbus, you no longer have to drive, you no longer need a parking space and you no longer have to stand uncomfortably in overcrowded public transport. With guaranteed seating in modern and air conditioned buses, you can relax, read, listen to music, work, or use our Wi-Fi free of charge, to watch your favourite series, for example.”

“Kussbus will be available to everyone working in Luxembourg - regardless if you live in Luxembourg, France, Belgium or Germany. Kussbus will be available in 2017 only if enough people sign. Sign up now and try Kussbus in 2017 with 1 round trip free of charge and without obligations. We will initially serve the areas with the most sign-ups and will gradually expand our services as demand increases. Sign up now for free and without obligation so that we know whether you are interested in our service and we will notify you as soon as Kussbus is available in your area. *Pssst*, as we are a “demand-based” service, tell your friends and colleagues about our service! The more interest you show, the faster Kussbuss can be offered to you!”

“We are planning on launching Kussbus in the first half of 2017. But Kussbus will only be available if enough people sign up. Sign up now and try Kussbus in 2017 with 1 round trip free of charge and without obligations. Tell your friends as well. During the initial test phase, the service will only be available to a limited number of commuters. In the following months, Kussbus will expand as demand increases. Sign up now for free and without obligation so that we know whether you are interested in our service and we will notify you as soon as Kussbus is available in your area. Tell your friends and colleagues! ”

Source: <http://kussbus.lu/>

4.4. Description of good examples

- See previous point

5. Communication

5.1. Existing cooperation and coordination forms between the public transport and private operators

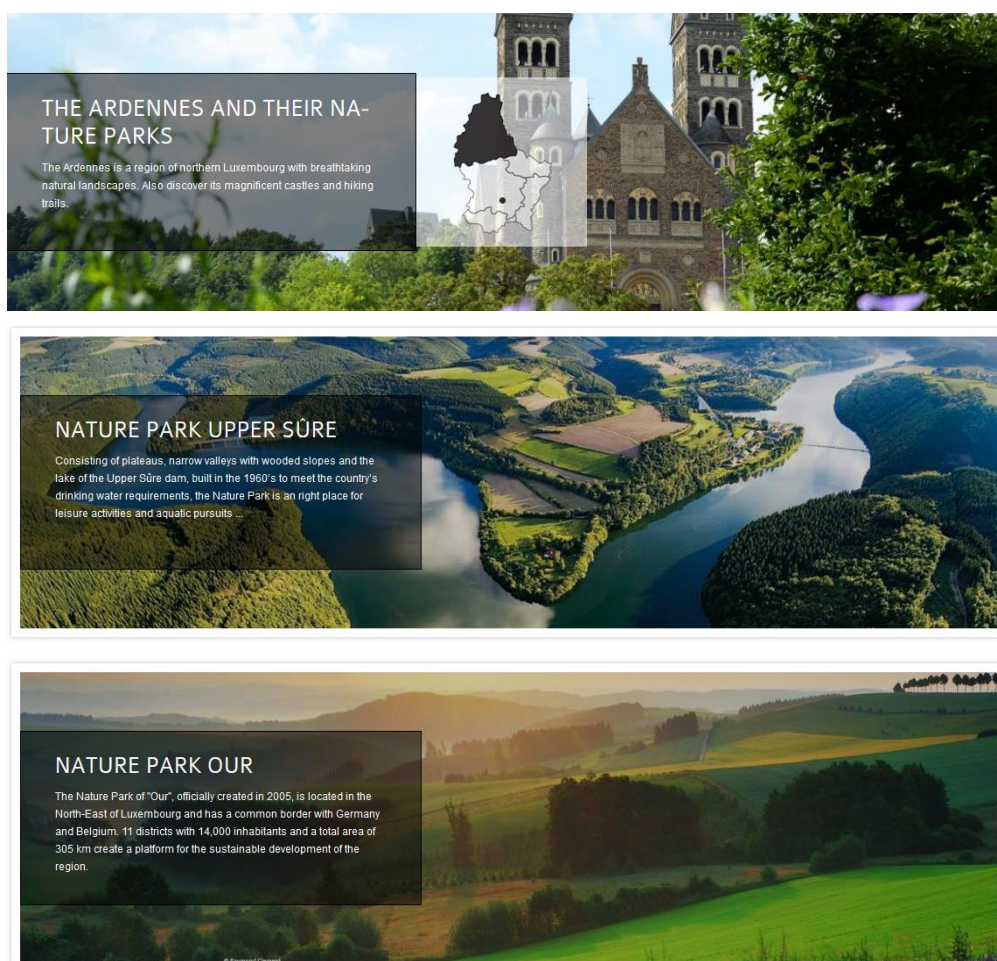
See chapter 4 for the operating system of public transport in Luxembourg

5.2. Existing cooperation and coordination forms between tourist and transport associations

Tourism associations

The tourism in Luxembourg is organised as follows: the government - Ministry of Economy - Direction générale du tourisme has the lead on a national level. The national agency responsible for marketing and promotion is called *Luxembourg for Tourism*. All country wide information on activities that are interesting for tourists, for example concerning art and culture, nature and tours, going out, sports and leisure, shopping, family and kids or local products are available on their internet site <http://www.visitluxembourg.com/en> The info is also available per region and even separately for the nature parks.

Figure 31 : Print screens from www.visitluxembourg.com for the Ardennes and Nature Parks



Source: www.visitluxembourg.com

They also offer a Luxembourg Card which allows free access to more than 60 museums and tourist attractions in Luxembourg for a period of 1, 2 or 3 days (also available as mobile application).

Furthermore there are 4 regional promotion agencies (*Offices Régionaux du Tourisme - ORT*) for the regions : ORT Ardennes luxembourgeoises (www.ardennes-lux.lu), ORT Région Moselle luxembourgeoise (www.visitmoselle.lu), ORT Région Mullerthal - Petite Suisse luxembourgeoise (www.mullerthal.lu), ORT Sud (www.redrock.lu) and the Luxemburg City Tourist Office (www.lcto.lu) for the capital.

The information on public transport is well accessible from each of the sites by visible links to www.mobiliteit.lu.

Third party know-how

Know-how agencies, public institutions or universities that could support mobility activities in target regions could be:

- Luxembourg Institute of Science and Technology (LIST)
- University of Luxembourg
- LISER: Luxemburg Institute of socio-economic research: conducting studies on transport behaviours of different target groups

A research focus in Luxemburg is put on electro mobility (which is also a key aspect for the national government). As mentioned before, the general situation of Luxemburg (and especially Luxemburg-City) as an employment pool for the greater region, implies higher needs in research work on (cross-border) commuting than on the optimisation of transport for tourists and leisure visitors to the country.

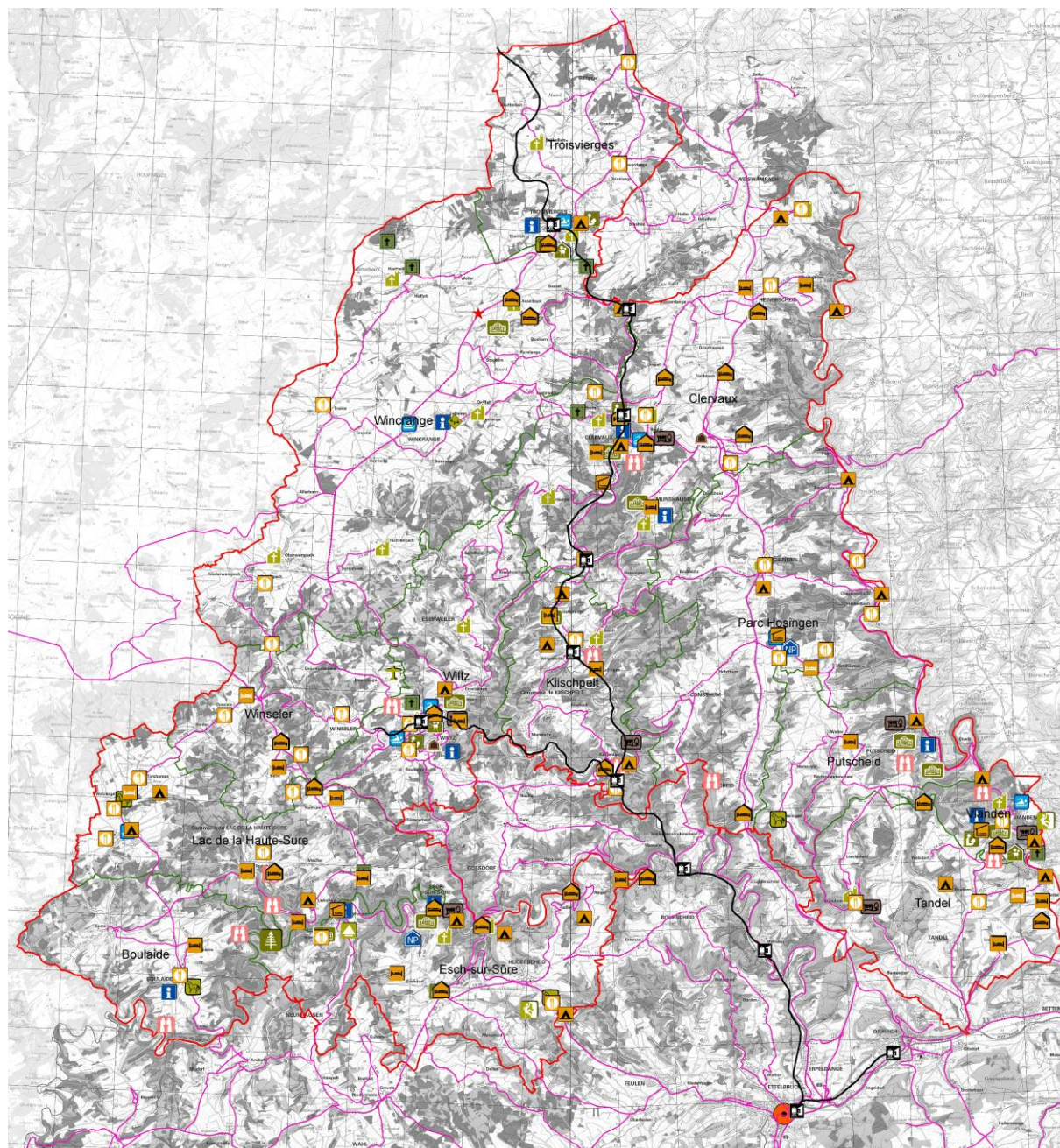
6. Need for action and analysis of lacks and potentials

The following map shows the overlap of the tourist destinations and accommodations with the public transport network for the focus area.

The situation of Luxembourg airport and the accessibility into the focus region has been described in chapter 4.1.

6.1. Comparison between public transport system and tourist destinations

Figure 32 : Public transport and leisure activities / accommodations / restaurants



Representation pact s.à r.l. based on data by Verkéiersverbond (buslines and busstops) – information from points of interest gathered and prepared by MDDI DATer (details see bibliography) - basemap: carte topographique 1:50.000 © ACT Luxembourg

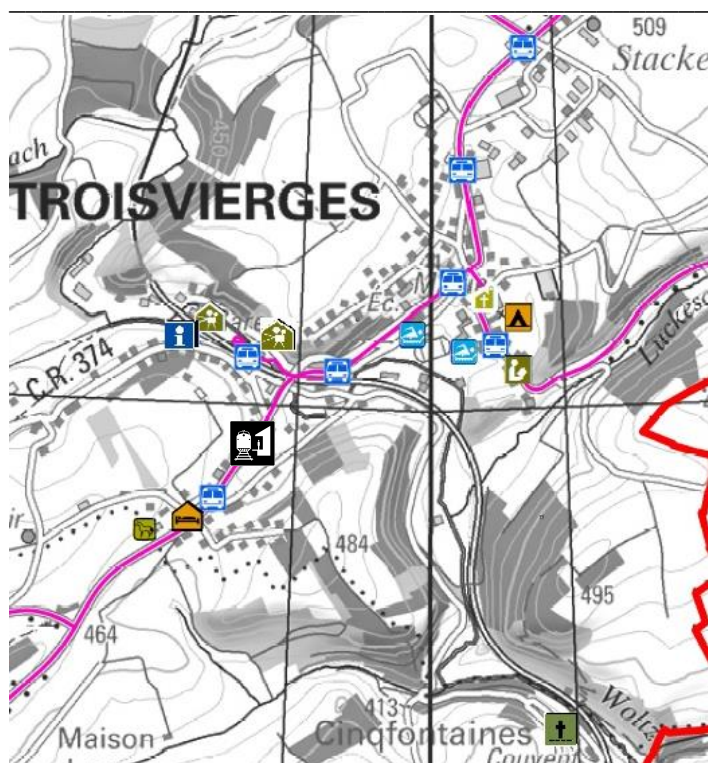
As nearly every village in Luxemburg is connected to the public transport system and the majority of points of interest is located within the settlements, they are also potentially accessible by public transport (bus). An exception are the nature oriented attractions, some cultural sites or the viewpoints. Kautenbach and Wilwerwiltz are smaller interesting spots with an access to the railway network.

“Hotspots”

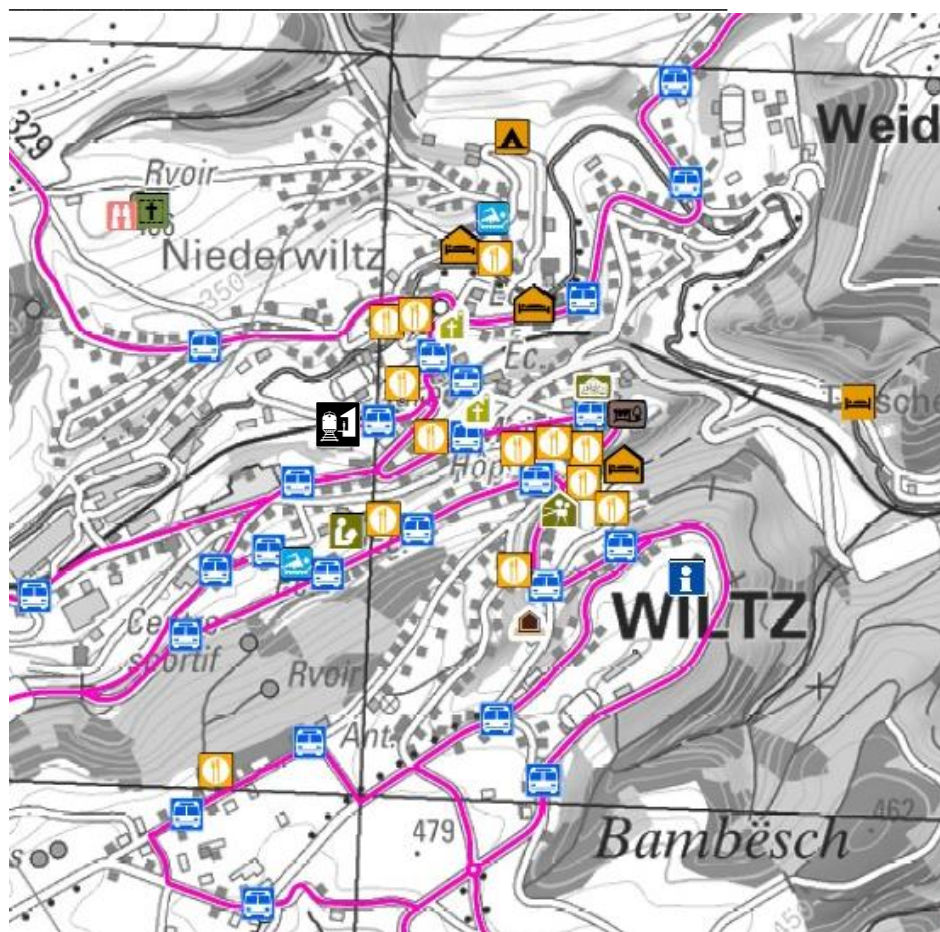
The “hotspots” where most of the touristic points of interest are concentrated, are mainly the towns Clervaux, Wiltz, Vianden and to some degree Troisvierges, as well as the area around the Sûre barrier lake. It is some sort of self-explaining, that the towns have good connections to the public transport network. The main hotspots of Clervaux, Wiltz and Troisvierges have direct access to the railway. In Clervaux and Troisvierges, the railway station is located about 1km (on foot) from the town centre. In Wiltz it is located within the centre.

Figure 33 : Zoom on the « hotspots » Clervaux, Troisvierges, Wiltz, Vianden and Sûre Barrier Lake

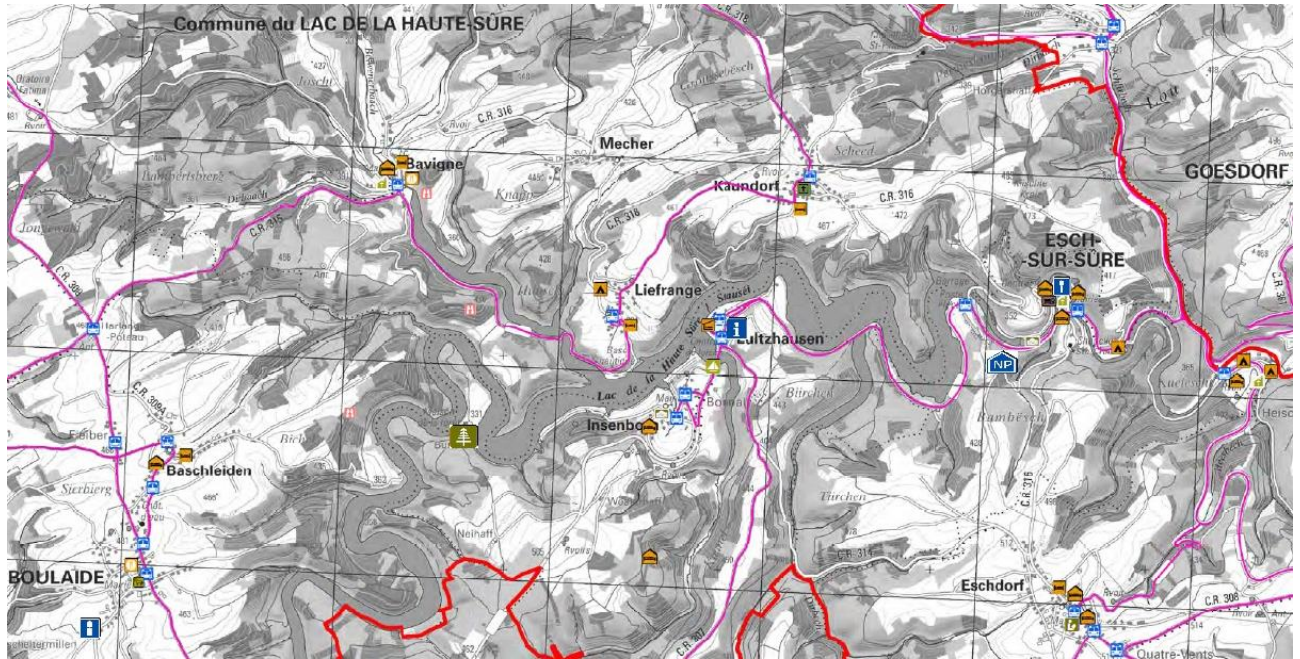




Representation pact s.à r.l. based on data by Verkéiersverbond (buslines and busstops) – information from points of interest gathered and prepared by MDDI DATer (details see bibliography) - basemap: carte topographique 1:50.000 © ACT Luxembourg



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6.2. Swot analysis

The following SWOT analysis resumes the strength and opportunities compared to the weaknesses and threats of the analysis of all the information gathered in this report. It shall lead to conclusions for the action plan in the following chapter.

Strength / opportunities	Weaknesses / threats
Data base	
Good data base on tourist attractions and accommodations (output as a result of this study) and on public transport network with bus lines and bus stops	no specific data available Luxemburg for trips per working day, trips per holiday, average length of trip on working day, average length of a trip on holiday, main reasons for trips on working days or weekend and public holidays
	no specific data available in Luxemburg for estimating the percentage of tourists coming from a "distance class" or the modal split for on-site mobility during the stay (local inland <50km , regional inland 50-150km or supraregional inland >150km).
	Number of one-day tourists from focus region per year / Number of one-day outsider tourists per year / Seasonality demand: monthly breakdown of tourist demand
Analysis based on the available data	
Railway line 10, covering the main towns (Wiltz, Clervaux and Troisvierges) in the central area, with bus connections to the other parts of region	Northern territory of Luxemburg characterised by varied topography with elevation differences between 150 and 550 m above sea level – restrictions for the use of soft mobility
Public bus network is leading over the main routes and covering the main tourist sites and attractions	Low density of population and long distances between towns and villages, points of interests away from the bus routes are not served, as – with the exception of the Bummelbus for inhabitants of the municipalities, but not the visitors - there is no (public) flexible transport system (for the moment)
Bus network will be renewed in 2018 towards high performance fix bus lines on the main routes (as complement do railway line) and flexible, demand oriented bus lines on the secondary lines (especially important for the rural areas)	The accessibility to this new flexible transport offer has to be available for tourists and visitors to the region
Good information platform on the public transport offer on www.mobiliteit.lu – mobile app and smartphone friendly	

Good connections between the tourist offer on www.visitluxemburg.com with specific info for the region Ardennes and even the Nature Parks and the public transport offer on www.mobiliteit.lu	
Easy and comprehensive pricing for public transport (bus and railroad) with short (2h) and long term ticket (whole day)	
Public transport has attractive pricing (4€ for whole day train and bus network)	
Luxemburg Card with free access to over 60 attractions in Luxemburg and free use of the public transport	
Bummelbus as flexible door to door transport offer for inhabitants of the region, Potential, that offer can be extended to other target groups like tourists and visitors of the region - capacities especially during holiday periods, potential for more user friendly access (f.ex. mobile app)	The actual agreement between the <i>Forum pour l'Emploi</i> and the Ministry and the municipalities has its focus on the offer of a flexible transport for the inhabitants – agreement would have to be extended to
All public buses are currently being switched to low floor buses	

6.3. Action plan

This action plan doesn't claim to be a complete catalogue of measures that must be realised, but shall rather be viewed as a first enumeration of ideas that should be further developed in the following phases – under consideration of the best practice examples of projects in other countries (study visits), which are not part of this report.

Proposal of measures
<p>Consider the result of the analysis of this report for the restructuring of the public transport system in 2018</p> <ul style="list-style-type: none"> - concerning the localisation of the tourist sites and attractions – data is available in GIS format – concentration of points of interest (hotspots) should overlap with the main bus routes (lines corresponding to the national main roads - the hotspots of Clervaux, Wiltz and Troisvierges have direct access to the railway) – other points of interest should be accessible with flexible bus transport - make sure that the information on all future public transport offer (fix and flexible) is easily accessible and comprehensible for tourists – (see point below)
<p>Extend the rent a bike network as a complement to the flexible bus system</p> <ul style="list-style-type: none"> - especially with the factor e-bike (important for the northern region due to the topographic situation) - consider the factor of bike transport on the flexible buses especially during the tourist season - optimize the communication between the different operators and tourist associations
<p>Develop a “travel map” for visitors to the region, giving for example an answer on the following questions: “how and when do I come from my arrival point (f.ex. airport) to my hotel” – “how and when do I come from my hotel to any point of interest within the region and how long does it take me?” “Do I have different options to travel and how can I combine different spots?”</p> <ul style="list-style-type: none"> - optimize the sites of mobiliteit.lu, visitluxemburg.com, ORTAL or the Nature Parks and the interaction between them in this direction - develop a flyer / application with the necessary information
<p>Extend the offer of the Luxemburg Card or a similar product for the region</p> <ul style="list-style-type: none"> - More than 3 days free use of public transport - Extend to the free use of bike rentals - Analyse the potential of a specific card for the region like a “Nature Park” card - Analyse the option to give a discount on entrance fees when using public transport (if not using the Luxemburg Card)
<p>In cooperation with the operator <i>Forum pour l'Emploi</i> and the Bummelbus, consider the potential of an existing flexible transport offer in the region</p> <ul style="list-style-type: none"> - As it actually works today, the Bummelbus can be an additional alternative to the (fix and flexible) public transport offer and could serve the points of interests away from the “hotspots” - Besides the municipalities, extend the cooperation with the Nature Parks and the ORTAL - possible testing phase over pilot projects

View the lack of information for the target region and in dependence of the possible insights from other participating regions on the importance of this data for the action plan, evaluate the purpose of a survey to receive data on

- Number of one-day tourists from focus region per year:
- Number of one-day outsider tourists per year:
- Seasonality demand: monthly breakdown of tourist demand
- trips per working day, trips per holiday, average length of trip on working day, average length of a trip on holiday, main reasons for trips on working days or weekend and public holidays
- estimating the percentage of tourists coming from a "distance class" or the modal split for on-site mobility during the stay (local inland <50km , regional inland 50-150km or supraregional inland >150km)

7. Bibliography

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Graph	Sources
Figure 4 : localisation of tourist destinations and points of interest	<p>Schwimmbäder</p> <ul style="list-style-type: none"> Site Office National du Tourisme (2016): Piscines et Centres de Spa au Luxembourg Editus Luxembourg S.A. (2016): Anuaire téléphonique du Luxembourg 2017 & Annuaire professionnel du Luxembourg 2017 <p>Aussichtspunkte</p> <ul style="list-style-type: none"> http://www.ardennes-lux.lu/fr/nature-randonnee/points-de-vue, Les plus beaux points de vue des Ardennes luxembourgeoises en un coup d'œil (Info aus Site entnommen Jan. 2017) <p>Bibliotheken</p> <ul style="list-style-type: none"> Associatioun vun de Lëtzebuerger Bibliothekären, Archivisten an Dokumentalisten (ALBAD) asbl.(2015): Lëtzebuerger Bibliothéiksguide 2015 <p>Dezentrale Kultuerhäuser</p> <ul style="list-style-type: none"> Ministère de la Culture, janvier 2017 <p>Kinos</p> <ul style="list-style-type: none"> Editus Luxembourg S.A. (2016): Anuaire téléphonique du Luxembourg 2017 & Annuaire professionnel du Luxembourg 2017 www.utopolis.lu (17.01.2017) <p>Museen</p> <ul style="list-style-type: none"> Luxembourg for tourism (2016): Sites et attractions 2017 Sites Gemeinden / Museen Editus Luxembourg S.A. (2016): Anuaire téléphonique du Luxembourg 2017 & Annuaire professionnel du Luxembourg 2017

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<p>Figure 6 : Demographic evolution between 1900 and 2016 - Grand-Duché of Luxemburg and Nature Parks</p> <p>Table 1 : population and density of population in the 2 Nature Parks</p> <p>Table 2 : Population growth comparison between the country and the two Nature Parks</p>	<ul style="list-style-type: none"> ▪ Km2:: die Zahlen beziehen sich auf die Fläche der Gemeinden 2015 ▪ STATEC, Volkszählungen 1970, 1991, 2001, 2011 ▪ STATEC, Einwohner pro Gemeinde am 1en Januar der Jahre 2002-2016
<p>Figure 9 : Localisation of educational and health facilities</p>	<ul style="list-style-type: none"> ▪ Education fondamentale: Gemeinden der Region (Okt-Nov. 2016)
<p>Figure 10 : Localisation of accommodations and restaurants</p> <p>Table 3 : Accommodations in the two Nature Parks</p> <p>Table 4 : Arrivals and overnight stays in the two Nature Parks</p>	<p>Youth hostels:</p> <ul style="list-style-type: none"> ▪ www.youthhostels.lu (Okt. 2016) ▪ www.visitluxembourg.com (Okt. 2016) <p>Camping:</p> <ul style="list-style-type: none"> ▪ Camprilux asbl. (2016): Internetsite Camprilux, Liste Stand 01.01.2016 (www.camping.lu)

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8. Appendix – Detailed map with all points of interest and (public) transport network