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# **GRAND ANGLE** ATOUT FRANCE

## **Special**

# **The economics of cycling**



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**FRANCE**

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# Editorial

Images of people living in large cities using bicycles for their day-to-day travel have hit the media headlines and confirmed the rising popularity of cycling as a low-cost means of transport that takes up little space, is good for your health and efficient over short distances.

As far as cycling in the countryside is concerned, local authority investments have resulted in the development of over 8,000 kilometres of cycle ways, which more than meet the quality standards required by foreign tour operators offering their clients upmarket holidays.

But how important is cycling in economic terms in France today? This special issue of Grand Angle summarises a detailed study carried out by Inddigo/Altermodal on behalf of ATOUT France in partnership with the MEEDDM <sup>(1)</sup>, the Ministry of Health and Sport, the Conseil national des professions du cycle, the Association des départements cyclables and the Club des villes cyclables.

It covers not only the different cycling practices of the French - needs-based and local, leisure, sport, tourism and cycle touring - but also the economics of cycle tourism overall and the impact of cycling on the environment.

Some previously unpublished results on the economic relationship between healthcare expenditure and regular cycling based on a very large population sample are discussed.

The report also looks at changes in the French cycle industry in relation to the world market, which it led 20 years ago, and compares it with the car industry.

Finally, it examines the main operational focus of a national cycling policy, setting out a vision of France in 2020 as having caught up to be on a par with its German, Swiss or Belgian neighbours. A ten-year plan of this kind would have significant economic consequences for a reasonable investment and would align perfectly with the spirit of the economic recovery plan and the Grenelle de l'Environnement round-table talks on the environment.

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# Cycling and the French

## Cycling plays a key part in day-to-day life in France

- 23 to 25 million French people aged 4 and over - 40% of the population - claim to cycle on a regular basis. Ten million others cycle very occasionally

*Sources: "Les pratiques sportives des Français" (Ministry of Youth and Sport and Ministry of Communication, 2003), "Les Français et le vélo" (Crédit Lyonnais, 2006), Observatoire du sport (Fédération des professionnels du sport FPS/Ipsos, 2007).*

- **30 to 36% of French people claim they use bicycles as a means of transport**
- **5% cycle daily**

*Sources: "Les Français et la mobilité durable" (CSA, 2005), "Quel conducteur êtes-vous ?" (AGF-AFPC-ASHOC Research, 2007), Certu household surveys*



- **4,4 billion kilometres are cycled every year, an average of 87 km / person / year**

*Source: national survey on transport and travel (ENTD), 1993-1994. This huge survey, carried out every 10 to 14 years by Insee, gives a comprehensive view of French travel practices. The results of the latest survey, carried out in 2007-2008, should be published in 2009. The previous survey, carried out in 1993-1994, was analysed in detail by Francis Papon, a researcher at the National Institute for research into transport and transport safety (Inrets). It remains the primary source of data on cycling, with exhaustive and highly reliable data*

- **2.85% of journeys are made by bicycle**

This is the “modal share” of cycling, in other words its “market share” of all journeys made. It varies significantly from one town to another, from 0.5% in Marseille in 1997 to 6% in the Strasbourg urban area in the same year, reflecting the vitality of the well-established trend towards more cycling in major French cities.

*Sources: ENTD and household travel surveys carried out in conurbations in accordance with methods validated by the Centre for the study of urban planning, transport and public facilities (Certu). 54 conurbations representing 20 million inhabitants carried out a household travel survey between 1976 and 2007.*

**Cycling is a seasonal activity: the annual average is 1.56 times higher than the level in winter (November to March).**

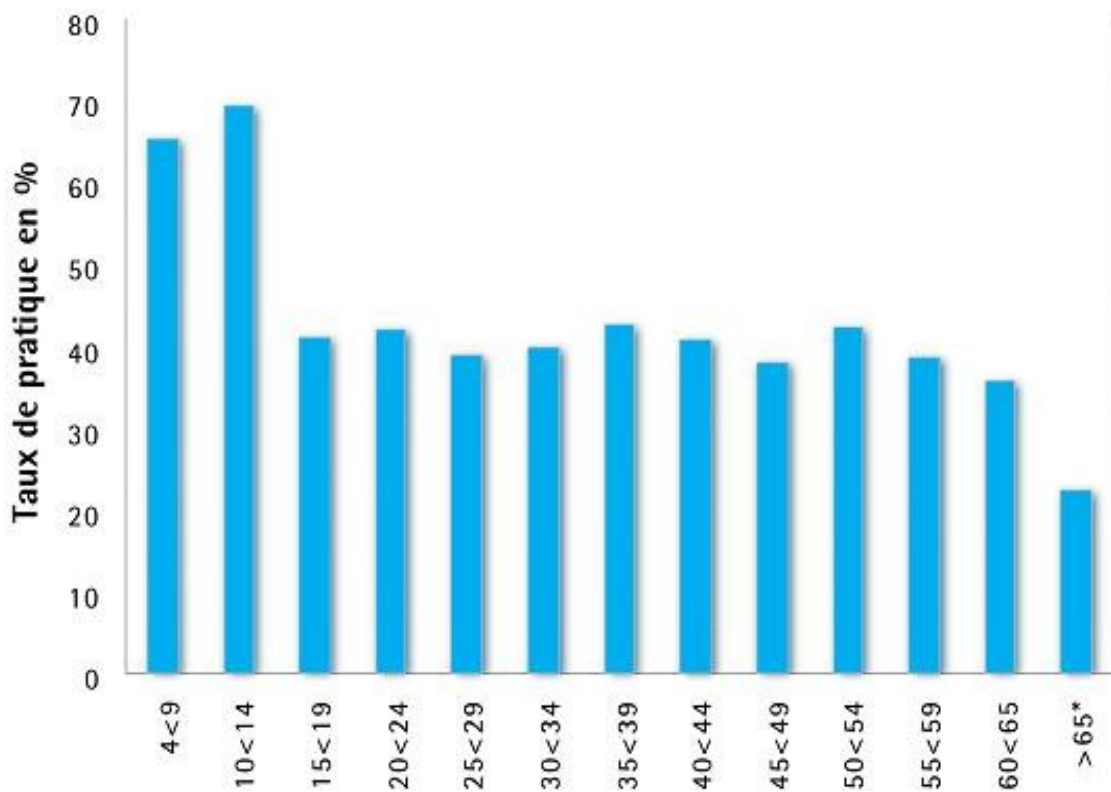
## France lags behind its European neighbours

On average, the French cycle 87 km per person per year, compared with 300 km in most northern European countries, excluding the Netherlands and Denmark, whose inhabitants cycle between 800 and 1,000 km per year.

The low figures for distance travelled are primarily explained by a low frequency of use.

## Cycling is linked to age

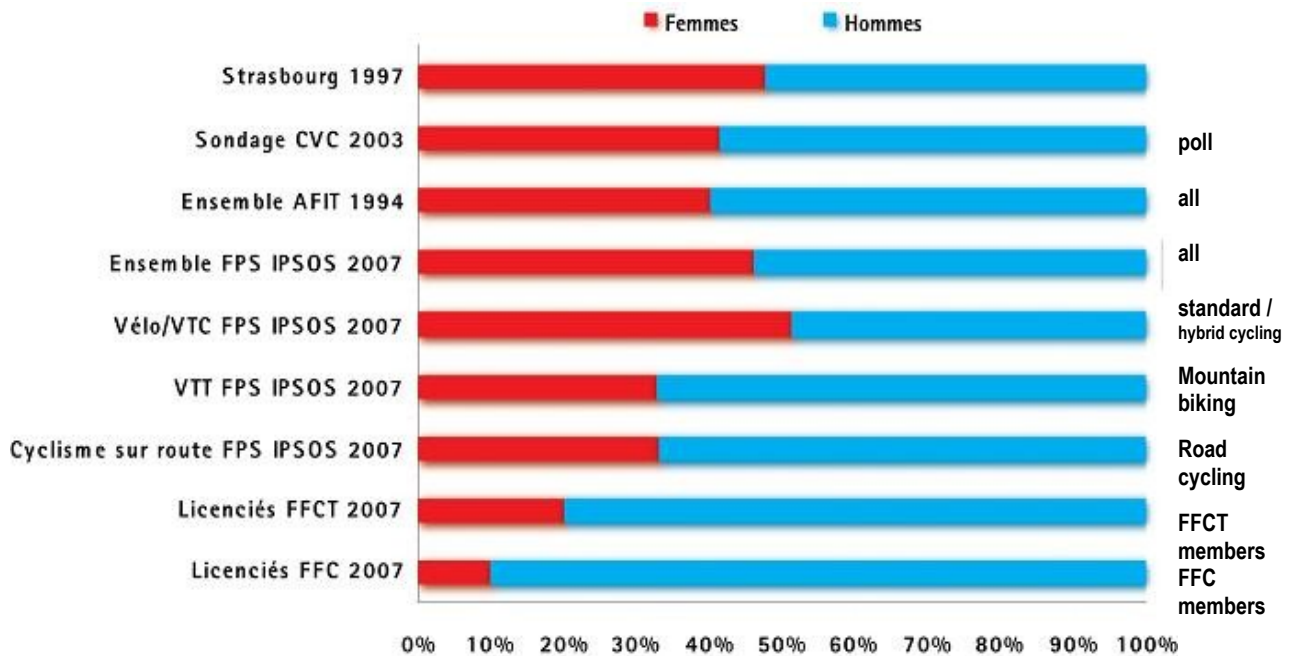
### Level of cycling (%)



Sources: FPS 2007, 1995 AFIT survey (now ATOUT France) for the over 65s

**Two thirds of children ride bicycles. Cycling falls after the age of 15, then remains stable at 40% usage until the age of 60 and then gradually declines.**

## Slightly more men cycle than women



On average, men cycle more than women, but the figures vary depending on the type of cycling involved.

Unlike cycling as a sport, which is dominated by men, cycling for leisure is done mostly by women. In terms of needs-based cycling, men are slightly in the majority.

*Sources: Household travel survey, Strasbourg 1997, FPS Ipsos opinion poll 2007*

## Varied practices, multiple benefits



Cycling lends itself to being used in a wide variety of different ways. That is one of its great strengths. But this reality is not at all well understood: everyone has a different - and often limited - view of cycling.

French people who get their bikes out on Sundays or watch the Tour de France cannot imagine that cycling is a highly efficient way of getting around town or that families happily cover hundreds of kilometres on cycle touring holidays.

PRACTICES	BENEFITS
<p><b>Needs-based local use</b></p> <ul style="list-style-type: none"> <li>▶ 17 million regular cyclists (30% of French people)</li> <li>▶ 3 million daily cyclists (5% of French people)</li> <li>▶ Vast majority of distance travelled</li> </ul>	<p><b>The greatest potential for growth: over 50% of journeys are less than 2 km</b></p> <p>Efficient journeys, urban environment, health, purchasing power, cycle market</p>
<p><b>Leisure and one-day excursions (excluding sport)</b></p> <ul style="list-style-type: none"> <li>▶ 22 million cyclists</li> </ul>	<p><b>First step towards the development of cycle mobility</b></p> <p>Health</p>
<p><b>Road cycling (sport)</b></p> <ul style="list-style-type: none"> <li>▶ 2 million cyclists</li> </ul>	<p><b>Cycle market</b></p>
<p><b>Cycling by tourists on holiday</b></p> <ul style="list-style-type: none"> <li>▶ 7.3 million holidays: 5.5 million for French residents and 1.8 million for foreigners</li> </ul>	<p><b>Development of tourist economy</b></p>
<p><b>Cycle touring</b></p> <ul style="list-style-type: none"> <li>▶ 385,000 holidays for French residents and 720,000 for foreigners</li> </ul>	<p><b>Development of tourist economy</b></p>
<p><b>Mountain biking</b></p> <ul style="list-style-type: none"> <li>▶ 6.6 million French people</li> </ul>	<p><b>Cycle market, mountain tourism</b></p>

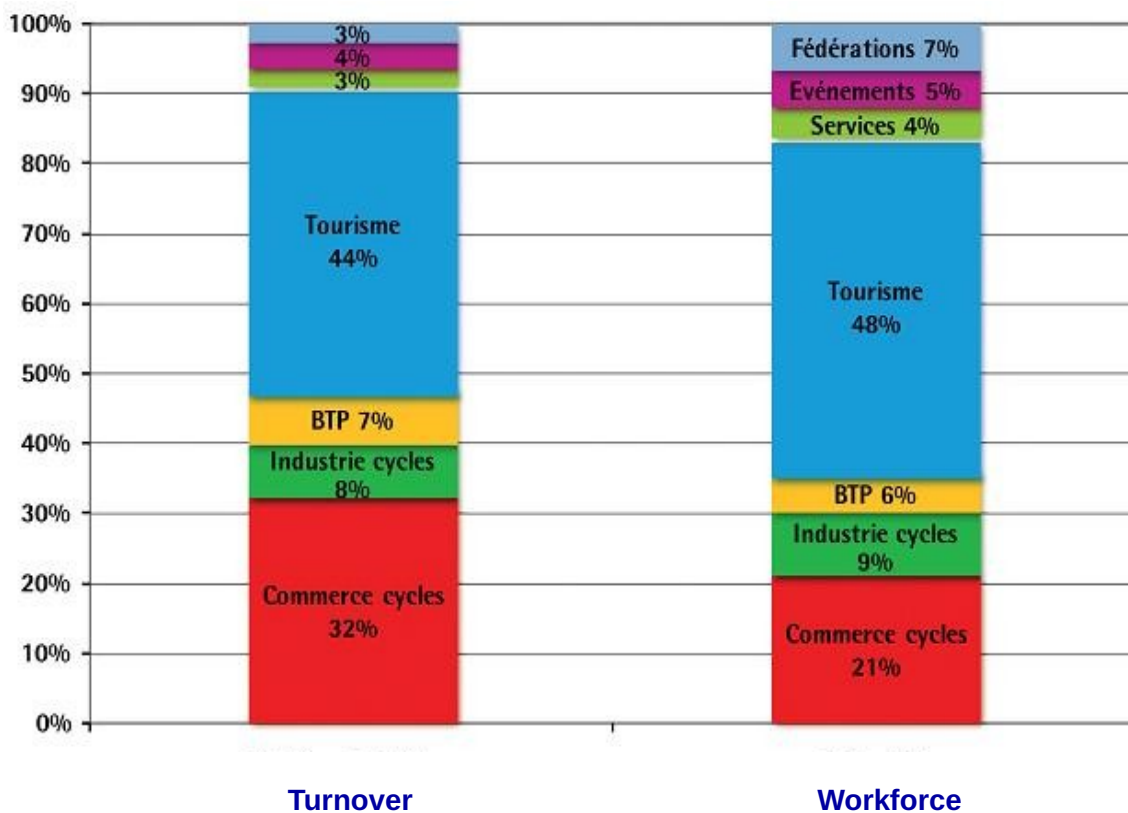
Sources: ENTND, surveys and opinion polls cited above, survey of tourist demand amongst the French (Tourism department/TNSSofres), various on-site surveys on cycle routes and greenways (1998-2006 Altermodal).

# Economic issues associated with cycling

## 4.5 billion euros of direct economic impact

The turnover of the various economic players whose activities are associated with cycling is estimated at €4.5 billion, providing 35,000 jobs. For tourism, the figure only includes the excess turnover associated with people cycling on holiday or cycle touring, i.e. €1.9 billion.

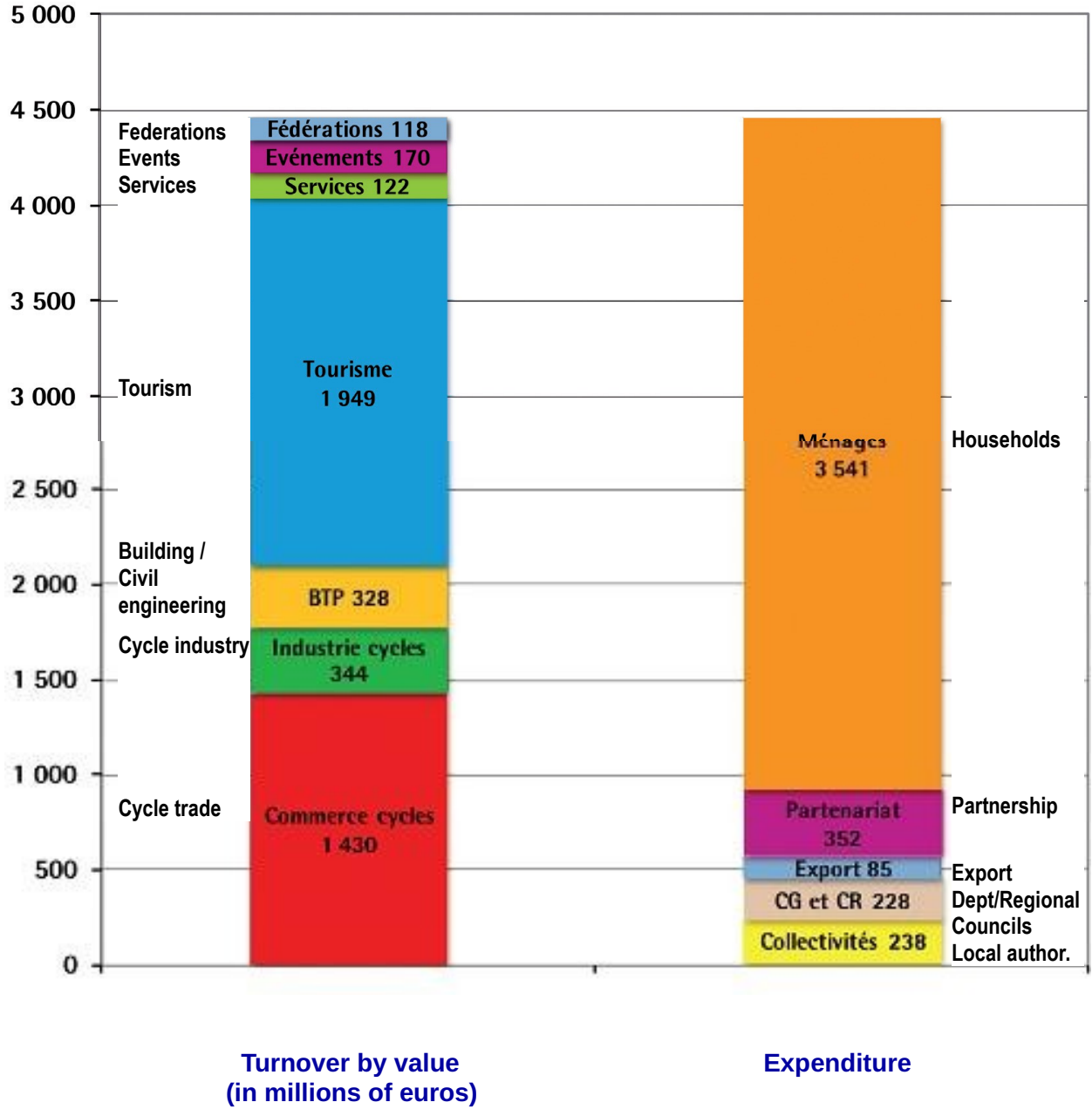
### Turnover and jobs



Examples: Tourism represents 44% of turnover from cycling.

The cycling trade employs 21% of the workforce associated with the cycling economy.

## Income and expenditure



*Examples:*

The building and civil engineering sector benefits by 328 million euros in terms of economic impact

Households inject 3.541 billion euros into the cycling economy.

- **€5.6 billion saved in healthcare expenditure**

The main benefit of cycling is better health. The savings in healthcare expenditure associated with cycling are estimated at €5.6 billion annually, according to the calculation methods used by the WHO and European countries in relation to road accidents.

- **“Suppliers” markets**

The relationship between cycling and the development of cycle ways is well established: the more towns and cities invest, the higher the modal share of cycling. The effects of a cycling policy start to be felt in practice above a threshold of 0.5 metres of cycle way per person. To achieve high levels of cycling such as those found in Strasbourg, however, conurbations need to combine development, services and awareness-raising campaigns. The geographical distribution of tourists who cycle on holiday, cycle touring and leisure cyclists speaks volumes: people are attracted to areas where there are appropriate amenities. Nonetheless, these still need to be backed by a policy of service provision and promotion.

- **The leverage effect of public-sector investment**

The economic impact of cycling is out of all proportion to the amount of public investment devoted to it (central government and local authorities combined). This currently amounts to €500 million a year: the direct economic effects alone are nine times higher!



# Cycling trends in urban environments

## The Vélib' phenomenon: a prevailing trend

The Vélib' phenomenon is part of a prevailing trend: the increase in cycling observed in major city centres since the beginning of the 21st century.

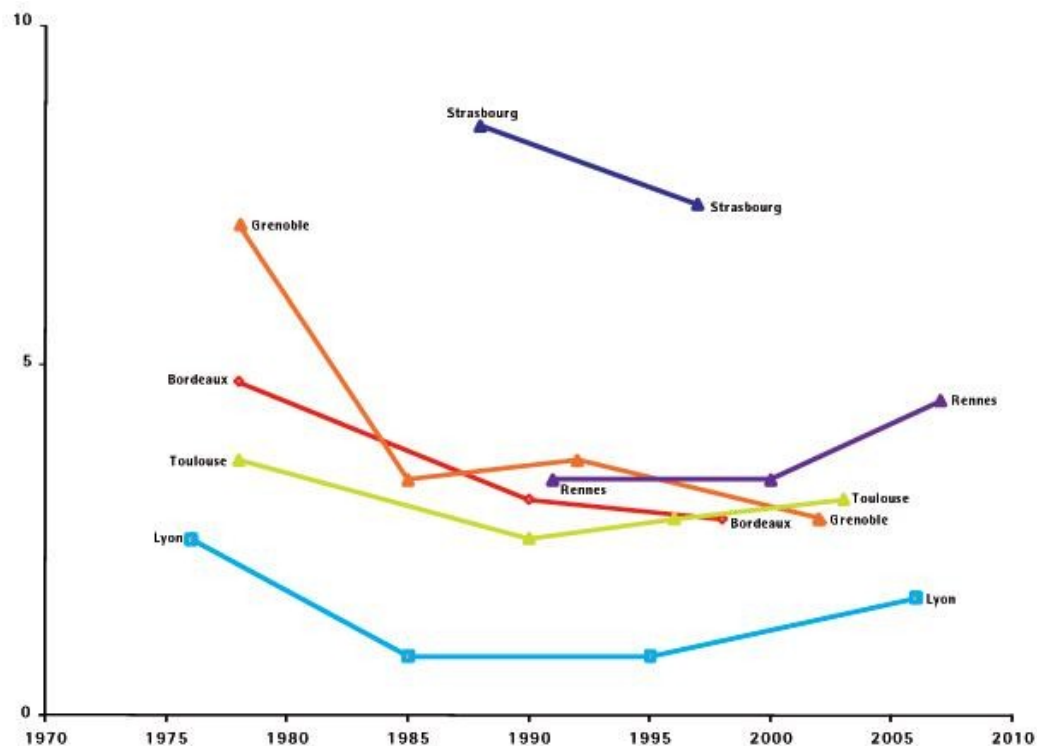
The upturn in the trend follows a decline of 20 years. Cycling fell by half between 1976 and 1997, before stabilising for a period of some years. The upswing is still only tentative - cycling continues to decline in some regions and amongst some sections of the population - but it is very marked in many large cities:

- ▶ + 22% in the Toulouse conurbation between 1990 and 2003.
- ▶ + 33% in the Rennes conurbation between 2000 and 2007.
- ▶ +200% in Paris between 1991 and 2001, with the figure for the Ile-de-France remaining stable over the same period.
- ▶ + 300% in Lyon and Villeurbanne between 1995 and 2006 (+228% over the conurbation as a whole).
- ▶ + 39% in Lille between 1998 and 2006 but -20% over the Lille conurbation as a whole.

The initial results of the ENT D 2007-2008 will reveal whether these changes are becoming more widespread, and if so to what extent.



## The return to cycling in major French cities



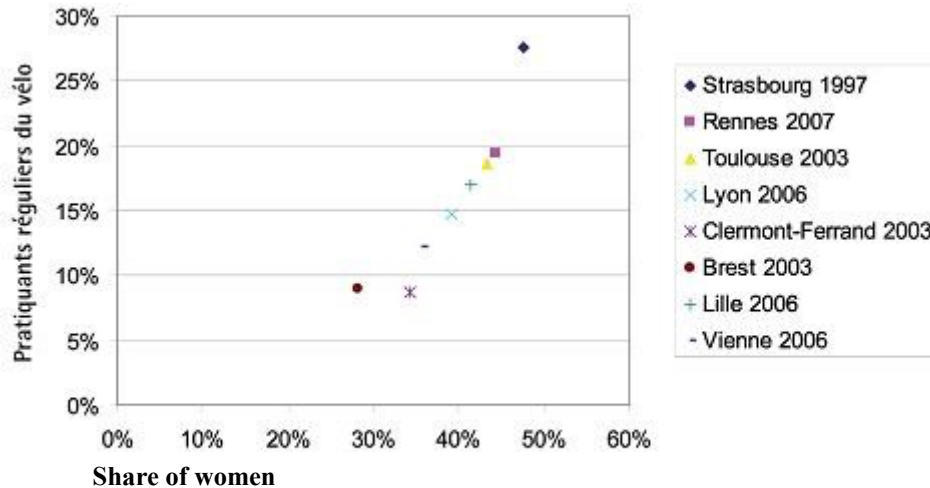
### These trends go hand-in-hand with fundamental sociological changes

- The level of cycling has increased significantly amongst senior and middle managers and self-employed professionals, and amongst students... But it has declined significantly amongst primary and secondary school students, the working classes and those not in employment. Once seen as a means of transport for the poor, which they were forced to use rather than actively choosing it, cycling cannot now only be seen as a phenomenon of the affluent classes. In conurbations where cycling levels are high, rates are fairly consistent across all socio-economic classes.
- Cycling as a city-centre phenomenon**  
In almost all cities with significant levels of cycling, daily use decreases the further out from the centre you go. That said, the development potential for needs-based cycling lies in the suburbs of large cities, where the distances involved are appropriate for cycling. Over 50% of journeys in French conurbations are less than 2 km.
- Cycling rates are not linked to the size of conurbations**  
Relief is an important but not a decisive factor.

## ■ The higher the level of cycling, the more women are involved

### More women cycling in urban areas

Share of women (x) amongst regular cyclists (y)



#### Cycling in businesses and local authorities

The number of bicycles owned by businesses and local authorities is estimated at 50,000, of which 35,000 belong to the French postal service. These generate very significant savings in terms of vehicle costs and represent annual turnover of €7 million. Electrically assisted cycles represent an increasing share.

According to a study by Ademe currently underway, over 800 organisations – institutions, businesses, administrative authorities, business parks, etc. – representing over 1.6 million people, embarked on a company travel plan in 2008. The value of the market is estimated at €16 million.

Company travel plans are efficient tools for driving modal shift. In the Grenoble conurbation, where a review of company travel plans was carried out in 2007, the modal share of cycling was 14% of travel from home to work for the staff of the companies concerned.

#### Transport allowance extended to cycling

Cycling is beginning to be recognised as a day-to-day method of transport.

In November 2008, the “transport allowance” which enables companies to cover half the public transport costs of their employees, was extended to “public cycle hire services”, or in other words Vélib’ type subscriptions, when they are used for travel between home and work.

# Cycling, a key asset for sustainable leisure and tourism

## Cycle tourists spend more than average

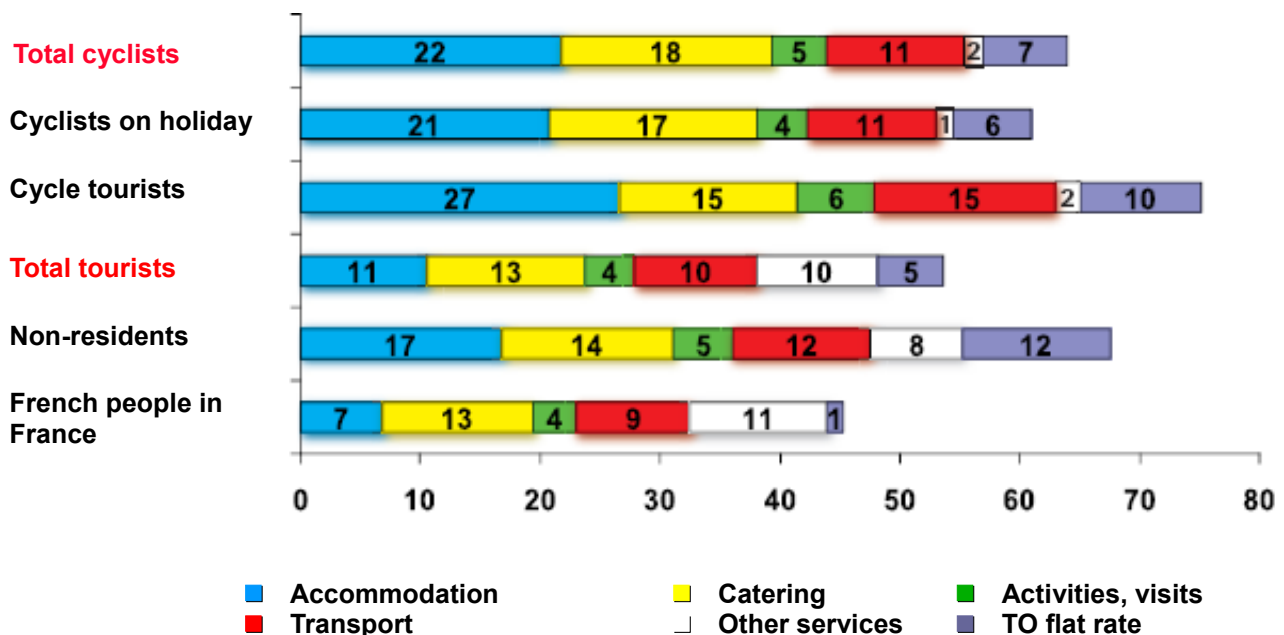
Tourists who cycle spend significantly more than average tourists, primarily because they make more frequent use of paid accommodation.

Daily expenditure is highest amongst cycle tourists, average for tourists who cycle whilst on holiday and low for day-trippers (just over €10 per person) according to corroborating surveys.

Cycling has a major impact on the tourist economy: the total expenditure of tourists who cycle either when on holiday, when taking part in cycle touring or on day-trips is calculated at €5.6 billion. Accommodation and catering account for almost half this income; these are service-based, labour-intensive activities that cannot be “relocated”.

The excess turnover associated with cycling is estimated at €1.9 billion.

## Cycle tourists spend 75 euros per day



Sources : Tourism records, EuroVelo 6 survey (Altermodal), calculation of transport costs by car.

## ■ 5.5 million cycling holidays

Cycling is the second-most popular sport for French people on holiday, after walking, according to the monthly review of tourism data carried out by TNS-SOFRES for the French Ministry of Tourism. 5.5 million holidays (3.32% of the total) were identified as cycling holidays in 2007. This figure is a minimum: it does not include tourists who travel around by bicycle at their holiday destination.

- ▶ 45% of these holidays take place in July and August.
- ▶ The share of cycling holidays is higher in paid accommodation. It is highest in campsites, holiday villages and tourist developments.
- ▶ It is primarily a family activity, mostly among the 35-55 years age group.
- ▶ 40% of cycling holidays (2.2 million) are taken on the Atlantic coast, in the Vendée and Charente Maritime, which alone account for 20% of holidays (over 1 million).

### **Leisure rentals: €25 M turnover**

There are just over 1,000 hire firms in France, 35% of them on the Atlantic coast. Rental covers a number of very different segments: holiday rentals on the coast, rentals of highly sophisticated mountain bikes in the mountains, rentals for urban tourism as in Paris, etc. The fleet is estimated at some 50,000 bicycles and annual turnover at €25 million, representing around 500 full-time equivalent jobs.

## **Cycle touring: France leads the world**

Around 3% of the cyclists who use cycle routes and greenways are cycle tourists, according to on-site surveys carried out between 1998 and 2006 by the research firm Altermodal. This figure rises to 15% in the Loire Valley.

Foreigners are more inclined to take part in cycle touring than residents: 20% of foreign tourists who cycle are on cycle tours, compared with 7% of French tourists who cycle. The Germans are particularly enthusiastic: over 50% of tourists who cycle from Germany are on cycle tours. The share of foreign cyclists goes up to 86% in Franche-Comté, 60% on the Loire à Vélo route and 58% in Alsace. These are all regions that include major routes identified as European cycle routes.

An analysis of the products and services offered by tour operators specialising in cycling holidays confirms the level of foreign interest in holidaying in France. Altermodal questioned around 100 people, both French (20% of the sample) and foreigners (80%), representing two thirds of the world's operators.

The conclusion was that France is the most popular destination they offer. Four wine-growing regions appear at the top of the list: Provence, the Loire Valley, Burgundy, the Dordogne and Medoc.

### **Bike + train: the right combination**

Transport expenditure for cycle tourists totals €206 million, €23 million of which is spent on train tickets bought in France.

The modal share of trains in travel associated with touring holidays is 40%, i.e. three times higher than the average for tourists. This is primarily the result of the modal choices made by German cyclists, who have a preference for travelling by train.

## National cycle routes and greenways scheme in 2009



### Routes identified in the national cycle routes and greenways scheme

- 1 Atlantic Coast cycle route
- 3 Pilgrims cycle route
- 4 Roscoff - Kiev cycle route
- 5 Francigena cycle route
- 6 Atlantic to the Black Sea cycle route
- 8 Mediterranean cycle route

- 21 London Paris cycle route
- 41 Rhine cycle route
- 42 Paris Prague cycle route
- 50 Tour of Burgundy cycle route
- 61 Lake Geneva to the sea cycle route
- 81 Two Seas cycle route

Source: ADC - MN3V - AF3V April 2009

Note: this map of planned national routes may be amended after the consultation on the national cycling policy scheduled for May to July 2009.

## Greenways: cycling for all

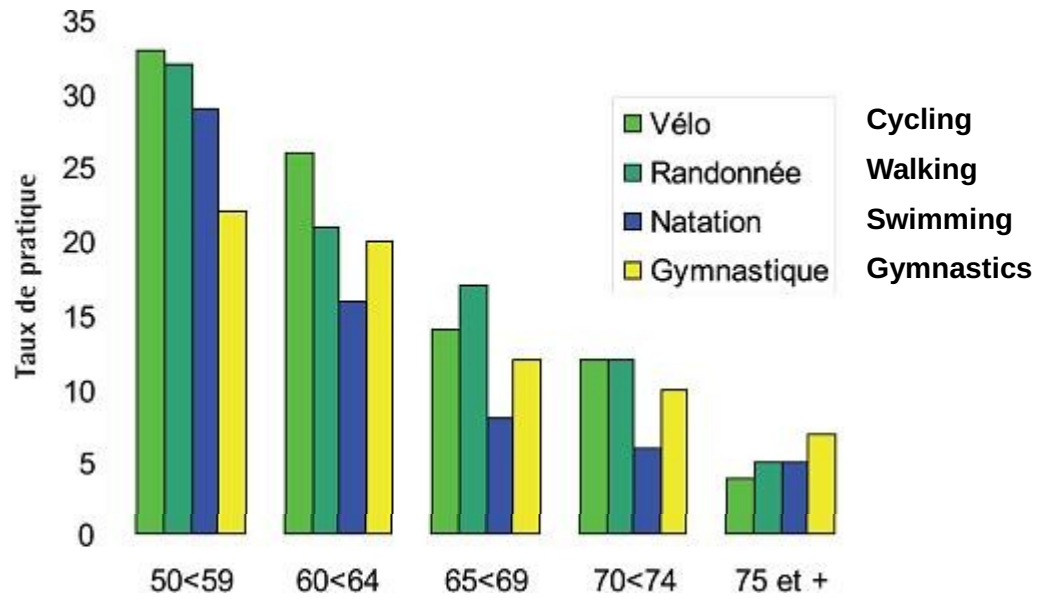
76% of the cyclists who use cycle routes and greenways are day-trippers, according to on-site surveys carried out by Altermodal. They represent proportionately higher numbers near to urban areas such as Chambéry, Annecy or Toulon.

Day-trippers spend money if there are catering or leisure facilities in the immediate vicinity of their route.

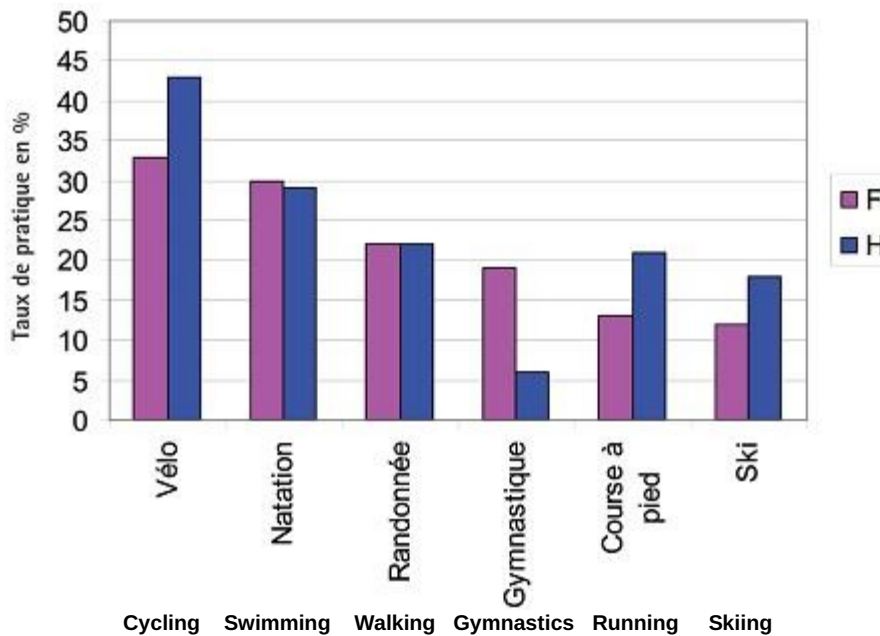
Leisure cycling is more popular amongst women than other forms of cycling. It also attracts a wider audience, including elderly people who do not take part in sport. Cycling then has a significant impact in terms of health.

## Cycling: the no. 1 physical activity for older people and women

Level of activity



Source: *La pratique des activités physiques et sportives en France 2003* (Ministry for Young People and Sport/Insep)



# Cycling as a sport: road cycling and mountain biking

## Road cycling as a sport

The number of people who cycle as a sport is estimated at 2 million. Around 500,000 are members of cycling clubs.

Cycling as a sport is defined by belonging to a club, taking part in competition, owning a racing bike, distances covered and average speeds.

Sports cyclists share a number of characteristics:

- ▶ Older, with an over-representation of 50-65 year-olds.
- ▶ Two thirds are men.
- ▶ 34% of cyclists who describe themselves as cycling for sport cover over 5,000 km a year, and 45% over 1,000 km. 93% of club members cycle over 1,000 km a year.
- ▶ The average distance covered on each outing is 68 km for club members, compared with 35 km for non-members.

## The Tour de France: economic impact of €272 million

The Tour de France is still one of the world's leading sports events. Organised by Amaury Organisation (ASO), it generates turnover of €272 million, €100 million in direct budget and almost €80 million in economic impact for the local authorities on the route. It is estimated to create employment for 2,700 people.

France hosts 12,000 different sporting competitions: 150 "cycle sports" events involving almost 130,000 participants, including the famous Ardéchoise, 3,500 cycle tourism events including Federation Week, which generates 100,000 overnight stays, and international mountain biking events such as the Roc d'Azur. Events organised by the FFCT generate over €13 million of economic impact through organisation, catering and accommodation. The organisational budget for FFC events is around €12 million.

# Mountain biking (off-road cycling)

Developed in the late 1970s in the United States, the mountain biking phenomenon first hit France in the 1980s. As a fun form of cycling that could be enjoyed anywhere in the heart of the natural environment, it revitalised the sport and its image. Its appearance shook up the cycling industry and cycle distribution completely.

Mountain biking now covers a wide range of different activities, the scope of which can be difficult to define because of the confusion between mountain bikes themselves and “all-terrain” off-road cycling as an activity. The activity is both a sport and enjoyed for fun, most often in the mountains, and combines a range of disciplines associated with how the bikes themselves have developed: cross country, downhill (mountain biking sites), enduro (cross techniques), freeriding (off-road) and slopestyle (acrobatics).

- ▶ According to the FPS IPSOS 2007 survey, 6.5 million French people aged 4 to 65 take part in mountain biking. Two thirds of them are male and young (average age 32). Few participants are involved in clubs, but club membership is rising and France has achieved some excellent results in these disciplines in international competitions.
- ▶ Mountain bikes are the most popular type of bike sold in France: 1.7 million units in 2007, or almost half the market by volume. The number of bikes in use is estimated at 14 million.
- ▶ Mountain biking has an impact on tourism: it opens up the mountains in summer to a younger clientele and provides an opportunity for diversification, whilst optimising the use of ski lifts.

## Training for cycling as a sport:

Supervision and instruction generate 575 full-time equivalent jobs and turnover of around €11.8 million, with a total of 1,300 qualified instructors. Most of the activity is focused on mountain biking and BMX supervision, and on-road and off-road competitions.

# The paradox of the French cycle market

## The cycle market in 2008:

- ▶ Sales of bicycles: €897 million (+1%)
- ▶ Sales of peripherals: €535 million (-3.2%)

This sector includes components, accessories, personal equipment and frames.

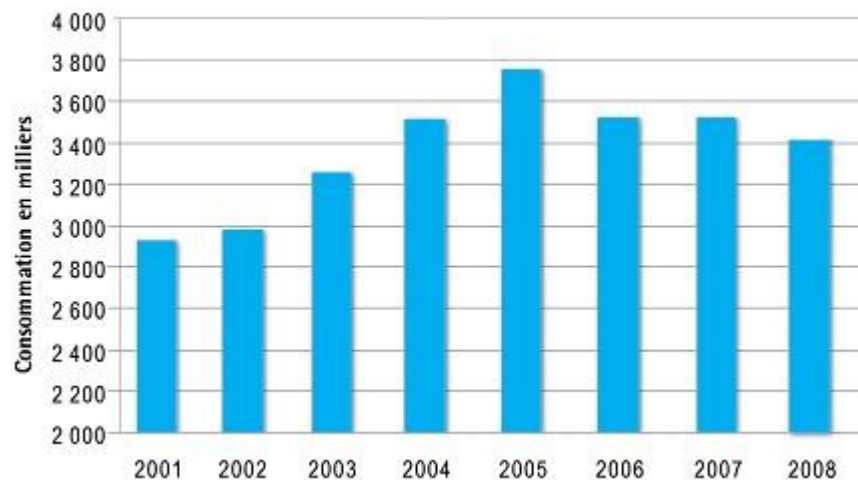
Source: Conseil national des professionnels du cycle (CNPC)

## The French cycle market is in a paradoxical position:

- ▶ The French buy large numbers of bicycles, although usage is limited. 3.4 million bicycles were sold in 2008, or 5.4 for every 100 inhabitants, making France one of the world's top four consumers.
- ▶ Average selling prices are low, although they have increased regularly in the last 5 years (€262 in 2008). But the average price per kilometre is high, because of the very short lifespan of bicycles and the limited distances covered.

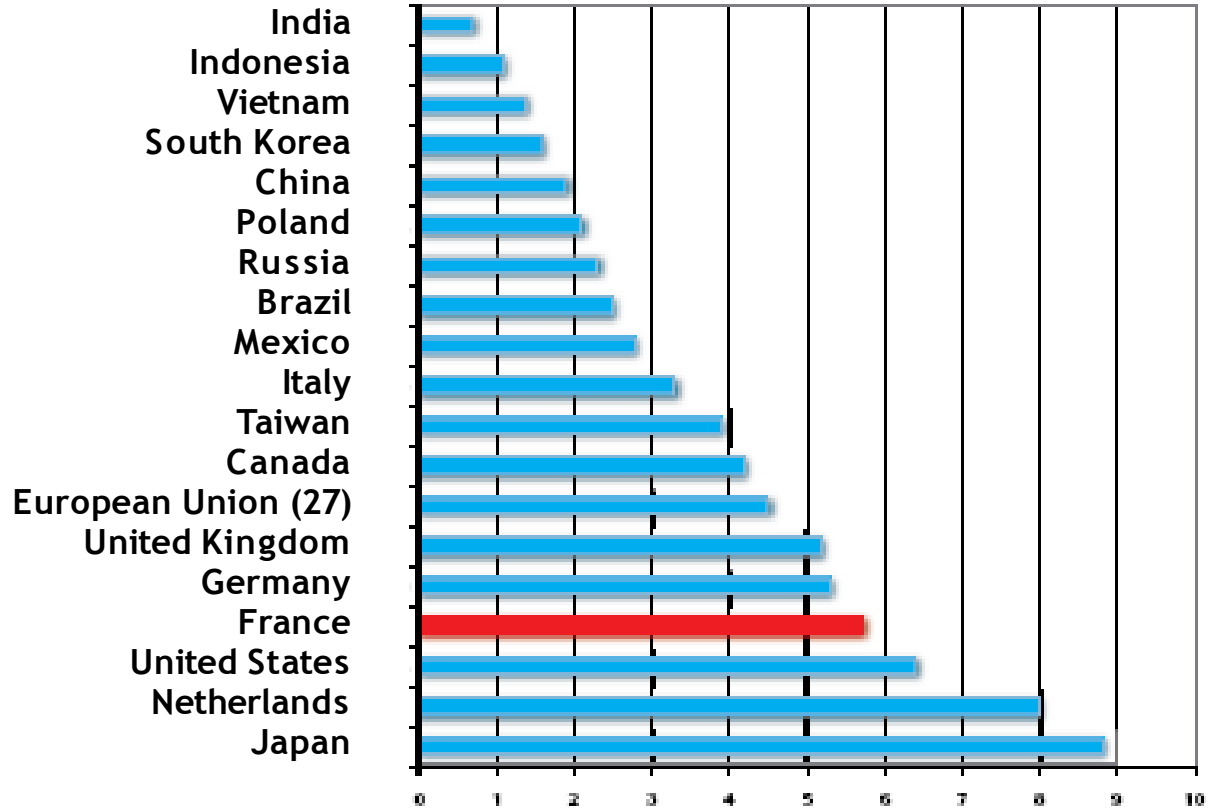
- Around 3.5 million cycles sold every year

## Number of cycles sold per year in thousands



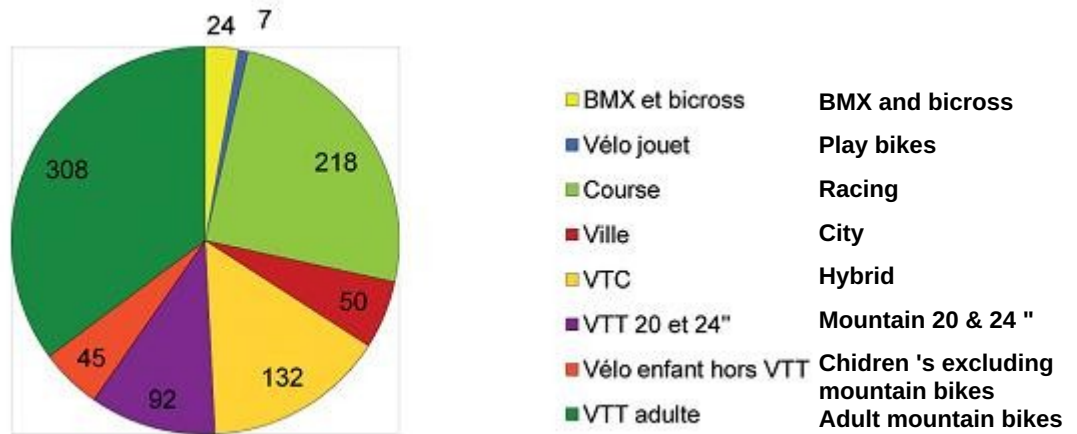
## Cycle consumption per inhabitant per year in 2007

Cycles sold in 2007 per 100 inhabitants

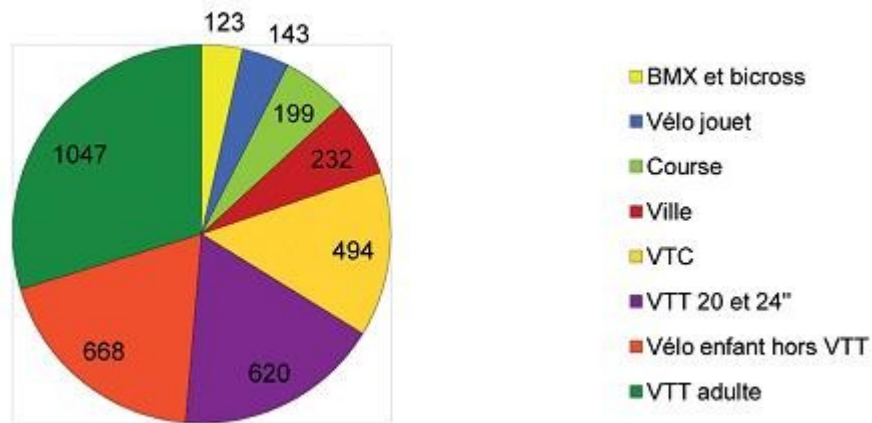


Mountain bikes (adults' and children's) dominate the French market and the proportion of children's cycles remains very high. City bikes, although growing steadily, are only a small part of the market (22.5% of sales in 2008). Electrically assisted cycles are growing, with 15,700 units sold in 2008 (+50%).

**Segmentation of the cycle market in France (millions of euros)**



**Segmentation of the cycle market in France (thousands of cycles sold)**



In the Netherlands, city bikes dominate the market (60% of sales); they also represent a significant share in Germany and Switzerland (25% and 21% of sales respectively).

Trekking bikes are specific to Germany and Austria (32% and 31% market shares respectively): these are good quality, well-equipped cycles used both in town and for touring.

There is a very strong relationship between average prices, product families and the type of distribution network. In France, which currently has 4,000 sales outlets, distribution was dominated until the 1990s by a network of independent specialist retailers who both sold bikes and did repairs, often under the name of one of the major brands (Peugeot, Mercier, Gitane). The situation changed with the appearance of mountain biking and the arrival in the market of the mass-market food retailers.

Today, the major food retailers are seeing their share of the market decline, but still have a presence in children's and play bikes. The mass-market sports retailers, by contrast, are seeing their dominance increase. Abroad, the market is dominated by specialist retailers in areas where cycling is popular.

## The French cycle industry

### The cycle industry in figures

- ▶ Over 100 million cycles produced around the world each year, the majority of them for Asian markets.
- ▶ The "western" market accounted for just over 20 million units and turnover of €8 billion in 2007.
- ▶ The French cycle industry: 2,200 people employed and turnover of €345 million, with €250 million for the market leader, Décathlon. Economic indicators have all fallen since 2002. Exports by value are at the same level as imports. France produces a scant 36% of the cycles sold in the country (50% for Europe as a whole).

France is home to a number of businesses with a worldwide reputation for spare parts for upmarket sports cycles and for assembling good quality cycles. There is also the multisports retailer Décathlon, which has successfully embarked on a policy of designing and manufacturing its own products. Based in Lille, the group assembles more than half the cycles sold in France; two thirds of cycle sales through mass-market sports retailers are through its 210 stores.

A world leader over 20 years ago, French industry was unable to make the shift into mountain bikes in 1984-85. It is this, however, that has revolutionised the market for components and driven product development.

In the 1990s, it was hit by the full force of globalisation and the arrival of low-cost cycles sold through mass-market retailers. Each of the three big French names in turn (Mercier, Peugeot and Gitane) ran into difficulties.

Germany and the Netherlands, however, managed to maintain a local industry based on cycles for urban use at a significantly higher level in the market, where competition was less fierce. Italy has maintained an upmarket industry thanks to cycle racing.

# Cycling and health

In France, over half of men and two thirds of women have a level of physical activity that is classed as low, increasing the likelihood of a number of chronic conditions. Reversing the trend requires a relatively low level of physical activity: just 30 minutes a day or three hours a week of physical exertion.

Cycling is an ideal way of achieving this objective, which is equivalent to two 15-minute journeys every day. Cycling uses a significant amount of energy (5 calories per minute on average) and can be incorporated easily into everyday life. It is suitable for people who are overweight. Finally, it offers much greater potential than walking.

The WHO carried out an extensive study between 2005 and 2008 to model the effects of cycling on health. Its conclusions were that based on equivalent living conditions, an adult aged 20 to 60 who cycled for three hours a week travelling between home and work reduced their risk of mortality by one third compared with someone who did not cycle.

The health benefits of regular physical activity are clear for a very large number of conditions, including cardiovascular disease, stroke, cancer, type II diabetes and obesity.

## €5.6 billion saved annually in healthcare expenditure

The annual impact of cycling on health in France has been calculated at €5.6 billion, or €1.21 per kilometre cycled and €4.84 per 4 km urban journey. These figures have been calculated in line with the methods recommended by the WHO - which are already widely used in Europe to calculate the "social cost" of road accidents - and on the basis of 4.4 billion kilometres cycled each year.

## The WHO model

The calculation is based on the study by the Copenhagen Center for Prospective Population Studies, which is seen as the most robust of its kind. The institute followed a population of 30,000 men and women aged 20 to 93 living in the city centre, both cyclists and non-cyclists, for 14 years. Their living conditions and health indicators were monitored on a regular basis. After correcting for other risk factors and other physical activities, the results showed a much higher mortality risk amongst non-cyclists. Other studies, particularly in China, have confirmed these results.



## Cycling in town and on the open road: different accident scenarios

Cyclists were involved in 5,200 accidents in 2008, i.e. just over 4.5% of the accidents identified by the Observatoire national interministériel de sécurité routière (ONISR), the national interministerial road safety watchdog. 147 people were killed, i.e. 3% of fatal accidents.

The cost of these accidents was €318 million, or 1.2% of the total cost of road accidents in France.

Accident scenarios vary with different types of cycling:

- ▶ The vast majority of serious and fatal accidents (75% of the costs of accidents) occur in the countryside and mainly affect people cycling as a sport aged 40 to 65.
- ▶ Accidents involving people who fall off without a third party being involved are generally not serious and mainly affect children; these represent three quarters of all accidents.
- ▶ Accidents involving cyclists in town are generally moderately serious, except for those involving heavy goods vehicles or a bus turning right. The vast majority of accidents occur at junctions.

An increase in the number of people cycling causes the risk per km to fall. This is the “critical mass” effect that has been established in various studies and confirmed in cities where cycling has increased significantly. Cycling also contributes to traffic calming, leading to a general reduction in the number of accidents of all kinds.

# Cycling and the environment

Several corroborating studies, such as those carried out by Airparif, show that cyclists are less exposed to pollution, particularly benzene and carbon monoxide, than drivers shut up in their cars.

- ▶ Cyclists are less exposed to pollution than motorists.
- ▶ Cycling reduces atmospheric pollution, the greenhouse effect and noise.

According to the report published by the French Audit Commission on the economics of the environment in 2006, private cars are responsible for 81% of carbon monoxide emissions from transport, 49% of sulphur dioxide emissions and a significant proportion of nitrogen oxide and volatile organic compound emissions. Their impact on pollution is calculated as €3.83 billion <sup>(2)</sup>.

The economic impact of cycling on atmospheric pollution can thus be calculated at €42 million annually for 4.4 billion km cycled. A similar argument calculates the economic impact of cycling on climate change and the greenhouse effect at €24 million.

Savings in terms of noise pollution, finally, amount to €2 million.

- ▶ Cycling reduces the consumption of urban space.

Cycling limits the need for parking spaces and contributes to lowering the costs of congestion. These impacts are potentially significant in urban areas: researcher Frédéric Héran (Ifresi – CNRS) has calculated a space consumption ratio for cycles to cars of 1:4.5.

It is difficult to assess these impacts, however, given the number of variables to be taken into account.

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<sup>2</sup> Cf. Boiteux report 2001 for the French government's Economic Advisory Committee: *Choix des investissements et coût des nuisances*.

# Public policies to support cycling

## Cycle ways in urban environments

The amount of the urban road network that has been adapted for cyclists is estimated at around 14,000 km, or 0.29 m per inhabitant.

Again according to estimates, local authorities now spend €1.80 per inhabitant per year on these developments, making a cumulative investment of €108 million.

These figures have been extrapolated from the results of the survey on the cycling and pedestrian policies of French cities carried out in 2007 by the Club des villes cyclables and Fubicy. The survey, which was supervised by Frédéric Héran, researcher at the Ifresi-CNRS, with methodological support from Certu, is the primary source of information in this area.

The cost of operating these services represents around 10% of the total budget, or a cumulative amount of €10 million.

### ■ **Cycle lane**

A lane reserved for the use of cycles only, generally to the right of the main roadway and marked by a broken painted line.

### ■ **Cycle path**

A roadway reserved for the use of cycles only, separated from the rest of the traffic by a continuous barrier that cannot be crossed (cement barrier, line of parked vehicles, etc.). Paths can be one- or two-way. They can be on the pavement if there is sufficient space.

### ■ **Two-way cycle lane (or contraflow)**

A roadway where one direction is reserved for use by cyclists.

### ■ **Bus lane authorised for use by cycles**

Where traffic is heavy, Certu recommends a minimum width of 4.30 m to allow both kinds of traffic to use the same space.

# Cycle ways outside urban environments

The adoption of the national cycle routes and greenways scheme in 1998 helped drive developments in non-urban environments. Around €1.5 million per year has been invested, or €2.40 per inhabitant per year.

The network consists of:

- ▶ 8,000 km of cycle routes and greenways developed over the last 10 years, 75% of them running in dedicated lanes. 7,500 km of the total are included in a national or regional scheme.

*Sources: Observatoire national des véloroutes et voies vertes (ON3V), database of the Association des véloroutes et voies vertes (AF3V).*

- ▶ 10,000 km of cycle lanes and 5,500 km of cycle paths on the departmental (county) road network, some of which were established previously.

## ■ Greenways

A route that is independent of the road network, reserved exclusively for the use of non-motorised traffic: pedestrians, cyclists, roller-skaters, etc. These run in a variety of sites: abandoned railways, canal towpaths, forest paths, paths converted to municipal assets, new paths, etc.

## ■ Cycle route

A signposted, secure, continuous route over a medium or long distance, of departmental (county), regional, national or European interest. Cycle routes run in various different kinds of site: roads with low levels of traffic, greenways, cycle paths, etc.

These developments are primarily funded by departmental (county) councils, with a cumulative annual budget of €115 million, followed by regional councils (around €50 million per year), central government and the European Community (less than €5 million in total in recent years).

### **6 million annually for mountain biking sites**

In recent years, local authorities have invested around €6 million to develop various sites: official FFC and FFCT sites (200 centres), based on a detailed specification (services, routes categorised in four levels, etc.); bike parks in around 30 ski resorts; major crossings (5 accredited by the FFCT) and departmental plans for walking and hiking routes.

### **€225 million for building and civil engineering**

Amenities for cycling in both urban and non-urban environments represent an annual market of around €225 million shared between civil engineering firms, project management (10%) and planning (1%) firms, i.e. a workforce of 2,350. The market for cycle parking equipment is around €8.5 million annually and the installed base around 300,000 units. The real requirement is estimated to be ten times higher.

Signposting for amenities has developed more on tourist routes than in urban environments. The investment is calculated at €6.4 million a year, plus €1 million for maintenance.

## Station parking

The average share of access to station parking is currently 2%, compared with 1% ten years ago. At some stations it is over 10%, and 30% in the Netherlands.

Cycle parking requirements at stations, which are already significant, will increase as TER (regional express train) traffic rises, which is set to grow from 0.7 to 2.8 million passengers a day within 20 years. Accessibility to stations will not be able to be guaranteed if cars retain their current modal share. A significant proportion of users come from less than 3 km away. The potential for walking is limited: 80% of users living less than 1.5 km away already come on foot.

### **Tram + bike: Strasbourg leads the way**

Numerous conurbations have cycle racks close to tram stops but very few have parking facilities that are protected at night. The Strasbourg conurbation has been examining this issue for some years: in 2008, 15 “bike parks”, each with 20 or 40 places, were opened close to stations at the end of the line.

## Self-service cycles and cycle parks

Located right next to stations, cycle parks offer a combination of secure or supervised parking and short- or long-term cycle hire along with various services (information, repairs, etc.) and are staffed. 25 local authorities have set up structures of this kind, offering 13,500 cycles for hire. These services are expected to be set up in at least 50 conurbations.

Hire and security services cost a moderate amount of public money (0.35 to 1.90 per journey), less than self-service cycles when rotation through the system is low (less than two uses per day) and even less than public transport. Long-term hire is particularly low in terms of its cost to the public purse. Short-term hire services in urban environments are more leisure-oriented and can compete with private services.



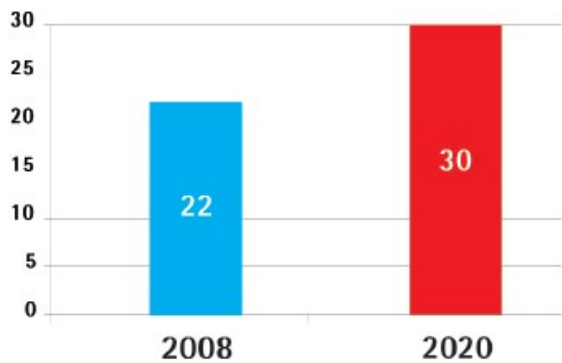
# Cycling, an economic gamble for 2020

An ambitious public policy could focus on three priorities:

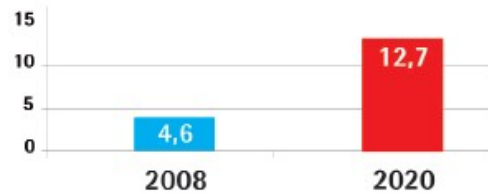
- ▶ Promoting the advantages of cycling for health.
- ▶ The development of amenities for day-to-day mobility.
- ▶ The development of cycle tourism.

Within 10 years, promoting the use of cycling, combined with a tripling of investments by local authorities and central government, would help France to join other European countries where cycling is already a widespread practice; it could then represent 15% of daily journeys.

## Increasing cycling rates



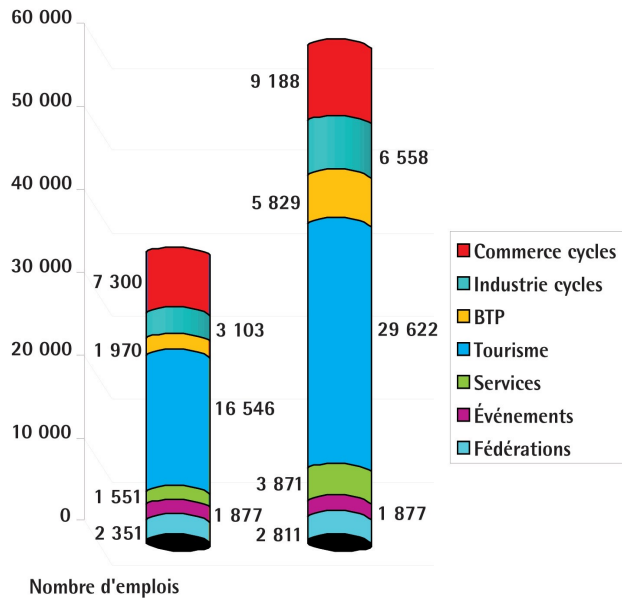
Number of regular cyclists  
(in millions)



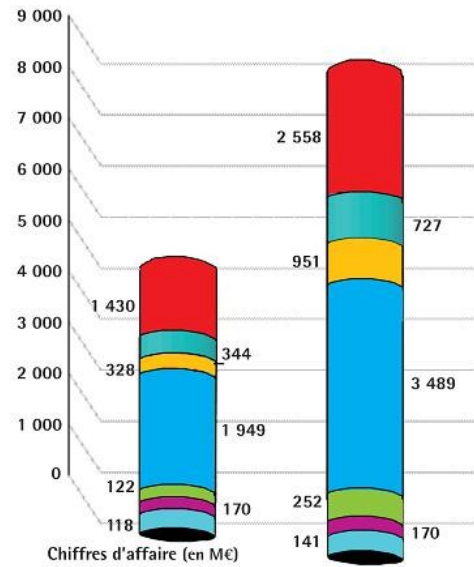
Number of kilometres cycled  
per year (in billions)



## Strengthening the economy in tourism and other services



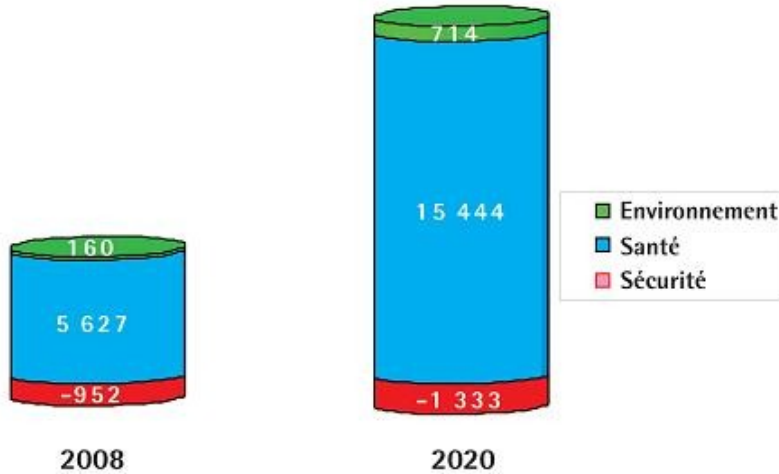
Change 2009 – 2020 in number of jobs associated with the cycling economy



Change in sectors of the cycling economy (turnover in millions of euros)

The additional jobs and activity generated by an increase in cycling would mainly affect tourism businesses, cycle shops and production, and development and services.

## External factors: savings generated by cycling (in millions of euros)



The main economic benefit would come from the improvement in public health (*santé*).

The reduction in healthcare expenditure is the main source of savings associated with the development of cycling, and far exceeds the environmental benefits.

## Towards a catch-up scenario

How can we do better? A “catch-up” scenario that would put France on a par with its German, Swiss or Belgian neighbours by 2020 is entirely realistic.

### Objectives:

- ▶ Achieve a modal share for cycling of 12% to 15% of journeys (or an average of 250 to 300 km per person per year).
- ▶ Double the amount of holiday cycling and multiply by six the level of cycle touring among the French.
- ▶ Reduce the number of French people who never cycle.

### Methods:

- ▶ In towns, increase the amount of cycle ways to a total of 60,000 km through public investment of €10 per inhabitant per year.
- ▶ Complete the development of the cycle routes and greenways scheme to put 80% of the population within less than 5 km of a greenway, through public investment of €5 per inhabitant per year.
- ▶ Achieve a level of 10% access to station parking by creating 14,000 parking places close to stations every year, through public investment of €1.20 per person per year.
- ▶ Develop incentive and communications policies in the areas of health, the cycle industry, employee taxation, cycle tourism, etc.

### Consequences:

- ▶ An increase in sales of better-quality cycles, based on higher skill requirements for jobs in retailing and a doubling of national production.
- ▶ An increase of 27% in turnover for cycling-related tourism.
- ▶ A tripling of the impact on health, with expenditure savings of €15 billion.
- ▶ Significant positive impacts on the environment.
- ▶ Increases in turnover for the building and civil engineering sectors, hire firms, self-service cycle operators, etc.

This modal shift would initially reduce fuel consumption and later impact spending on car maintenance and in time, the rate at which they were replaced. For the government, losses of tax revenue would only relate to TIPP (domestic tax on oil products), as VAT would be transferred to other activities.

## Who represents cyclists?

**2.8% of cyclists are members of a federation, i.e. 580,000 people.**

▶ The Fédération française de cyclisme (FFC) has over 100,000 members and organises over 12,000 competitions a year, with an annual competition budget of €75 million (including federal and regional bodies and Pro Teams), with government subsidies of €7.8 million.

[www.ffc.fr](http://www.ffc.fr)

▶ La Fédération française de cyclotourisme (FFCT) has over 120,000 members and organises over 3,500 outings a year. The budget for its federal bodies and clubs totals €22.5 million, with €2.5 million in government subsidies.

[www.ffct.org](http://www.ffct.org)

**The additional budget for multisports federations involved in cycling is calculated at €27 million (federations and clubs).**

▶ Created in 1980, the Fédération des usagers de la bicyclette (Fubicy) promotes cycling in towns and cities. In 2008, it was the umbrella organisation for 150 bodies representing 15,000 members with a total budget for the whole network of €1.5 million (€0.25 million for head office costs). It employs four people, plus a further 35 employees in local associations.

[www.fubicy.org](http://www.fubicy.org)

▶ Created in 1997, the Association française des véloroutes et voies vertes (AF3V) is the umbrella organisation for 130 associations supporting local projects, 450 individual members and federations such as the FFCT, Fubicy and the Fédération française de roller-skating (FFRS).

[www.af3v.org](http://www.af3v.org)

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