

Behavioural Changes

Project Results: More cyclists + more train passengers =
fewer car drivers

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Improvement of BiTiBi Services

Project pilots for 2 years (2014-2016)

- Increase of railway stations with BiTiBi services
- Increase of shared bikes and bike parking places available
- Good marketing and communication

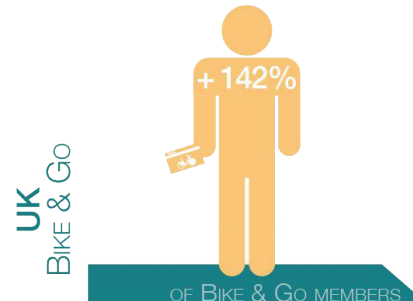


More Users of BiTiBi Services

Project pilots for 2 years (2014-2016)

- Increase of members of BiTiBi services
- Increase of shared bike rentals and use of bike parking

Main results in pilots:

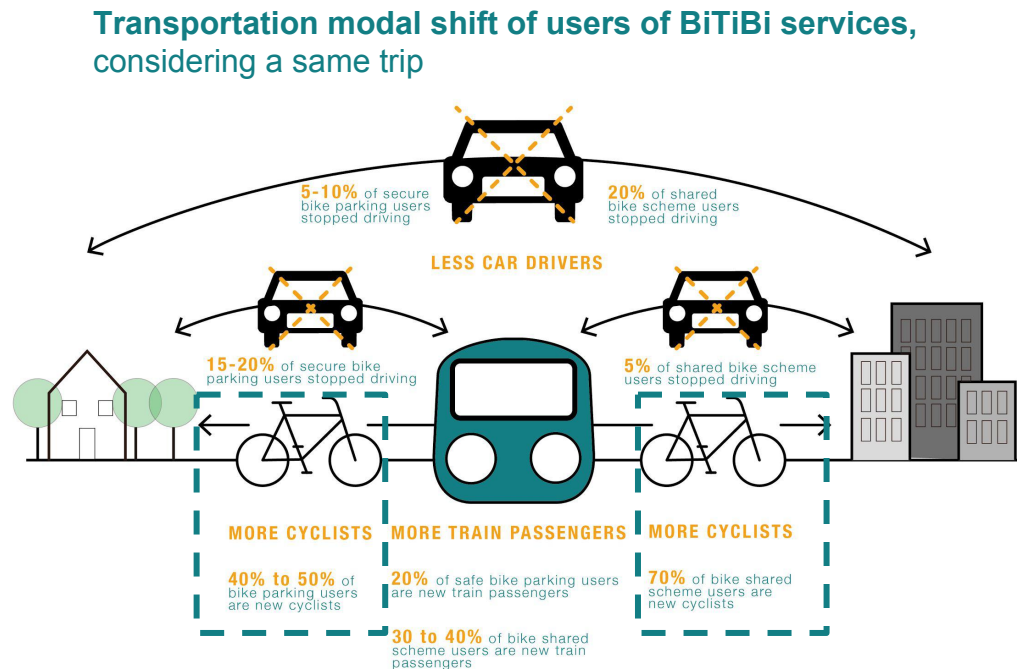


Behavioural Changes

More cyclists

To reach the station:
40-50% use the **bike** now
(no more motor vehicles)

To leave the station:
70% use the **bike** now
(no more motor vehicles)



Safe bike parking has an impact on train passengers driving to the station, while shared bikes scheme has a more important impact on the whole trip of commuters by cars.

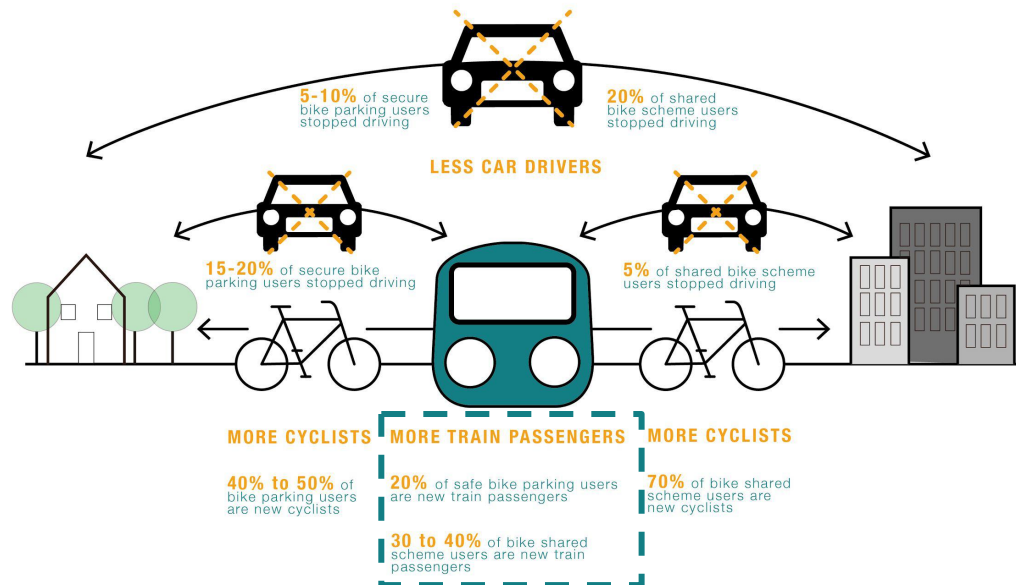
Behavioural Changes

More train passengers

To reach the station:
20% are train passengers now

To leave the station:
30-40% are train passengers now

Transportation modal shift of users of BiTiBi services, considering a same trip



Behavioural Changes

Less car drivers

First/last mile car users:

To reach the station:
15-20% do not use car

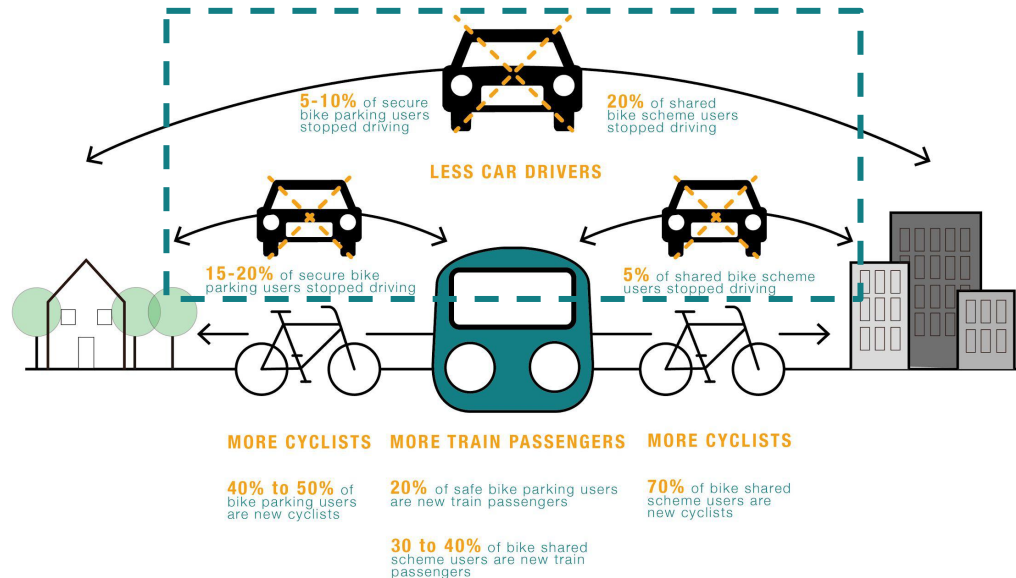
To leave the station:
5% do not use car

Whole trip car users:

To reach the station:
5-10% do not use car

To leave the station:
20% do not use car

Transportation modal shift of users of BiTiBi services, considering a same trip



2030 Scenario - Expansion of BiTiBi across EU

Environmental and societal impacts

Assumption

Train passengers riding a bike to the station:

2014

(BiTiBi project beginning)

4%



2030

(future scenario)

20% (half of current NL: 42%)

RESULTS



250 million more railway users annually

- Around **20** out of 100 persons **cycling to the railway station** are new railway users.
- Around **30 to 40** out of 100 persons **using a shared bicycle at his destination station** would not have made the trip in the absence of a shared bicycle.



250 million new railway users (if 20% of railway users would cycle to the railway station)

2030 Scenario - Expansion of BiTiBi across EU

Environmental and societal impacts

RESULTS



5 billion fewer pkm driven by cars annually

- Around **10** out of 100 persons **cycling to the railway station** would have made the **whole trip by car**.
- Around **15** out of 100 persons **cycling to the railway station** used the **car to reach the railway station** before using his bicycle.
- Around **20** out of 100 persons **using a shared bicycle at his destination station** would have made the **whole trip by car** in the absence of a shared bicycle.



5 billion car pkm less (if 20% of railway users would cycle to the railway station)



Reduction of emissions annually: 800 ktons of CO₂

55 tons of PM

250 tons of NOx

2,500 Mwh



Reduction in annual energy use:

2030 Scenario - Expansion of BiTiBi across EU

Environmental and societal impacts

RESULTS

+ 1,200 lives saved annually

Increase of physical activity (riding to the station 3 times/week)



1,200 lives saved each year (worth 3 billion €)

1 in 4 adults is not physically active enough in Europe
500,000 annual deaths due to physical inactivity

€ 400% return on investment rate (bicycle parking)

Social benefits are **4 times bigger** than costs of installing and maintaining the bike parking

😊 Healthier and more livable cities

2030 Scenario

Investment cost vs. social benefits

Bike parking (riding to the station)



*Calculation assumptions :

200 traveling days/year; 2 trips/day; 2.98 million racks needed; 1,000 €/rack; last of a bike parking: 20 years; maintenance cost: 200€/year/rack.



High rate of return!

400% rate of return: social benefits = 4 x investment and maintenance costs (mainly health)

Bike shared scheme (riding from the station)

Investment & maintenance costs in bike shared scheme



118 million €/year

Social Benefits (Health & Environment)

The health & environment costs benefits for society are smaller than the annual cost of the bike sharing scheme. Shared bikes users should pay 2 euros per trip to compensate.

*Calculation assumptions:

123 annual rentals/bike; 16 million rentals in EU; 130 700 bikes needed; last of the bike: 5 years; maintenance cost of the bike system: 600€/year/bike.

Conclusion

INVEST IN CYCLING FACILITIES AT STATIONS

Recommendations for railway companies:

- **Build partnership between local, regional, national authorities and railway operators**
 - financing bicycle infrastructure at the railway station
 - guarantee good cycle routes to reach the station by local authorities
- **Choose bike parks (safe and sheltered) before investing in shared bicycles**
- **Provide shared bicycles as a “value adding service” to your customers**
- **Communicate in an attractive way with your target groups**
- **Integrate your BiTiBi services into one seamless service**
- **Do not hesitate to provide bicycle in train transport if you have excess capacity**

Conclusion

INVEST IN CYCLING FACILITIES AT STATIONS

Recommendations for (local) authorities:

- Build partnerships with railway operators on financing and BiTiBi service provision
- Provide high quality cycle routes around and towards railwaystations
- Communicate about the BiTiBi service as an easy cool and fast transport service