



Transport
Innovation
Deployment
for Europe



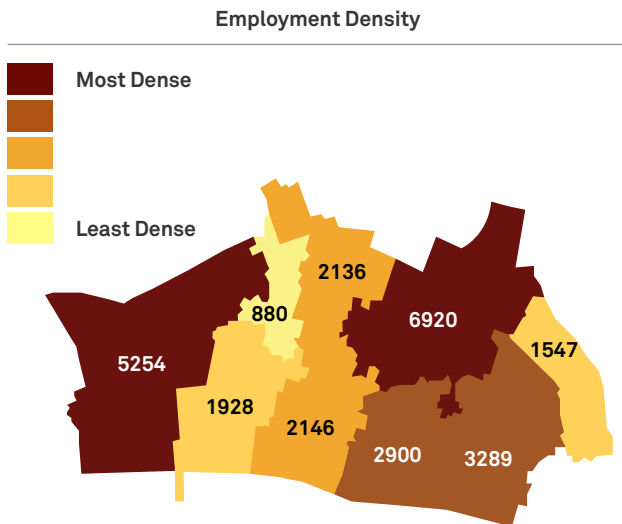
GUIDELINES FOR IMPLEMENTERS

Innovative bicycle parking schemes

TIDE is a Coordination Action funded by the European Commission's DG Research and Innovation under the 7th Framework Programme for Research and Development.



What is it about?



Number of additional cycle spaces relative to distribution of employment in the City of London

Source: City of London

Cycle parking strategy — City of London

Cycling in the City of London has grown consistently over the last ten years, and an estimated 10,000 cyclists now commute to, and park in, the City of London.

However, it has also been estimated that there is a potential unmet demand for up to 27,000 additional cycle parking spaces.

In order to provide this number of spaces, a strategy was developed to determine the optimal location for spaces by analysing demand.

The strategy included innovative solutions like the conversion of underground car parking at the Baynard House into 106 cycle parking spaces.

Characteristics

Bike parking schemes come in a wide range of shapes, sizes and price categories, depending on whether they are intended for long-term or short-term use, at home, the workplace, public transport exchanges, shopping, recreation or other destinations as well as the level of surveillance and of technology built into them.

The intended users of bike parking are:

- current transportation cyclists;
- recreational cyclists, who may be encouraged to cycle for transportation if they feel they can safely leave their bikes;
- potential cyclists, who, seeing more bikes and more facilities, begin to consider trying it themselves.

Every town and city in Europe is suitable for secure, accessible bike parking. Only the type and amount will vary depending on the specific need.

Key benefits

Innovative bicycle parking schemes:

- can contribute to attractive, orderly public space and ensure clear access for pedestrians;
- encourage people to use their bicycles more regularly;
- can encourage journeys that combine cycling and public transport;
- reduce the risk of theft and vandalism.

Check list

City size	No restrictions
Costs	<ul style="list-style-type: none"> • Can range from a few hundred euros for a simple bike rack to several million for a bike station for thousands of bikes. Costs are dictated by size, staffing, design and technology. • Space can represent a significant cost, especially in the city centre, however incentives can help in acquiring space from private land owners such as retailers. • Cost–benefit analyses have shown that benefits often outweigh costs.
Implementation time	This varies from a few hours to several months or years, depending on the solution chosen.
Stakeholders involved	<ul style="list-style-type: none"> • Local authorities. • Public transport operators (for cycle parking at interchanges). • Workplaces, retailers, property owners. • Cycling advocacy groups.
Undesirable secondary effects	None.

“The increase in cycling makes it necessary to create more and safer parking spaces for bicycles so that cycling becomes more and more popular.”

Jon Albizu,
Councillor for Mobility,
Donostia — San Sebastian,
Spain

“We’ll create as soon as possible, a system of bicycle parking places in the main points of the city to encourage the use of bicycles.”

Sorin Manda,
Councillor for Mobility,
Municipality of Craiova,
Champion City, Romania



Cycle parking in Donostia–San Sebastian along the beach promenade

Photo: City Donostia — San Sebastian

Benefits & Costs

Benefits

Secure and accessible bicycle parking at home, at the workplace and at important destinations is crucial to encourage people to use their bikes more often. The benefits of providing high-quality cycle parking become clear if you look at a row of 10 bikes and imagine that each of those cyclists had arrived in a private car.

The fear of bike theft is one of the main reasons stated by people for not cycling more often. Secure bike parking can help to discourage bike theft.

Well-planned cycle parking facilities can prevent bikes from being parked in pedestrians' way. As such cycle parking can increase both the attractiveness of cycling and the attractiveness of public space.

Secure bike parking at public transport exchanges can encourage journeys that combine cycling and public transport.

Costs

The cost of installing/constructing high-quality cycle parking ranges greatly from an individual rack for two bikes (€300–500) to a bike station for several thousand bikes (€2–7 million). Mid-range solutions include Australia's "Parkiteer", a card-accessed bike cage for 26 bikes at a price of approximately €75,000.

Operating costs are relatively high in staffed parking facilities, somewhat less where cameras are used for security and almost zero for small-scale short-term parking solutions. In Portland, Oregon (see box, p. 7), basic maintenance is carried out by nearby business owners, who profit from the increased business generated by the extra parking.

There can sometimes be a lack of space to cater for all bicycle parking demand, thus, depending on the location, space can be a significant cost.

However, when compared to the cost of parking cars, even the most expensive cycle parking solution is a bargain.



Protected Parkiteer Bike Cage
Photo: Bicycle Network

Parkiteers in Victoria, Australia

Parkiteers ("park it here") are card-accessed bike parking cages in Victoria, Australia that take the space of three cars and hold 26 bikes. With increasing use of local trains, park and ride capacity was being reached.

Additional car parking costs were documented at up to \$40,000 per spot. Each Parkiteer costs \$110,000 (roughly €75,000 or €2,700 per bike parking space). Access cards are valid at any of the 69 Parkiteers in Victoria.

Users & Stakeholders

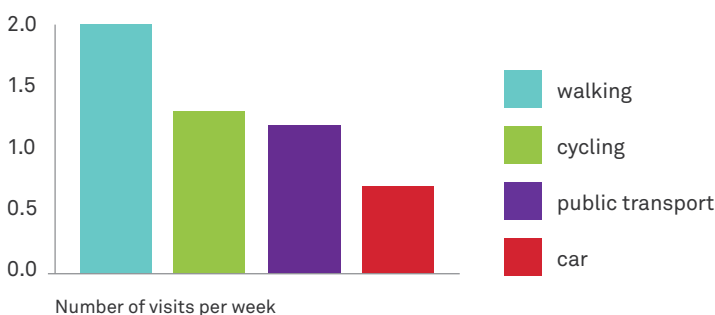
Users and target groups

The potential users of innovative bike parking facilities are those who currently cycle for transportation, leisure cyclists and potential cyclists. While transportation cyclists are the obvious target group, success implies that those who do not generally cycle for transportation may choose to do so for some of their journeys if they feel they have a safe place to park their bikes at their destination.

An important goal for cycling is to create the “safety in numbers” effect on the street. The more cyclists there are, the more drivers become aware of their presence and the safer cyclists are.

To help create this effect, people need to feel welcome when arriving by bike. This includes widespread availability of safe, accessible cycle parking.

For those who could combine public transport and cycling, secure parking and easy access to stations are needed. Shoppers also require convenient parking at the shopping area. For those going out for leisure, parking is required at cinemas, restaurants and other entertainment venues.



Statistical data for shopping with various means of transport

Source: Brichet 2003 Figure: Difu

Key stakeholders for implementation

Depending on the location, business owners can be a key driver in the delivery of cycle parking. They can profit by attracting more customers who can park directly in front of their shop.

The local authority has a key role to play in identifying locations that need (more) bike parking.

Local cycling organisations can help to identify the parking needs of current cyclists. Meeting those needs could, in turn, serve to encourage more people to use their bikes for transportation.

Portland Bike Corrals, United States

The city of Portland, Oregon, USA has a “bike corral” programme, where on-street bike parking stations, called corrals, are set up in place of one or two on-street car parking spaces. Each corral provides parking for 10 to 20 bikes.

Corrals are installed at the request of the adjacent businesses. The business owner and property owner must approve the corral installation and sign an agreement requiring minor, regular sweeping of the corral to prevent garbage from gathering.

Ideal locations for on-street bike parking corrals are adjacent to destinations that attract at least 10 bicycles or more on a regular basis. Corrals should be located on the main street as close as possible to the main entrances of the neighbouring business.

As of mid-2013, 99 bike corrals had been set up in Portland and many more requests had been received.

Assessing the potential for your city

Is this something for us?

As cycling is becoming more and more popular as a healthy, environmentally–friendly means of transport, every town and city in Europe is suitable for secure, accessible bike parking. Only the type and amount will vary depending on the specific need.

Studies have shown that cyclists prefer to park their bikes close to their destinations, thus in city centres it may be wise to install several smaller parking facilities rather than a single large one.

While local authorities in some cities are not able to provide enough high–quality, accessible cycle parking to meet the needs of cyclists on public space, there are sometimes legal, economic or administrative measures available that can be used to increase the amount of cycle parking on private residential and commercial land. For example, incentives can be offered to private property owners to provide cycle parking.

Pre–assessing the costs and benefits

From a municipal perspective, it is important to have an assessment method for innovative cycle parking measures that is simple and requires relatively little data. The operating costs and revenues of innovative bicycle parking schemes are important elements of an assessment for municipalities.

Health often dominates the benefits named for cycling investments; however, as the health budget is rarely linked to transport projects, transport decision makers are often tempted to follow other priorities. It is therefore helpful to look at aspects that fall within the remit of the local authority, such as the effects on bicycle theft or the benefits to local business.

To complete a reliable ex–ante assessment, a survey to estimate the number of potential users is critical.

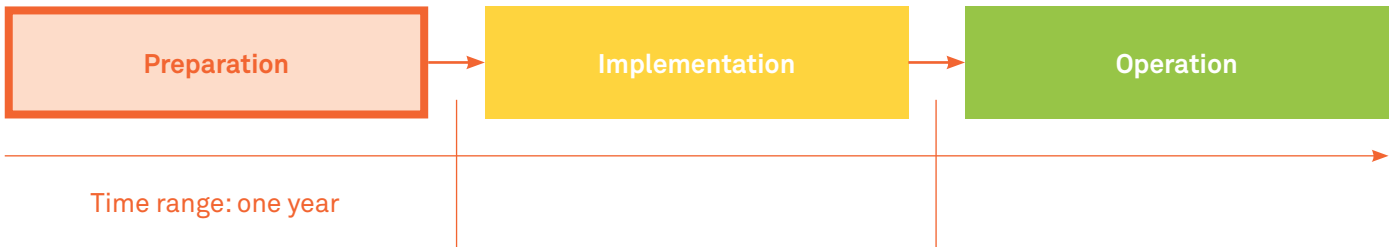


Photo: Rupprecht Consult



From plan to reality

Preparation



A relatively small number of “hard-core” cyclists will ride their bikes anywhere regardless of the facilities provided, and will find a way to make it work, but in order to encourage a broader scope of people to cycle, it must be made more attractive.

Key aspects at this stage

More cyclists and more cycling infrastructure is a “chicken and egg” issue; more cyclists justify more infrastructure, and more infrastructure invites more cyclists. There is little to be gained from waiting for a certain number of cyclists before starting to plan high-quality cycle parking facilities.

Two essential elements are accessibility and spatial coverage of bike parking. These can be achieved and formalized through the development of a bicycle parking strategy.

While it may be a challenge, a balance needs to be found between space for cars, bikes, and people on foot as there is often tension among the different uses of public space.

Success factors and barriers at this stage

Current status of bicycle parking

Mapping existing bicycle parking facilities can provide a good overview and an indication of where bicycle facilities are needed. Other factors to include in this analysis are suitability of stands and layout of the facilities.

User Survey

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Resources

Well-planned bicycle parking requires resources for observation, analysis, strategic planning and implementation. For all of this political support, skilled staff and financial resources are needed.

Financial challenges

Times of economic difficulty should not discourage planning of cycle parking. In such times, more people choose to cycle for economic reasons. Making cycling a more attractive option through relatively low-cost measures could prove to be popular — making it economically, socially and environmentally positive.



An example of a bicycle parking plan which addresses the issues of important traffic hubs, the number of bicycle parking facilities and service level

Photo source: The Danish Cycling Federation

Bicycle Parking Plan — Velje, Denmark

In Velje a bicycle parking plan was set up which provided the technical foundation for the long-term prioritisation of bicycle parking. To achieve this, a bicycle plan should, as a minimum, contain the following three elements:

1. Status for bicycle parking, including mapping of existing facilities and known needs for bicycle parking.
2. Mapping of existing and future infrastructural elements of significance for bicycle parking (cycle routes, important destinations etc.).
3. Identification of future bicycle parking structures.

The bicycle parking plan may be supplemented by the following elements:

- A design manual for bicycle parking.
- A strategy for clean-up and maintenance.

Stakeholder Network

Through their experience and connections with cyclists of all types, cyclists’ associations are best placed to describe the users’ needs and expectations with regard to bike parking.

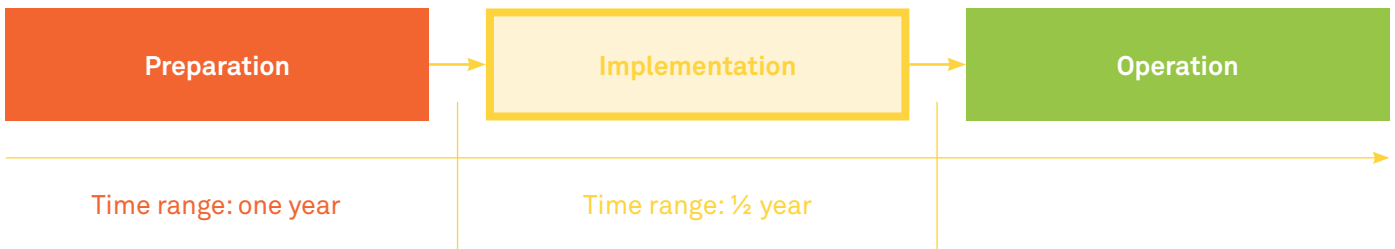
It is important that employers take full account of the need to promote cycling and integrate the needs of cyclists into the facilities and services provided at workplaces.

The local authority, in most cases, will be the one to lead the process, possibly with the support of external experts.

Ready for implementation? ✓	
Political commitment	
High bike ownership	
Safe environment for cyclists	
Free space for bike parking	

From plan to reality

Implementation



The buy-in of employers and the business community in general will play a key role in determining the success of the implementation phase. It is important that they understand that bikes have the potential to provide a good return on investment.

Key aspects at this stage

A cycle parking strategy is a key driver in delivering cycle parking in a structured way. The strategy provides a framework which is supported by stakeholders, that leads to the delivery of attractive, secure, accessible cycle parking. An approved strategy makes implementation efficient because individual schemes do not have to be renegotiated.



Double decker cycle parking in the Zürich mainstation
bicycle parking

Source: www.eltis.org

Success factors and barriers at this stage

Stakeholder involvement

A cycle parking strategy facilitates the implementation of innovative cycle parking measures by including the demands of different stakeholders.

However, even the best stakeholder consultation cannot deal with areas over which the local authority has no planning control. In some cases the business community may need to be asked to take the initiative in providing cycle parking on private land, in which case it is crucial that they also participate in its development and support the strategy itself.

In other cases (see Portland example on p. 7), business owners may themselves see the value in providing high quality cycle parking for their customers.

User friendliness

The first impression of a new system is crucial, particularly if technology is involved. It must be easily accessible, easy to use and attractively designed.

However, no system works perfectly at the beginning, so the implementation phase — in the short term at least — should focus on overcoming barriers.

Space and location

There is never enough public space for all its possible uses, leading to the potential for tension between different groups (cyclists, drivers and pedestrians). This may lead to a temptation to place a significant cycle parking facility in an out-of-the-way location so as not to disrupt car movement or parking.

However, even an impressive high-tech, weather protected bike parking facility will probably meet with minimal success if it is not in a desirable location. Those who cycle despite poor facilities would ignore the “official” parking in favour of a convenient pole or railing, and those who want safe, convenient bike parking before they are willing to use their bikes for transport likely will not cycle at all.

In such cases, it helps to remind stakeholders of the city’s transportation and environment priorities as well as educate them on the purchasing power of many cyclists (see report in the Further Information section on p. 15).

Completion of the network

As with a cycle route network, a network of parking facilities is also important. The completion of a network of appropriate parking facilities for a range of purposes and parking duration (short-term and long-term parking) and improvement of quality is an ongoing task, and is described further on p. 14 under the Operation Phase.

Workplace Cycle Parking

On-street cycle parking is often not enough for high demand areas. Workplaces (e.g. offices, retailers, universities or hospitals) must be encouraged to provide secure cycle parking.

In the long-term, mandatory building standards for cycle parking can overcome this problem. In the short-term, workplaces could receive incentives to provide cycle parking.

For example, in London workplaces that are located close to Cycle Superhighways can apply to receive cycle parking facilities funded by the local authority.

From plan to reality

Operation



The parking strategy should be reviewed and updated approximately every five years. Surveys should be carried out to confirm whether the capacity is adequate and whether parking is provided where it is most needed. Furthermore, it is crucial to factor operation and maintenance into bicycle parking plans from the outset. A bicycle parking facility has to last for many years and should look good not only when new but also many years later.

Key aspects at this stage

Cleaning and maintenance

It is necessary to introduce regular cleaning and maintenance routines and make sure that any damaged stands are repaired immediately. The design and layout of the bicycle parking facilities should enable easy cleaning. The sturdier the stand, the less maintenance is required. In particular, parking facilities in enclosed spaces need to be well lit so that users feel safe coming and going at night.



Vaihingen Bike Station
Photo: Neue Arbeit GmbH

Success factors and barriers at this stage

Monitoring

Monitoring of cycle parking facilities should include:

- occupancy;
- turnover per space per day;
- unmet demand (by counting bikes parked at poles, etc.);
- vandalism;
- number of bicycles reported stolen.

Abandoned bicycles

The legal parameters for the removal of unclaimed bicycles vary widely across Europe. Removal has thus far mainly been justified under transportation or waste law. Yet cities and municipalities in Germany, for instance, are still facing legal grey areas when it comes to the removal of non-roadworthy or abandoned bicycles, this is legally considered to be taking personal property.

Vaihingen Bike Station, Germany

The bike parking station at the train station in Vaihingen in Germany, is operated by the social enterprise “Neue Arbeit GmbH” which employs people who struggle in the job market and who receive support through social services.

The service provided by the bike station is mainly paid for from the social budget, and cyclists and public transport operators benefit from secure, clean and well maintained cycle parking.

Further information & contacts

Further information

- **CHAMP Project:**
www.champ-cycling.eu
- **The European Cyclists' Federation (ECF):**
www.ecf.com
- **Dutch Cycling Embassy:**
www.dutchcycling.nl
- **Department of Transport, Planning and Local Infrastructure, State of Victoria, Australia:**
www.transport.vic.gov.au/projects/cycling/parkiteer-bike-cages
- **Report: Consumer Behavior and Travel Mode by Choice**
www.kellyclifton.com/Research/EconImpactsofBicycling/OTRECRpt-ConsBehavTravelChoices_Nov2012.pdf

Further TIDE training on this measure:

Webinars and e-learning courses

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About TIDE — Transport Innovation Deployment for Europe

The European TIDE project aims to foster a more favourable climate for cities and regions to integrate innovations in their urban mobility policies. This should lead to increased acceptance and take-up of new urban transport solutions and technologies. TIDE will help cities and regions to address common challenges in a collaborative and integrated way.

Why should you care about innovation?

On several occasions, European cities have indicated that innovation can help to tackle challenges resulting from the economic crisis. Innovation can save costs as well as contribute to reaching urban policy goals. Still, cities lack resources to conclude a full innovation cycle.

Innovative ideas usually start in one or just a few places before they reach wider coverage. TIDE will help cities and regions across Europe to shorten the path towards the implementation of innovative measures by showing that it is not necessary to re-invent the wheel and much more effective to exchange on innovation and transfer successful solutions from one European region to another. TIDE thus offers a cost-efficient way of spreading innovation throughout Europe

Our mission — Guided by your needs!

TIDE will enhance the broad take-up of 15 innovative urban transport and mobility measures throughout Europe and will make a visible contribution to establishing them as mainstream measures. The TIDE partnership is making a range of new and feasible solutions more easily accessible, to address key challenges of urban transport such as energy efficiency, decarbonisation, demographic change, safety, access for all, and new economic and financial conditions.

TIDE focuses on fostering awareness, advancing expertise via tried and new tools, practical work with cities, and costs and benefits. The needs of practitioners in European cities are thereby a guiding principle. TIDE is actively supporting 15 committed cities to develop implementation scenarios for innovative urban transport measures, setting the example to an even wider group of take-up candidates. These measures cover the following five TIDE themes: new pricing measures, non-motorised transport, advanced network and traffic management to support traveller information, electric mobility, and public transport organisation.

The TIDE innovative transport measures

TIDE covers fifteen innovative measures across the five TIDE–themes.

New pricing measures	<ul style="list-style-type: none"> • Road user charging in urban areas • Parking charge policies • Efficient and convenient pricing and charging for multimodal trips
Non–motorised transport	<ul style="list-style-type: none"> • Bicycle parking schemes • Creating people–friendly streets and public spaces • Fast cycling lanes
Advanced network and traffic management to support traveller information	<ul style="list-style-type: none"> • Open data server for applications–based traveller information • User–friendly human machine interface for traveller information • Advanced priority systems for public transport
Electric mobility	<ul style="list-style-type: none"> • Clean city logistics • Financing schemes for charging stations • Inductive charging for public transport
Public transport organisation	<ul style="list-style-type: none"> • Creation of public transport management bodies for metropolitan areas • Contracting of services focused on improving passenger satisfaction and efficiency • Marketing research as optimisation tool in public transport

The **TIDE Innovation Toolbox** brochure highlights these fifteen inspiring transport measures and illustrates them with good practice examples, listing characteristics and benefits, key aspects for implementation, and useful references.

The **TIDE Practitioner Handbooks** on Transferability and Impact Assessment provide methods and examples to help understand the local potential for innovative measures in urban transport.

The **Guidelines for Implementers** are ten individual implementation guideline brochures addressing the full implementation process of ten of the fifteen TIDE innovative measures, as well as their costs and benefits, stakeholders to be involved, etc., illustrated with good practice examples.





The mission of the TIDE project

is to enhance the broad transfer and take-up of 15 innovative urban transport and mobility measures throughout Europe and to make a visible contribution to establish them as mainstream measures.

TIDE focuses on 15 innovative measures in five thematic clusters: financing models and pricing measures, non-motorised transport, network and traffic management to support traveller information, electric vehicles and public transport organisation. Sustainable Urban Mobility Plans are a horizontal topic to integrate the cluster activities.

The TIDE team

The TIDE consortium is composed of a variety of experts in the field of urban transport, bringing in the knowledge of the academic sector, the experience of cities, the expertise of consultants and the multiplier effect of European networks.



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