

Jumping in with Both Pedals: Lessons from Rapid Implementation of Cycling Networks

Questions for Alain and Nathalie in Paris

1. Have the yellow vest protests in Paris come up in any conversations about the politics of creating viable alternatives to automobile driving?

The yellow vest movement was born when the French government announced that it would raise the price of gasoline. This first challenge then echoed many others on purchasing power in general. Many French people, especially the most modest and those living outside large cities and who need their cars every day to go to work, among others, did not understand this new "tax" on motorists (it was experienced like that, while the government argued that this increase was part of the ecological transition announced by the government. Many also questioned the lack of alternatives to the private car, particularly in the countryside, where the public transport network is weak or non-existent.

2. Why two-way and contraflow lanes in the main network? What are the advantages and disadvantages of the selected infrastructure?

The Bicycle Plan is based on the creation of structural axes, north - south and east - west, with wide and protected bidirectional cycletracks/protected bike lanes - what we call the REVe = express bicycle network. It is accompanied by a fine-grained network of bikeways throughout Paris, with the creation of protected cycletracks where possible (wide cycletracks) and two-way cycling (on one-way streets?) when the track is too narrow. This two-way bicycle traffic is mandatory (see French Highway Code) on one-way streets limited to 30 km/h. The municipality's objective is to limit speed to 30 km/h throughout Paris excluding major roads, which will considerably increase the cycle network length! Before this implementation, experiments were evaluated and show that these two-way bike streets improve safety for cyclists, because everyone is more careful and slows down, both motorists and cyclists. We do not note any accidents related to this measure.

3. Are there any conflicts on the painted contraflow cycle lanes with loading and unloading of vehicles in these narrow streets and how are these conflicts dealt with?

These counterflow cycle lanes have now existed for several years and are known to road users. We do not note any particular conflicts, nor any specific accidentology. On the contrary, the fact that motorists and cyclists meet head-on reinforces each other's visibility.

Questions For Manuel in Sevilla

1. What was the reason that led to the cycling poll in 2003? If there was no cycling culture to start with, what was the motivation to build a cycling network and who was the champion of the project?

It was mainly a political decision that was clearly included into a political program of one of the parties that entered office on the 2003 local elections. At that moment, even though the cycling mobility was tiny, the social movement had an important role

discussing urban mobility issues. The poll was made in order to find and try to discover what the potential was for improving cycling mobility in the city and if the citizenship was willing to accept the building of cycling infrastructure.

2. How much did the full network cost and what was the breakdown of funding sources?
2006–2007. First phase (80 km): 18 M€. Local money
2010. Second phase (40 km): 13 M€. National money
2011. Intersection improvements: 2 M€. National money
3. What traffic calming measures were implemented in the residential areas?
Not much. This is one of the pending policies in Seville, where traffic calming has only been implemented in the Historical District. The initial strategy was to implement them in a wide manner throughout the city but the Mobility Department has always been reluctant.
4. Have you implemented some bike parking facilities near train stations to encourage bicycle/train combination? if yes, what type of infrastructure? (cage-style, racks, automated, etc) and how was the impact of increasing the bike network in transit network?
Not yet. This is one of the big issues that the new cycling master plan is willing to do. Right now there is a safe parking facility that is probably going to be built in the coming months. It will have 200 parking spaces and It will be places in the main intermodality hub of the city.
5. How did Sevilla handle removing 4,000 parking spaces? Was it approved all at once or street by street?
The truth is that at that moment this was not an issue itself. The building projects were going to have that result but the information did not rely on lost parking spaces but on the good this that were coming with the cycling network. We knew about the lost parking spaces (because we counted them) only afterwards when the network was on place. Some of the initial projects had to be modified though under the building process in order to lose as few parking spaces as possible, specially in dense residential areas where night parking was a very important issue.
6. What happened to the bus lanes once bikes lanes were installed?
There were not affected. The space was taken from traffic lanes and/or parking lanes, but never from transit, since the bus lanes were placed taking space from traffic lanes that were placed more in the center of the avenue. In some avenues advantage of the works was taken in order to place new bus lanes.
7. What determined the network layout on the main arteries? Was it the available space on the street profile? Or were there tension points to connect the outskirts of the city with the old district?
The existence of more space and the reality that most of the urban mobility takes place along these corridors. There was no tension between these connections. This transition was resolved with an old district ring which right now is the most used cycling corridor in the city. There is no bike lanes into the old district.

8. Did you develop the cycling network where the existing infrastructure was most adaptable and lent itself best to modification or did you develop the network to best enable modal shift, given an understanding of where people travelled from and to?
The answer is YES to the second question. Even though some pieces of the network were defined in some streets that were more adaptable.
9. In our city putting bidirectional cycling through an intersection would cost ~200 - 600 k euros. Were there efficiencies/compromises found in doing a large number of intersections? If so, can you list a few?
To be honest, we did not have lots of experience to define intersections at that moment, so the solutions varied among the different situations and the negotiations with the mobility department. Right now, we do have lots of experience and we have a pretty good sense of what works and what doesn't, specially taking into account the safety of cycling mobility. And the key question is: what do you want to do with motorised traffic? Non motorised mobility intends to modify the way and the importance of cars in urban areas and this is issue MUST have to be tackled.
10. Looking back on the first 80 Km in Seville, would you still recommend two-way lanes or would you prefer one way lane on each side instead?
Two way lane are better when you first introduce cycling infrastructure because of three mains reasons: all the few cyclists that you are going to have are placed in the same corridor and this is very important in terms of safety in numbers and to get more people cycling (they are much more visible); the works are cheaper; it will involve just one of the sides of the avenue. In addition, I would also say that, if you ever want to transform to a one way model, you just have to build a second lane on the other side of the avenue!! Also, and why not, building a second two-way lane on the other side?.
11. Did you have to relocate all underground utilities from the road as a result of construction of the bidirectional bike lanes? For instance, did you have to relocate all drainage and manholes from the curb side as you added asphalt to a previous traffic lane?
Yes, mainly because the lanes were built at sidewalk level. This is the reason why the constructing costs are so high (250 €/lineal meter, instead of 150 €/lineal meter in case of road level construction)
12. How did you take account of new development sites or plans for junctions taking place beyond the next 18 months?
The Urbanism Department has a body that analyses for new developments and the bike infrastructure is one of the issues they observe.

Questions for Paris and Sevilla

1. How did you manage backlash among typical car driving public? how did you get public consensus (city users. shop owners...) on more 'controversial' aspects, such as car park reduction along roads, car lane reductions, etc.?
There is not a such a thing as "public consensus". This concept is a chimera in mobility and urban planning issues. There always going to be a group of people against whatever you do or plan to chance mobility and urban spaces. Searching for public consensus is the perfect alibi for politicians who want to do nothing.

The Mayor of Paris was elected in 2014 with an explicit program on these issues, so Parisians were not surprised by these decisions. For each project and development, consultation processes are set up to consult all stakeholders at the appropriate levels: metropolitan France, local municipalities, district mayors, shopkeepers and professionals, local residents, user associations, RATP-type partners, etc. We support our public educational policies to explain why we want to develop active modes, towards which city we are aiming. While it is true that discontent is being expressed, particularly among motorists, we also see high expectations from Parisians, who are increasingly sensitive to problems related to air pollution. We can see this, for example, through the ideas put forward by the inhabitants in the context of the participatory budget, where there are particularly many projects related to reducing the use of the car.

2. What kind of public outreach was conducted prior to implementation to ensure that all people's voices were heard?

There was an initial poll, a participatory budget process where building infrastructure was thoroughly discussed, an exposition that was going around every Civic Center of the City where people could do their comments and a very amplified discussion in the media and so political debate.

The consultation meetings mentioned below mainly. As part of the preparation of the Bicycle Plan, adopted by the Paris Council in early 2015, we also organised an internet consultation to gather users' opinions, open to both cyclists and non-cyclists. We had a strong participation in a short time, which allowed us to collect more than 5000 contributions.

3. How do you monitor data for cyclist trips and injury? What trends have you seen since implementation of your network?

We count cycling mobility in the first week of November every two years. Despite, there are a series of counters along the network and an automatic registry for public bikes shares. As a research from a university team has found, the safety of cycling is twice as high as it was before the network was in place.

We have counting points in Paris to measure the evolution of cycling (we have about twenty of them and we continue to install them as the tracks are delivered, to reach 60 by the beginning of 2020). Every month we publish a travel report on Paris, which compiles all modes, including bicycles. The figures vary according to the seasons and sometimes according to the context (the difficult beginnings of the implementation of Velib 2 had an impact for example) but overall, we see more and more bicycles on our streets! In terms of accidents, there are more cyclists and therefore more accidents, but the number of fatalities remains much lower than those of motorcycles or pedestrians. The main cause of fatal accidents remains the blind spots of heavy vehicles.

4. How have you dealt with integrating cyclists with busy pedestrian centres?

The norm in pedestrian areas is that the bike is allowed under certain conditions (ie: 10 km/h max speed). In busy shopping pedestrian streets there is a time table when bikes are not allowed and cyclists are asked to dismount.

Cyclists are allowed in all pedestrian areas, whether permanent or temporary.

5. Do you have some standards which are adopted by the city for designing bike lanes such as Design Guidelines?

Yes. They are contained in the bike master plan.

Yes, of course! We have internal documents on many subjects, therefore many on cycling subjects, with recommendations according to the paths envisaged, the contexts, the flows, for the implementation of two-way cycling, for parking, etc.

6. What have you found to be the safe minimum width of a bicycle lane?

Two-way: 2,20 meters.

It depends on the context. The elements we take into account when choosing the type of development are:

- vehicle speed (when the speed gap between different road users increases, the risk of accidents increases (with the reduced field of vision and the greater braking distance), as well as their severity. The phenomenon of air draught also becomes more significant.
- traffic: too much traffic, the inconvenience caused becomes oppressive and mixing is no longer possible. The risk of an accident occurring increases in parallel.

In addition, other factors must also be taken into account, such as bicycle traffic flow, pedestrian density, traffic composition (trucks, buses, etc.) and speeds observed. The analysis and choice of development must also take into account all contextual elements such as parking, deliveries, number and spacing of intersections...

The bicycle lane is an economic development. Its position as the main track traffic lane allows cyclists to be well taken into account by motorized vehicles at intersections. It is a very flexible arrangement as the bike can leave the arrangement at any time to turn, or in case of obstruction. Access is also easy. A disadvantage of this configuration is the physical possibility of intrusion by vehicles for prohibited parking or stops, causing a danger for cyclists who are then forced to leave. The recommended width for a bicycle lane is 1.50m excluding marking in the current section. Even for the passage of specific obstacles or over short distances, no one should go below a minimum of 1.00m without marking (30 cm). Its width may be increased for special reasons (e. g. heavy goods vehicle traffic) without exceeding 2.00m or it may lead to illegal parking.

Bicycle paths, as pavements separated from general traffic, meet the demand of certain categories of cyclists.

If safety during the track is ensured, particular attention must be paid to all discontinuities. To ensure the safety of cyclists, the layout must meet several challenges:

- the reintegration of cyclists into general traffic at intersections, with the cyclist leaving a secure area to return to the motor vehicle fleet,
- the distance of the track from the road poses the problem of the perception of the cyclist by the motorist, and vice versa when approaching intersections,
- accessibility (processing of track crossings, traceability and detectability of the separation of pedestrian and cyclist paths for pavement-level tracks, etc.)

Sizing of the tracks:

- unidirectional tracks

The width of the tracks should be as close as possible to 2.00m, so that cyclists can pass each other and ride together.

The minimum width is 1.60m (width allowing cleaning by cleaning machines of the cleaning services).

- bidirectional tracks

The recommended width is 3.00m.

The minimum width is 2.50m in the current section.

It is 4.00m in current section at the level of the express bicycle network (REVE).

The facilities can be classified into two main families:

- tracks separated from general traffic by a separator, with or without reconstitution of the parking lot

- tracks at sidewalk level

Bicycle paths at an intermediate height between sidewalk and roadway are an alternative: they are built directly against the general roadway. A control of wild parking is necessary for this type of development.

7. When do you use signals at intersections on two-way bicycle facilities?

Whenever is necessary for the intersection to be understood.

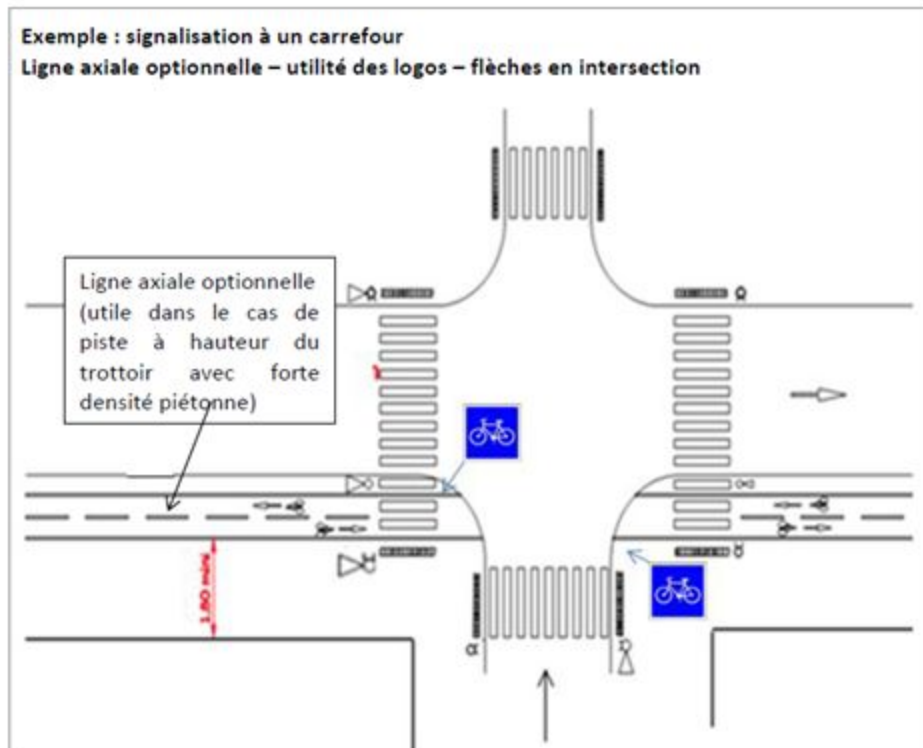
For intersections not managed by lights: when the intersection is located in zone 30 and is not equipped with traffic signals, the priority rule on the right applies. When the two-way traffic ends at the exit of zone 30 on a lane at 50 km/h, in a crossroads not managed by traffic lights, the bicycle is considered in the same way to have the same priority as any vehicle leaving zone 30. Exceptions can be considered depending on the configuration of the site (high flow rates, number of queues, visibility, etc.). The general rule is therefore that of priority on the right.

In the case of intersections managed by traffic lights: the general rule is to manage all conflicts with traffic lights.

8. Can you explain your approaches to intersections, especially for bidirectional cycle tracks?

They lane must be separated from pedestrian facilities. It has to be painted and it has to be as straight as possible. If the intersection is busy, it is good that the cyclists have their own traffic lights.

example:



9. How are your cities ensuring that the infrastructure implemented so rapidly is of good quality and enjoys long-term political support?

The best way of doing this is that the infrastructure is used a lot. Even for those social stratus that at the beginning were not favourable. This is why it is of vital importance that the infrastructure is of good quality and conforms a complete and connected network from the beginning and so it is perfectly suitable to be used by ANYBODY and not just experienced cyclists.

I totally agree with Manuel! We only do quality facilities - it is already difficult enough to build a bicycle network in a city that has been largely designed for motorized travel, the objective is to make the facilities sustainable (although facilities can be redesigned if necessary). Thanks in part to the impetus of the municipality, the subject of cycling in Paris has progressed a lot and rapidly in recent years. This is also true at the national level, where the government adopted an ambitious national bicycle plan for the first time at the end of 2018. The issues of soft and non-polluting mobility are now the subject of consensus among all political parties and a step back seems unlikely - we hope so! In addition, the facilities we are delivering are relatively heavy and structuring (see the track on rue de Rivoli for example): unless we destroy everything to start all over again, the tracks are there for a long time.

10. Can you talk about how your cities overcame political opposition to bike lanes?

Sorry, this is too long to answer in a few words :-((

Overall, there is no (or no longer!) strong political opposition on these issues, which are now the subject of consensus. The Bicycle Plan was unanimously adopted by the Paris Council in 2015. The association movement around the bicycle is also very strong in Paris in recent years and we are very much expected on our achievements!

11. What lessons can you share on staying focused and on-schedule to implement projects this rapidly? Changes in organizational structure? Compromises? Etc.?

In Seville, there was a dedicated body within the Urbanism Department (The Bike Office) that had power to design and build.

These projects take a long time to "get out of the ground": first of all, many studies must be carried out (urban integration, traffic delays, impacts, etc.), then many partners must be consulted (police prefecture, public transport network, shopkeepers and residents, etc.). Once the final project has been validated, work can begin. And compromises must always be made! A team dedicated to the development of the Bicycle Plan, within the Roads and Travel Department, was also created during this term of office to achieve the ambitious objectives of the Bicycle Plan.

12. Was equity part of your decision-making, and how did you weigh equity needs versus potential demand or use of the system?

Yes. From the beginning the design of the network had to cover all the city, despite the urban areas that were going to be connected. This means that also the most poor neighbourhoods were connected.

I'm not sure I fully understand the question. In Paris, more than 55% of public space is dedicated to motorized vehicles, while only 13% of travel is by car. The municipality's objective is to rebalance the sharing of public space more fairly, in favour of active modes that have not yet occupied their rightful place. With each development, we naturally ensure the proper functioning of the urban ecosystem and all forms of mobility: public transport, taxis, deliveries and professionals, etc. The entire Parisian territory is concerned by the objectives of the Bicycle Plan.

13. Are there any plans for offering virtual visits/tours of your cities to convey the viability and desirability of cycling networks?

Not at this moment. But since Seville is receiving so much interest about its cycling developments, the Local Government is planning to organise something like this.

Yes. We have a lot of information on our website, including a plan that evolves with the delivery of projects, which is also available in paper form. We regularly organize events to encourage cycling, with time dedicated to self-repair workshops, bicycle fairs, road safety workshops, etc. We also subsidize many community actions that go in this direction, or bike schools for example. We also support the creation of digital tools that offer bike rides.