Streamlining services and facilities of

metro line 14 up to its future Orly Airport connection

General recommendations

RATP GROUP

Contents

Introduction

The 14@ORY project "Streamlining services and facilities of Paris metro line 14 up to its future Paris Orly Airport connection", co-financed by the European Commission, addresses the situation that will result from the extension of metro line 14 to Orly Airport, with the addition of air passengers to the mix in the current context of high numbers of daily passengers, used to the automated operation of this line.

Activity 1 pointed out that the project for the northern and southern extensions of metro line 14 comes within the more general framework of the Grand Paris Express, and underlined the complex governance of this project given the large number of players involved, while providing other examples of city-airport links using urban or regional railway lines, dedicated or otherwise.

Activity 2 summarised customer expectations after the extension to Orly Airport in 2024. Due to the health crisis, however, this activity was delayed, especially when air traffic at Orly Airport was interrupted and then only partially relaunched. Paradoxically, therefore, this study mainly concerned with air passengers took place at a time of reduced or suspended air traffic.

This exceptional situation was taken into account when undertaking Activity 3, intended to provide recommendations for services in 2024, by specifying changes or additions to be made to the facilities, infrastructure and vehicles of metro line 14 and its physical and digital environment, by best compensating for the bias created by the context in terms of mobility.

The concept of service should be understood to mean a nested set of physical, human and digital provisions. For this reason, the discipline of service design was chosen from the outset, to lead to a concrete result that puts the end customer centre stage. This discipline and the original methodology applied are explained in the Activity 3 report (Milestone 9 of the 14@ORY project).

The Design Book (Milestone 10 of the 14@ORY project) presents the detailed results in the most intuitive way possible, backed up by a summary video to give a quick understanding of the nature of the results.

This deliverable (Milestone 11 of the 14@ORY project) results from Activities 1, 2 and 3 (each of them being the subject of a volume of the 14@ORY White Paper). It presents the general recommendations to be retained at the end of the project and forms volume 4 of the 14@ORY White Paper.

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A demanding and specific context

1.1 - The extension of metro line 14 to Orly and its consequences

After its recent northern extension to Mairie de Saint-Ouen, metro line 14 will be extended to Orly Airport in time for the Paris Olympic Games in 2024, linking 2 major railway stations (Gare de Lyon and Gare Saint-Lazare), and connection hubs giving direct access to a major part of Île-de-France (through Châtelet in particular) and to Charles de Gaulle Airport (via St Denis-Pleyel, where metro line 14 will also be extended), without taking account of the other classic or innovative transport modes that may serve the line's stations (see https://prolongementligne14-orly.fr/#lignes/14SU).

By 2025, this line will connect with Grand Paris Express line 15 at Villejuif - Institut Gustave Roussy, thus providing a quality service to the south of the inner Paris suburbs. It will thus become an urban line like the other 13 metro lines, a regional line almost on the scale of an RER line, and a line serving the airport and catering to its specific passengers. Very different passengers will therefore be making various types of journey together, in the same space and at the same time: classic urban mobility (especially with Paris-suburb commuter journeys at peak hours), the airport service (directly to Orly and eventually to CDG by GPE line 17 via St Denis-Pleyel), and all the new types of journey rooted in the suburbs with the areas served by future GPE lines 15 to 18.

The cohabitation of different passenger categories on metro line 14 will therefore be obvious: from the point of view of visiting air passengers, for "first timers in Paris" in groups and laden with luggage for example, French-speaking or not, the mixture with dense traffic during peak hours, or with people with disabilities on a fully accessible line, is a tricky prospect that RATP must know how to anticipate.

1.2 - The challenges for RATP and the opportunity of the 14@ORY project

There is no "ordinary" automated metro line in the world that provides a very dense mass transit service, crosses an entire city and connects the city centre with an international airport in less than 30 minutes. By 2024, one million passengers per day are expected on this line, with trains running every 80 seconds at peak hours.

The 14@ORY project therefore provides an interesting opportunity to look deeper into the issue, which can be foreseen with a little trepidation: *how to serve a non-French-speaking family, newly arrived at Orly from Athens, laden with luggage, with parents, children and seniors, discovering a metro line with doors that close very quickly to keep up the frequency, and getting off at 6:30 p.m. into the dense flows on the central platform of Gare de Lyon, in search of metro line 1 to their hotel in Château de Vincennes?*

Renowned for its quality of service in terms of transport and for the architecture of its stations, the challenge facing metro line 14 faces is in the service it offers rather than operations. In terms of capacity, frequency and reliability, this line meets the highest world metro standards, and expectations from RATP will be more in terms of excellence of service. Welcoming international visitors mixed with locals in a hurry and transporting them all to their destinations comfortably, safely and with ease: this is the challenge for RATP, which can use it to showcase its exemplary character for its international development.

Finally, aiming to make its contribution to the "French touch", RATP can take on specifically human issues: within quality infrastructure and facilities, supported by appropriate equipment and a digital environment, metro line 14 staff will be able to rise to the challenge of being at the forefront of a new "service à la française", combining process and naturalness, rigour and empathy, so that passengers of all origins can feel perfectly welcomed and guided, starting with visitors to the 2024 Olympics.

Originality
of the 14@ORY project

2.1 - Implementing a resolutely customer-oriented method

Right from the initiation of the 14@ORY project, a customer-oriented approach was specified. To facilitate adoption of the results and quickly find adopters, the study had to lead to real-life projections of passengers, by tracking improvements in uses to be served or emotional satisfactions to be aroused.

For this reason, Activities 1 and 2 of 14@ORY, led by the RATP Sales and Marketing Department, consisted in identifying the expectations of future metro line 14 customers, in all their aspects. The studies carried out in this context were entrusted to specialist consultancy firms such as IFOP or the Yellow Window agency, whose very comprehensive conclusions are set out in volumes 1 and 2 of the 14@ORY White Paper. A summary of their conclusions is provided in section 3.

On this basis, it was decided to carry out Activity 3 of 14@ORY, which aimed to develop concrete recommendations, by applying the discipline of service design: this phase, led by the RATP Project Ownership Department, was entrusted to the agency User Studio.

Service design is a recent discipline, undergoing rapid development due to the exponential growth of the digital offer, and it can be naturally applied to complex systems made up of multiple components (a description is provided at the end of Volume 3 of the 14@ORY White Paper). It applies well to the field of mobility and to upstream conceptualisation phases.

The method aims to come up with a global scenario formed by a panoply of concrete concepts properly distributed on a map of passenger journeys: from the point of view of customer experience, this type of approach ensures the consistency, relevance and continuity of the perceived service.

2.2 - Making relevant recommendations that will find adopters

The projects already undertaken by RATP on metro line 14 (its extension to Orly and the new MP14 rolling stock) represent a considerable investment (€2.5 billion for the extension and nearly €0.5 billion for the MP14 trains), but do not sufficiently incorporate specific measures responding to the arrival of air passengers. The goal of the 14@ORY project is therefore to provide in-depth analysis of the situation described in section 1 in order to come up with recommendations in addition to the basic service already planned for metro line 14, in 3 complementary areas:

- physical: facilities and equipment resulting from investments complementary to projects already undertaken, through funding methods that are to be defined,
- digital: development of digital services as part of the digital transformation of RATP Group, serving both its customers and its staff,
- human: changes in the attitudes and service skills of RATP personnel and the staff of companies working on metro line 14 and in its environment.

The 14@ORY approach therefore aims to achieve results that are sufficiently precise, concrete and attractive to facilitate their adoption by decision-makers in the three areas, without having to carry out premature technical studies at this stage. Indeed, even if RATP did not make a commitment to the European Commission's Innovation and Networks Executive Agency (INEA) to implement the recommendations resulting from the study, it was normal that everything should be done to initiate development studies to ensure the increased maturity of the proposed concepts.

14@ORY is therefore an exploration process, according to the structuring of RATP innovation projects (Exploration/Experimentation/Prototyping/Industrial piloting). This exploratory phase can continue with actions led by adopters, with appropriate cross-cutting governance to maintain consistency between all the proposed actions (see section 6).

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Knowing
the customer

3.1 - An extensive series of studies to get to know customers better

The following studies were undertaken under Activities 1 and 2 of the 14@ORY project:

1. a general approach to metro line 14 users and stations,
2. benchmarking with other city-airport connections in large cities around the world,
3. identification of the profiles and expectations of future metro line 14 passengers, including the services expected in stations and on-board trains, differentiated by passenger type,
4. the public's expectations in terms of connectivity on board metro line 14 trains,
5. a study focused on welcoming tourists, defining tourist information counters in particular (concept, offer, design),
6. a study on the human visibility, roles and scenarios expected by the public on an automated line, with high traffic, a strong tourist presence and 100% accessible,
7. an exploration of the means for providing information on passenger loads on the next trains, and their impact on users,
8. a study of transport modes serving Orly airport other than metro line 14.

Urbanopolis workshop sessions (Urbanopolis is the RATP innovation lab network set up in 2018) were also held to address the following questions:

- How to increase flows in Gare de Lyon station on metro line 14?
- How to speed up resumption of service after an interruption to automated metro line 14?

Finally, in situ immersions were carried out, partly by shadowing, i.e. observing volunteer passengers on metro line 14 as well as on their journeys before and after taking the metro.

3.2 - Conclusions of the customer knowledge studies

Here is a summary of the customer studies (see volume 2 of the 14@ORY White Paper for the details):

- There is a need to focus on the consequences of the arrival of new types of customer, with more demanding and more specific requirements: international air passengers with their specific expectations and locals who have made the transition from car to metro line 14

- To complete the perception of excellence of the transport function provided by metro line 14, there is a general expectation of high service quality in terms of welcome and presence, with particular care to be taken with vulnerable passengers (people with reduced mobility, visitors, etc.)
- Paris-region residents fear that, with the extension of metro line 14 from Saint Denis to Orly, there will be a deterioration in fluidity, safety and ambience, and hope that RATP will be able to counteract these effects, especially in busy or congested situations.
- Three types of situation must be considered from the outset: normal situations, without significant crowding; periods with high passenger numbers, either scheduled or observed; and situations of disruption, with specific attention paid to flow management.
- Beyond the different facets (physical, digital and human) of the "service mix" to be produced, a real challenge appeared in terms of the human dimension, represented by staff:
  - through an increase in skills in terms of welcome and support, particularly responsive to the needs of vulnerable passengers who should not considered as "dependent customers",
  - through greater fluency and practice in the use of foreign languages,
  - through putting planned and organised scenarios in place, to facilitate the identification of reception staff members at dedicated counters,
  - through the enhanced presence of mobile operations staff in the facilities, with the support of security staff able to defuse tense situations.
- "Top-of-the-range" passenger information is expected: continuous and reassuring, well positioned in space, accurate and in real time, suited to all audiences and especially air passengers.
- Particular expectations were expressed for good connection with the surroundings of metro line 14, in terms of transport and inter-modality (with conventional or innovative modes), and in the urban dimension, with the regions served and their activities.
- Finally, the foreseeable passenger numbers on metro line 14 should lead to the creation of attractive alternative and inter-modal offers, in particular by bus or in partnership with taxis and minicabs.

The "making of"
the service design study

4.1 - A 2050 vision to feed into a 2024 scenario

In the uncertain times characterising the mobility crisis generated by the pandemic, it was decided to make a detour to a 2050 vision, before returning to the 2024 time frame, by first studying disruptive scenarios. This 2050 vision is a deliverable in itself, not initially foreseen but which can guide RATP in building exit scenarios from future crises. It takes the form of a narrative of a typical day, involving 12 personas covering diverse passenger and staff profiles and their interactions.

4.2 - A college of external and internal experts

A College of Experts, both external and internal, was invited to challenge the proposals, to open up perspectives, moderate convictions that are too traditional in the transport world, or point out weak signals to be taken into account.

This principle of discussion between project leaders and challengers secures the conceptualisation and design process in a complex field. It is particularly useful in the field of mobility, bearing in mind that transport is first and foremost a tool, with societal, economic and environmental stakes.

4.3 - Different levels of development leading to a global presentation

The wide range of service packages resulting from this approach led to their being handled differently. Some paths were simply outlined, others were not developed but benefit from the contribution of external references, while some ideas were developed in depth to give them shape to facilitate their adoption. All of these services were aggregated on a customer experience map showing their distribution over passenger journeys and hence the perceived effect along their routes.

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Service
recommendations

5.1 - A positioning based on 5 fundamental themes

The recommendations are broken down into 5 principles resulting from the method applied, including the transition through a 2050 vision making it possible to anticipate a future situation as from 2024:

1. **Streamlining of all journeys**
   All types of passenger flows should be facilitated, fast or slow, confident or hesitant, travelling light or heavily laden. International passengers with a lot of luggage will only get a good welcome if others can also find their place in the flow. The 14@ORY project does not lead to recommending, at this stage, a specific baggage check-in service, but rather to offering ease of use and a seamless service to heavily laden passengers at all touchpoints on metro line 14.

2. **Goodwill towards one another**
   Encouraging goodwill between passengers, instead of the usual indifference, will help to avoid difficulties during disruption and during discovery of the line by newcomers, acting as a complement to staff who cannot be present everywhere.

3. **Protection against foreseeable challenges and threats**
   Faced with security risks, health threats, or climate effects, public transport on metro line 14 in particular should retain a safe and protective character to form a kind of refuge that is chosen and not just put up with.

4. **Enhancement of the area by and for its inhabitants**
   Paris is not just a destination of famous landmarks, it is also a cultural area where multiple forms of the art of living exist, traditional and contemporary, French and cosmopolitan. Metro line 14 can anchor itself in the districts and their inhabitants, to make it more lively and more engaging. This positioning can also be exploited economically, in travel retail.

5. **A low-tech and low-carbon requirement**
   A metro line is intrinsically a vector for sustainable development: metro line 14's attractiveness in serving Orly Airport must take into account the periodic risk of saturation. In addition, public transport, considered as a system, is itself deserving of eco-design, and in particular through a responsible digital approach.

5.2 - A proposal based on 3 families of services

The service design study generated 48 service proposals spread over 17 touchpoints, classified into 3 families whose titles summarise the action to be taken:

1. **Provide a warm welcome**
   This family of services focuses on visitors' first steps and on the human presence along their journeys, to make Paris a popular destination for the support provided in the first instance by metro line 14, with particular attention paid to foreign languages.

2. **Offering comprehensive information**
   In addition to the use of traditional information systems (signage, real-time displays, posters and distributed maps, etc.) the entire digital array is used to support passengers, either directly on each person's terminal, in their own language, or through smart public address systems.

3. **Support and streamline journeys**
   Providing thoughtful responses at the individual level on metro line 14, a "mass transit" facility, for air passengers as well as for all Île-de-France residents, is the goal of this family of services which cultivate proximity to the region and promote harmony between customers.

5.3 - A highly visual presentation

This recommendations document makes reference to the other study deliverables, namely the webinar that will close the 14@ORY project, with its podcast remaining available, the video and the Design Book which forms a catalogue of the proposed packages in the form of more or less developed fact sheets according to the depth of study associated with each service.

When it comes to services, nothing beats stories, sounds and pictures. They make it easy to understand the result to be achieved, not as a fantasy but as a realistic sketch of the service to be provided, in the user's language.

Conclusions
of the 14@ORY approach

6.1 - Encouraging adoption

The 14@ORY project is only a foundation stone, broad and cross-cutting for sure, but not yet translated into planned actions. The wide range of players involved in a public transport project (transport authority, contracting authorities, operators, regional authorities, etc.) requires presentation of the results of this approach beyond RATP Group, namely to the Île-de-France eco-system (Île-de-France Mobilités, Paris Airports (ADP), regional authorities, etc.) without forgetting those in charge of the 2024 Olympics.

To this end, the modular form of the results will make it possible to differentiate the discussion and adoption processes according to the disciplines of the potential adopters, with this step aiming in particular to identify the additional studies to be carried out and the funding to be sought.

Finally, if RATP hopes to make concrete use of this study in a major implementation within a few years, it expresses the wish that, under a study financed by the European Commission, applications of 14@ORY can spread beyond Paris metro line 14, to other city-airport services in the Île-de-France region or in other large cities.

6.2 - Ensuring governance of the increase in maturity

Mitigating the risk associated with the period following the exploration phase of the 14@ORY project, namely a scattering of initiatives that could lead to a loss of consistency in customer perception, requires orchestration of the increase in the maturity of the result, or rather the increase in maturity of each group of services that will be adopted.

As the operational governance of the different areas (physical, commercial, human, digital) is parallel and possibly independent, it seems important to put in place a strict minimum of cross-cutting governance, to transform 14@ORY, which marks an exploratory phase, into an operational programme with a precise calendar goal, 2024 at the latest. This will facilitate the launch of experiments or prototyping even in areas other than metro line 14, so as to prepare an overall result, whether complete or not, expected for 2024.

6.3 - Drawing lessons for analogous approaches

Finally, this 14@ORY approach has revealed the suitability of service design methods in dealing with the upstream phases of complex and multiple issues. By harnessing a major perspective, that of the customer, in the service of a design giving priority to the control of perceptions and uses, service design enriches the field of methodologies useful for the construction of strategies.

Many problem areas in the world of mobility could benefit from an approach similar to that used for 14@ORY.

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