

## **Appendix: Interviews**

Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

## **Master Thesis**

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# 1. Interview templates

## 1.1 Interview model template in English

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| <p align="center"><b>Interview model template in English</b></p> <p>Previous note: The questions 1 - 35 are oriented to the point of view of the transport user. The questions "extra" 36 - 40 are reserved only for professionals in the railway world, whether they are machinists, engineers, academics, operators, etc., although these are also asked to answer the first questions.</p>  |
| <p><b>Name:</b></p> <p><b>Date:</b></p>  |
| <p><b>User profile:</b></p> <ul style="list-style-type: none"> <li>• <b>Identification of the interviewee</b> <p>q1. City of residence:</p> <p>q2. Age:</p> <p>q3. Occupation:</p> </li> <li>• <b>Transport needs and main travel purpose</b> <p>q4. What are your typical transport modes ?</p> <p>q5. How many kilometres do you approximately travel weekly ?</p> <p>q6. Could you travel by train instead?</p> </li> <li>• <b>Use of railways</b> <p>q7. How often do you use the railways?</p> <p>q8. What are your mostly used type of railways?</p> <p>q9. When you travel for your holidays, leisure or for a business trip, which transport do you use? If not by train, for which reasons don't you travel using railways?</p> </li> </ul> |
| <p><b>Rail transport motivations and priorities</b></p> <p>q10. What motivates you using rail? To decide travel by train instead of other modes?<br/>What makes you enjoy a rail travel, what creates satisfaction to your trip?</p> <p>q11. What makes you avoid using railways, to decide travel using other modes? What negative feeling creates you traveling by train?</p> <p>q12. What are your demands to railway, what do you expect as primarily an essential?</p>  |
| <p><b>Questions about the quality and performance of the railways in Spain</b></p>   |

- **Connectivity, operation and transport convenience**

q13. Network reach: Can you get by train to your habitual destinations?

q14. Speed: Are trains fast?

q15. Punctuality: Are trains punctual?

q16. Frequency: Are enough trains running per hour?

q17. Convenience: Access and proximity of stations: Are the stations good located and easy to access?

- **Comfort, accessibility and travel experience**

q18. Seat Occupation: It's easy to find seats available?

q19. Seat Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?

q20. Train cleanness: Are the trains clean? Station cleanness: Are the stations clean?

q21. Pre-trip information: are timetables, network and destinations easy to find (online, etc)?

q22. Is information in stations and platforms clear?

q23. Information on-board: is there enough information on board (destination and time panels, labels, sound advises, etc)?

q24. Stations staff: Are vendors and information personnel useful and behaving in a proper manner?

q25. On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?

q26. Are stations and trains accessible for people with reduced mobility?

- **Prices, tickets and after sales**

q27. Price fairness: are train ticket prices fair?

q28. Ticket purchasing easiness: can tickets be purchased easily (online...)?

q29. Use of combined cards: are combined cards with price advantages useful?

q30. Customer service attention: is customer service helpful and friendly?

- **Safety**

q31. Safety on the train: Do you feel safe traveling by train?

q32. Safety in stations: Do you feel safe entering and waiting in the stations?

### **Final evaluation of the railways in Spain**

- q33. How would you evaluate the overall railway system in Spain?
- q34. How do you see the railways in Spain compared with other countries?
- q35. If you could improve something, what would you that be?

### **Additional questions for the experts**

- q36. Why do you think the number of users of railways in Spain is relatively so low?
- q37. What did Spain wrong compared to other countries to have a lower usage or rail ?
- q38. Which factors do limit the increase of rail users?
- q39. Which factors limit the efficiency of the trains and lines?
- q40. Which would the easiest measures to increase the situation? In what should be focused the future investments?

## 1.2 Interview template in Spanish

### Modelo de entrevista en castellano

Nota previa: Las cuestiones 1 - 35 están orientadas al punto de vista del usuario del transporte. Las cuestiones "extra" 36 - 40 se reservan únicamente para los profesionales del mundo ferroviario, ya sean maquinistas, ingenieros, académicos, operadores, etc., si bien a estos también se les pide responder las primeras cuestiones.

**Nombre:**

**Fecha:**

#### Perfil del usuario:

- **Identificación del entrevistado**

c1. Ciudad de residencia:

c2. Edad:

c3. Ocupación:

- **Medios de transporte habituales**

c4. Cuáles son tus medios de transportes usuales y por qué motivos?

c5. Cuántos kilómetros recorres a diario y semanal, aproximadamente?

c6. Podrías hacerlos todos en tren? Si sí, por qué motivos no te mueves a diario en tren?

- **Uso del ferrocarril**

c7. Cuán a menudo utilizas los ferrocarriles?

c8. Cuál es el tipo de tren que usas habitualmente?

c9. Cuando haces un viaje largo, por trabajo o de vacaciones, viajas normalmente en tren? Si no, por qué motivos no viajas en tren en estos casos?

#### Motivaciones y prioridades:

c10. Qué es lo que te motiva a moverte en tren? Para decidirte a usarlo en vez de otros modos de transporte? Que te hace disfrutar del viaje del ferrocarril, que es lo que te genera satisfacción?

c11. Qué es lo que te desincentiva y te impide usar el tren? Para decidirte a usar otro modos de transporte en vez de tomar el tren. Que sentimientos negativos te crea cuando viajas en tren?

c12. Cuáles son tus exigencias al transporte ferroviario? Qué esperas de forma prioritaria y esencial?

### **Cuestiones sobre el rendimiento y calidad del ferrocarril en España**

- **Conectividad, operación y conveniencia de transporte**

c13. Dimensión de la red: Puedes llegar en tren a tus destinos habituales y deseadas?

c14. Velocidad: Los trenes son rápidos?

c15. Puntualidad: Los trenes son puntuales?

c16. Frecuencia: Hay suficientes trenes circulando por hora?

c17. Conveniencia: Las estaciones están bien ubicadas y son fáciles de acceder?

- **Confort, accesibilidad y experiencia de viaje**

c18. Ocupación: Es fácil encontrar asientos disponibles?

c19. Confort: Te sientes cómodo cuando viajas en tren (temperatura, ruido, butacas ...)?

c20. Los trenes están limpios? Las estaciones están limpias?

c21. Los horarios, rutas y destinos son fáciles de encontrar (online, etc.) y comprender?

c22. La información en las estaciones es clara (paneles visuales, acceso a las vías, rótulos diversos ...)?

c23. Hay suficiente información a bordo (paneles de destino, indicadores y anuncio de próxima estación, tiempo de paso, avisos sonoros, etc.)?

c24. Los vendedores y el personal de información en las estaciones son prácticos y amables?

c25. Hay revisores y personal a bordo normalmente? Su actitud es correcta?

c26. Son accesibles para PMR (personas de movilidad reducida) las estaciones y los convoyes?

- **Precios, tiquetes y postventa**

c27. Los precios de los billetes de tren son justos?

c28. Se pueden comprar los billetes en línea, o sólo en las estaciones? Es fácil e intuitivo el proceso de compra?

c29. Las tarjetas combinadas son útiles? Ofrecen algunas ventajas de precio?

c30. El servicio al cliente es eficiente, útil y amable?



- **Seguridad**

c31. Te sientes seguro viajando en tren?

c32. Te sientes seguro entrando, esperando y saliendo de las estaciones?

### **Evaluación final del sistema ferroviario en España**

c33. ¿Cómo valorarías el sistema ferroviario de España en general?

c34. Como ves los ferrocarriles de España en comparación con otros países?

c35. Si pudieras mejorar algo, ¿qué sería?

### **Preguntas extra para los expertos**

c36. Por qué crees que el número de usuarios del ferrocarril en España es relativamente bajo?

c37. Qué se ha hecho mal en España en comparación con otros países con mayor tasa de uso?

c38. ¿Cuáles son los factores clave que reducen la atracción de más pasajeros?

c39. ¿Cuáles son los factores clave que limitan la eficiencia de los trenes y las líneas?

c40. ¿Cuáles serían las medidas fáciles de aplicar para mejorar la situación? En qué se deberían centrar las futuras inversiones?

## **1.3 Interview template in Catalan**

### **Modelo d'entrevista en català**

Nota prèvia: Les preguntes 1 – 35 estan orientades al punt de vista de l'usuari del transport. Les preguntes “extra” 36 - 40 es reserven únicament pels professionals del món ferroviari, ja siguin maquinistes, enginyers, operadors, etc., si be a aquests també se'ls demana de respondre les primeres preguntes.

**Nom:**

**Data:**

**Perfil de l'usuari:**

- **Identificació del entrevistat**

*p1.* Ciutat de residència:

*p2.* Edat:

*p3.* Ocupació:

- **Medis de transport habituals**

*p4.* Quin són els teus mitjans de transports usuals, per quin motiu et mous?

*p5.* Quants quilòmetres recorres diàriament i setmanal, aproximadament?

*p6.* Podries fer-los tots en tren? Si sí, per quins motius no et mous a diari en tren?

- **Us del ferrocarril**

*p7.* Quan sovint utilitzes els ferrocarrils?

*p8.* Quin és el tipus de tren que uses habitualment?

*p9.* Quan fas un viatge llarg, per feina o de vacances, viatges normalment amb tren?  
Per quins motius no viatges en tren en aquets casos?

**Motivacions i prioritats:**

*p10.* Què és el que te motiva a moure't en ferrocarril? A decidir-te a usar tren en comptes d'altres mitjans de transport. Què et fa gaudir del viatge en tren, què et crea satisfacció per damunt de tot?

*p11.* Què és el que et desincentiva i t'impedeix d'usar el tren? A decidir-te a usar altres mitjans de transport. Quins sentiments negatius et crea el viatjar en tren?

*p12.* Quin són les teves exigències al transport ferroviari? Què esperes de forma prioritària i essencial?

**Preguntes sobre la qualitat i rendiment del ferrocarril a Espanya:**

- **Connectivitat, operació y conveniència del transport**

*p13. Dimensió de la xarxa:* Pots arribar en tren a les teves destinacions habituals i desitjades?

*p14. Velocitat:* Els trens són ràpids?

*p15. Puntualitat:* Els trens són puntuals?

*p16. Freqüència:* Hi ha prou trens circulant per hora?

*p17. Accés i proximitat d'estacions:* Les estacions estan ben ubicades i són fàcils d'accedir?

- **Confort, accessibilitat i experiència de viatge**

*p18. Ocupació: És fàcil trobar seients disponibles?*

*p19. Confort: Et sents còmode viatjant en tren (pel que fa a la temperatura, el soroll, els seients...)?*

*p20. Els trens estan nets? Les estacions estan netes?*

*p21. Els horaris, rutes i destinacions són fàcils de trobar (en línia, etc.) i comprendre?*

*p22. La informació a les estacions és clara (panells visuals, accés a les vies, rètols diversos...)?*

*p23. Hi ha prou informació a bord (panells de destinació, indicadors i anunci de pròxima estació, temps de pas, avisos sonors, etc)?*

*p24. Els venedors i el personal d'informació a les estacions són pràctics i amables?*

*p25. Hi ha revisors i personal a bord normalment? La seva actitud és correcta?*

*p26. Són accessibles per a PMR (persones de mobilitat reduïda) les estacions i els combois?*

- **Preus y tiquets**

*p27. Els preus dels bitllets de tren són justos?*

*p28. Es poden comprar els bitllets en línia, o només a les estacions? És fàcil i intuïtiu el procés de compra?*

*p29. Les targetes combinades son útils? Ofereixen alguns avantatges de preu?*

*p30. El servei al client és eficient, útil i amable?*

- **Seguretat**

*p31. Et sents segur viatjant en tren?*

*p32. Et sents segur entrant, esperant i sortint de les estacions?*

### **Avaluació final del sistema ferroviari a Espanya**

*p33. Com valoraries el sistema ferroviari del teu país en general?*

*p34. Com veus els ferrocarrils del teu país en comparació amb altres països?*

*p35. Si poguessis millorar alguna cosa, què seria?*

### **Preguntes extra pels experts**

### **Appendix: Interviews**

*Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport*

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*p36.* Per què el nombre d'usuaris dels ferrocarrils a Espanya és relativament baix?

*p37.* Què s'ha fet malament en Espanya en comparació amb altres països amb major ús del ferrocarril?

*p38.* Quins són els factors clau que redueixen l'atracció de més passatgers?

*p39.* Quins són els factors clau que limiten l'eficiència dels trens i les línies?

*p40.* Quines serien les mesures fàcils d'aplicar per millorar la situació? En què s'haurien de centrar les futures inversions?

## 2. Transcriptions of the interviews in English (phase 1)

### 2.1 Interview 1

**Name:** Samuel Lerma

**Date:** 11.03.2021

#### User profile:

- **Identification of the interviewee**

q1. *City of residence:* St Gallen, Switzerland. Originally from Malaga, Spain

q2. *Age:* 26

q3. *Occupation:* Engineer

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* Public transport, private car and blablá car. Plane but less frequent

q5. *How many kilometres do you approximately travel weekly?* St Gallen - St Margrethen 25 x 2 x 50 = 250km. By train (St Gallen– St Margrethen), tram or bus (depending on the frequency). In Spain, from Fuengirola to Malaga, 32.5 x 2 x 5 = 325km.

q6. *Could you travel by train instead?* Yes

- **Use of railways**

q7. *How often do you use the railways?* Daily

q8. *What are your mostly used type of railways?* Tram, InterRegio or Thurbo Regional S-Bahn

q9. *When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* Long trip always plane. Malaga Madrid would do it by plane because it is normally cheaper and it is shorter. On the other hand, in Switzerland I would only move by train. But Switzerland is not that it has many airports. Spain has many airports.

#### Rail transport motivations and priorities:

q10. *What motivates you using rail? To decide travel by train instead of other modes?* Frequency of passage, travel time and price (in my case I pay monthly)

*What makes you enjoy a rail travel, what creates satisfaction to your trip?* In the morning I can sleep at the train and at the afternoon talk with my colleagues when we come back from work

*q11. What makes you avoid using railways, to decide travel using other modes?* For long distances it is very expensive in Switzerland. In Spain long distance is still expensive and connections between lines are not very good. You cannot go to Cádiz by train. In Fuengirola you can go to Malaga with Cercanías, although it takes a long time. 20 min by car and 40 by train. But you don't get to Marbella. In this case I prefer blablá car. In Switzerland I do not blablacar, also because there are not many users of blablacar in comparison

*What negative feeling creates you traveling by train?* Sometimes its uncomfortable and I feel sick

*q12. What are your demands to railway, what do you expect as primarily an essentially?*  
That is at least as fast or similar as car.

### Questions about the quality and performance of the railways in Spain

- **Connectivity, operation and transport convenience**

*q13. Network reach: Can you get by train to your habitual destinations?* In Switzerland yes, mostly yes. If not, the train is well connected to the bus and so I can complement the route. On the other hand, in Spain it must always be central cities, if there are remote cities through which no main line passes there is no infrastructure.

*q14. Speed: Are trains fast?* In Switzerland yes, in Spain no (in Switzerland trains go as fast as cars, in Spain slower except Ave).

*q15. Punctuality: Are trains punctual?* In Switzerland yes, as a general rule. Also in Spain.

*q16. Frequency: Are enough trains running per hour?* In Switzerland yes, there is a frequency of 15 - 20 min. In Spain, it is 45 min.

*q17. Convenience: Are the stations good located and easy to access?* In Switzerland yes, they are usually well located in central areas near areas that people know. In Spain the central stations are well located. In between, however, it is not taken into account, for example Puente Genil passes AVE and Lanzadera (Madrid - Malaga, half near Malaga) the station is on the outskirts and there are no buses, you have to go by car or taxi.

- **Comfort, accessibility and travel experience**

- q18. *Seat occupation: It's easy to find seats available?* Yes, most of the cases. In a year I have had to stand 1 or 2 times. In Spain also mostly.
- q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* In Switzerland there are times when they make noise or vibration that can cause dizziness. And the brakes when the station comes screeching. In Spain they are also noisy. In winter the temperature is sometimes very cold.
- q20. *Train and station cleanness: Are the trains clean?* Yes, both in Switzerland and in Spain. *Are the stations clean?* Yes, both in Switzerland and in Spain.
- q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* In Switzerland it is somewhat more complicated because there are more lines and different types of trains. If you know where to go it is easy. But at the station it is complicated. In Google maps everything is updated. In Malaga there is only one line, therefore it is easier. On the SBB APP too.
- q22. *Information at station: are information in stations clear?* Where it goes and the schedule is easy. But finding the intermediate destination is not so easy since it does not put intermediate stops or schedules. Just making use of the station's tools can be difficult. It involves you knowing the lines by knowing your final destination.
- q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* The Malaga - Fuengirola suburban line is in English but not in St Gallen. I don't know how they are in Zürich.
- q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* In Spain they seem kinder and more understanding than in Switzerland but I cannot generalize with a bad experience either.
- q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* In Spain there are not so many reviewers because there are lathes (access barriers). In the AVE or long distance there are checkers in Spain. In Switzerland there are more reviewers why there are no barriers. The attitude is much more distrustful in Switzerland (because as there are no barriers it is assumed that you have sneaked in) on the other hand in Spain if you have a problem you are supposed to tell the truth.
- q26. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* In both countries yes, both trains although access to the station from the street may not be optimal (although it is not the responsibility of the operator).

- **Prices, tickets and after sales**

q27. *Price fairness: are train ticket prices fair?* No, in Switzerland it is excessively expensive for medium-long trips. In Spain it is not expensive, especially for discounts for young people, large families on individual tickets. In any case, tickets in Switzerland are very expensive, even taking into account that the infrastructure is better. The AVE Madrid-Malaga can cost 60-70eur, by plane 50. St Gallen-Geneva about 100 chf.

q28. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* In Renfe Cercanías no. AVE and medium distance yes. In Switzerland in all, even bus. In the Intercity, you can buy the ticket on board, with a small supplement.

q29. *Use of combined cards: are combined cards with price advantages useful?* I used the monthly, which is worth 180chf and yes it saved money.

q30. *Customer service attention: is customer service helpful and friendly?* In Switzerland I tried to have a fine removed but they did not accept my version although I explained all the facts but they also fined me. Customer service depends on the person who touches you.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Yes. In Spain there are almost always security personnel. In Switzerland there is only a railway guard but only at night (mostly).

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes. There are diverse people in Switzerland. In Spain it doesn't happen that much, or maybe in the main stations. In Spain you cannot drink in the street, which prevents people from gathering in public places. But it doesn't give me the feeling of being self-conscious.

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* In Switzerland very well, infrastructure and destination issue very well, I have not seen such a good system. In Spain, due to the size of the country, it is very bad. Only for main destinations, but to move to the interior is very backward, there is hardly any infrastructure.

q34. *How do you see the railways in Spain in comparison with other countries?* Wrong.



q35. *If you could improve something, what would you that be?* In Switzerland I would give more options to save, and discounts. In Spain it would make lines more profitable, improve connections. There are connections that time travel is a shame.

### **Additional questions for the experts**

q36. *Why do you think the number of users of railways in Spain is relatively so high/slow?*  
Because most people have a car, which is usually cheaper and faster than the train

q37. *What did Spain wrong compared to other countries to have a lower usage or rail?*  
Not having focused on the construction of railway lines to be accessible to most people, but only junctions of main cities but not medium-sized ones.

q38. *Which factors do limit the increase of rail users?* Many stations are poorly connected, there is not a good design of the railway infrastructure.

q39. *Which factors limit the efficiency of the trains and lines?* Lack of infrastructure regarding the amount of highway and highways In Spain there are empty motorways with 4 or 5 lanes, while in Switzerland the highways are reasonable, so public transport has been prioritized.

q40. *Which would the easiest measures to increase the situation?* Go faster and have more frequencies. *In what should be focused the future investments?* Build more railway lines and seek efficiency at the national level and not by zones. That they are not only local improvements and that the others are abandoned, but make a general improvement. Compensate the user of the train with respect to the user of the car.

## **2.2 Interview 2**

**Name:** Eduardo Alejandre

**Date:** 17.03.2021

### **User profile:**

- **Identification of the interviewee**

q1. City of residence: St Gallen, Switzerland. Originally from Zaragoza, Spain

q2. Age: 25

q3. Occupation: Engineer

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* Train and bus

q5. *How many kilometres do you approximately travel weekly ?* In Switzerland 50x5 = 250 + 150km weekend. In Spain 30x5 = 150km

q6. *Could you travel by train instead?* In Switzerland no, 10% is by bus. In Spain, to university by train, to work by bus

- **Use of railways**

q7. *How often do you use the railways?* In Switzerland on a daily basis, and almost always on long trips. In Spain, except tram never.

q8. *What are your mostly used type of railways?* In Switzerland S-Bahn (it is not the fastest but the bus connection suits me well) In Spain Commuter.

q9. *When you travel for your holidays or for a business trip, which transport do you use?*  
In Switzerland yes, when I can and the connection is good (time and price compared to FlixBus). In Spain I use more the bus for the price when I go to Pamplona, Asturias, Barcelona or Madrid. For example Zaragoza - Barcelona costs 8€ by bus (Alsa) / 50€ by train (Renfe). The route to Santander was longer by train and more expensive, instead there was a direct bus. *If not, for which reasons don't you travel by train?* In Switzerland because it is cheaper, or flight because it is cheaper and / or faster. In Spain above all because it was more expensive and lack of direct connections

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?*  
Appropriate, ecological, fast and accessible price (good combinations). The combined GA card that allows you to move throughout Switzerland with all means of public transport, not only train (cost 2700 chf for those under 25 years old). This really motivates to not only use train for daily needs but also for weekends and holidays. In Spain this would be very useful too.

q11. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* That you can use your time to study or work...

q12. *What makes you avoid using railways, to decide travel using other modes?* Night schedules (if you return from the party after 1 am there is no train or the combinations

are very bad). Price without discount cards. Long distances time. *What negative feeling creates you traveling by train?* Noise, discomfort, annoying people, crowds...  
*q13. What are your demands to railway, what do you expect as primarily an essentially?*  
 A correct relation price-quality

### **Questions about the railways in Spain:**

- **Connectivity, operation and transport convenience**

*q14. Network size: Can you get by train to your habitual destinations?* In Switzerland yes. If there is no train with a bus, but there is almost always a train. In Spain no.  
*q15. Access and proximity of stations: Are the stations good located and easy to access?*  
 Yes, they are in the centre of the city  
*q16. Frequency: Are there enough trains running per hour?* Yes. In Spain clearly not.  
*q17. Punctuality: Are trains punctual?* Normally yes  
*q18. Speed: Are trains fast?* In Spain the long distance yes they are fast thank to the high speed lines. In Switzerland no because they make many stops.

- **Comfort, accessibility and travel experience**

*q19. Occupation: it's easy to find seats available?* Yes  
*q20. Comfort: do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* In Switzerland yes very good, also because the culture of the people is quieter less noisy. In Spain I always had concerns about other users.  
*q21. Train cleanness: are the trains clean?* Yes. *Station cleanness: Are the stations clean?* Yes  
*q22. Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* By the SBB APP above all. This is lacking in Spain.  
*q23. Information at station: are information in stations clear?* Yes. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Yes

*q24. Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* Yes  
*q25. On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* IN IR there are almost always, in suburban S-Bahn almost never (from Thurbo or SOB operator). In Spain there are clearly not enough inspectors.

q26. *Customer service attention: is customer service helpful and friendly?* Yes. When I bought the GA they gave me the proportional part of the halbtax back. They are very transparent. In Spain never used.

q27. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* Yes

- **Prices and tickets**

q28. *Price fairness: are train ticket prices fair?* In Switzerland and Spain with discount card yes, otherwise not.

q29. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* In both countries yes, it's easy

q30. *Use of combined cards: are combined cards with price advantages useful?* In Switzerland yes, especially the GA, and the halbtax (for regular routes), although you could also expect the occasional Sparbillet offers. In Spain se don't have these cards that include all transport modes, they would be really useful.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* In Switzerland yes. In Spain not that much. For example, on the Zaragoza tram, I didn't feel safe because, as there was a low frequency, the trains were always crowded and there was a possibility that they would rob you.

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* Restrictive (connections are not very good, not accessible for the majority of the Spanish population). There is no one application that encompasses all transport services and that allows quick purchase of all transport systems. Instead, in Switzerland is very accessible and with an adequate price. Very good combinations. And with a mobile application that greatly facilitates transportation.

q34. *How do you see the railways in your country in comparison with other countries?* Compared to central Europe (Austria and Czech Republic, France, Germany) many combinations, the train in these countries reaches many parts, good price offers (discounted price, there is always) and rolling stock is more current. And greater ride comfort. For example, the train from Zaragoza to Soria, the vibrations were

noticeable. And from Zaragoza to Oviedo (Lastres) by night train, the memory I have was not pleasant. On Austrian trains, the Siemens trains are super comfortable.

- q35. *If you could improve something, what would you that be?* In Spain, an app for the whole country. Train prices were competitive compared to other means, especially bus. And improve non-high-speed rolling stock. In Switzerland: there is nothing substantial to improve.

### **Additional questions for the experts**

- q36. *Why do you think the number of users of railways in your country is relatively so high/slow?* For the price, because now with the Ave Low Cost it sold out at the moment. Zaragoza - Madrid will be about 11eur. If the bus costs 7 and the train 13 I take a train. And like that many Spaniards.
- q37. *What did Spain wrong compared to other countries to have a lower usage or rail ?* Spain all investments before high speed were focused in lengthen the motorways so road transport was always the priority.
- q38. *Which factors do limit the increase of rail users?* Price and the lack of good connections to get to the stations by bus, for example, are uncoordinated (in Zaragoza Delicias)
- q39. *Which factors limit the efficiency of the trains and lines?* Occupation of seats. The fact that the AVE is very little busy means that it has many economic losses, that it is not profitable.
- q40. *Which would the easiest measures to increase the situation?* Homogenization of transport, consortium with all transport companies and that at the end is reflected in an APP so that the user has all the information. *In what should be focused the future investments?* Improve economic accessibility of the population to the railroad

## **2.3 Interview 3**

**Name:** Quim Creus

**Date:** 29.03.2021

**User profile:**

- **Identification of the interviewee**

q1. *City of residence:* Chicago, the USA. Formerly Chur and Geneva in Switzerland. Originally from St Quirze del Vallès, Spain.

q2. *Age:* 33

q3. *Occupation:* Engineer

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* in the US, train and car. In Switzerland, train and tramway. In Spain, bike and train.

q5. *How many kilometres do you approximately travel weekly?* In the US, 50km round trip (500 km weekly). On weekends if I move I do it by car, in a suburban area or in the centre. In Switzerland, 10km round trip (100 km weekly). In Spain Sabadell - Terrassa by train. 8 km + 8km daily, so 80km weekly.

q6. *Could you travel by train instead?* All but the suburbs as there is no connection (set of houses) and because there is no night service. In the evening we returned home with Uber. In Spain, when I lived in St Quirze I rode my bike faster.

- **Use of railways**

q7. *How often do you use the railways?* Every day now and in the summer I use more my bike. In Spain daily.

q8. *What are your mostly used type of railways?* Two-story diesel suburban train in the USA. In Geneva Electric tram and to go to Chur the IC / InterRegio. In Catalonia the suburbs.

q9. *When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* In the USA, long-distance train connections are very precarious in front of the plane. In Switzerland I went to Chur by weekly train. In Spain very rarely.

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* I can do things instead of driving and I don't wear out the car. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* No dependency on traffic jams so it's a gain in quality of life

q11. *What makes you avoid using railways, to decide travel using other modes?* Due to covid-19 frequency has been reduced. According to a friend, there are no more

reviewers (attendance has been reduced). *What negative feeling creates you traveling by train?* Some respect for infecting me with covid.

q12. *What are your demands to railway, what do you expect as primarily an essentially?*

Reliability is the most important, so the people can trust the transport

### **Questions about the quality and performance of the railways in Spain**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* Not in the USA, I have to park my car at the station or ride a bike. In Switzerland, yes, you can get anywhere. And in Spain I need to take a bike.

q14. *Speed: Are trains fast?* They could be faster

q15. *Punctuality: Are trains punctual?* I think with Renfe commuters not much.

q16. *Frequency: Are enough trains running per hour?* In many cases yes, but double tracks are missing to have fast and slow convoys.

q17. *Access and proximity of stations: Are the stations good located and easy to access?* In the USA in general the stations are good in Chicago and in Switzerland it was good too. In Catalonia it could improve.

- **Comfort, accessibility and travel experience**

q18. *Occupation: It's easy to find seats available?* No

q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* It's correct

q20. *Train cleanness: Are the trains clean?* I think yes. *Station cleanness: Are the stations clean?* Could be better

q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Thanks to Google Maps yes, but there is no website that covers all the services in Catalonia as they do in the SBB that include buses and ferries.

q22. *Information at station: are information in stations clear?* Correct

q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* In some stations there is a lack of screens

q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* I think yes

q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* I think yes

q26. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* It could be improved in non-central stations

- **Prices, tickets and after sales**

q27. *Price fairness: are train ticket prices fair?* It could be better

q28. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* I think yes

q29. *Use of combined cards: are combined cards with price advantages useful?* Yes

q30. *Customer service attention: is customer service helpful and friendly?* I think yes

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* On the Chicago subway you don't feel safe. There is a general idea that public transport is not typical of people with a certain status. Instead the suburban has better consideration. In Switzerland I felt safe, maybe the trains from Zurich to Geneva at certain hours there are via people who inspired less confidence, but in Barcelona in the last hours as well.

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* I do but I understand that a woman or teenager alone not so much.

## **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* The problem in Spain is centralism. The inner territory is not well connected, people always need to cross Barcelona. You will never be able to take slow, express trains. For example: To go from Mataró to Terrassa, you have to go through the BCN, there is no parallel network.

q34. *How do you see the railways in Spain in comparison with other countries?* In comparison, in Zürich it is full of railroads. There are many more square meters dedicated to the railway. In Barcelona, on the other hand, it is much smaller. If you look at Barcelona-Sants station, the access roads are incomparable to the stations in Zurich or Chicago. The difference between Madrid and Barcelona is that Madrid has the capacity to expand, it can be extended around. Barcelona is a city limited by rivers, mountains, sea and other cities. The grace of Switzerland is that there are



fast and slow trains, for all kinds of needs. In Catalonia no, not enough. In addition, Switzerland is surrounded by countries, which has favoured the creation of railway lines to connect the different places. Also the origins the railroad was constructed with very low manpower fact that allowed its fast expansion. In the USA, like Switzerland, there has been stability (the USA has "exported wars" but has not had wars in its territory since the 19th century). Spain suffered a devastating war and dictatorship. In Switzerland, money has been invested in improving the territory, not in wars.

*q35. If you could improve something, what would you that be?* The Catalan network is too centralized. In Switzerland you can go from the most remote and mountainous regions such as Sion (Valais) to Geneva airport quickly and with high frequency. In Catalonia, those near Barcelona can move by train, but those in the inner territory cannot, both due to lack of train lines and lack of service.

## 2.4 Interview 4

**Name:** Ginés Vázquez

**Date:** 05.04.2021

### User profile:

- **Identification of the interviewee**

*q1. City of residence:* Barcelona, Spain

*q2. Age:* 35

*q3. Occupation:* Engineer

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes?* Train and car

*q5. How many kilometres do you approximately travel weekly?* 15km go and 15km back. A total of 150 km per week.

*q6. Could you travel by train instead?* Yes, and I almost always do them by train, unless I have to load things from work.

- **Use of railways**

q7. *How often do you use the railways?* Practically daily.

q8. *What are your mostly used type of railways?* Commuters (Rodalies)

q9. *When you travel for your holidays or for a business trip, do you travel by train? If not, for which reasons don't you travel by train?* Whenever I can I travel by train. Only if there is no network connection or I need to travel with my bike and trains do not have bike racks like high speed.

### **Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* Before because I didn't have a car. Now because it's cheaper and because it doesn't take much longer, it's pretty fast and so I get some exercise because to get to the station I have to walk a bit. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* Looking the landscapes is very relaxing, that's why I always choose window seats.

q11. *What makes you avoid using railways, to decide travel using other modes?* During confinement, to avoid going too close to people. Also when there is a strike, and there is often one lately, because you have to wait a long time. *What negative feeling creates you traveling by train?* When there is a delay.

q12. *What are your demands to railway, what do you expect as primarily an essentially?* Punctuality and comfort.

### **Questions about the railways in Spain:**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* Yes, where I should go, yes. Both at work and elsewhere. When I have to go to see my family in St Cugat too. And for leisure too as I look for places where the train arrives. Although there are many places where the train does not arrive.

q14. *Speed: Are trains fast?* The material is fast considering the infrastructure (single track), so sometimes trains have to wait to make the crossings.

q15. *Frequency: Are enough trains running per hour?* The line I take is not, not a good example. There are trains every half hour, but they are uncoordinated, sometimes passing every 20 minutes and others every 45 minutes.

q16. *Punctuality: Are trains punctual?* They usually arrive on time or at most 5 minutes late. There are occasional delays of more than 10 minutes (a couple of strokes at most). If trains come from far away they have potentially more delays.

q17. *Access and proximity of stations: Are the stations good located and easy to access?* The stations are well located, usually in the middle of the villages. They are easy to access. However, I know of many cases of stations with platforms that are not at the height of the train, or that the station is curved and the train is very far apart. Although there are plans to fix that.

- **Comfort, accessibility and travel experience**

q18. *Seat occupation: It's easy to find seats available?* There is usually room, in addition to the covid has reduced employment, for example there are fewer students who no longer go to class in person. If I can't find a place, it's because of a breakdown and in the morning it's the busiest strip. The train will never burst with passengers.

q19. *Seat comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* Yes, the seats are comfortable (considering the duration of my trip of 20min). The temperature is correct. Noise depends on the unit, whether they are new or old (CIVIAs are quieter) but not uncomfortable.

q20. *Train cleanness: Are the trains clean?* Inside they are clean. But outside the trains are always dirty and graffiti, all without exception. According to Renfe, 80% of trains have graffiti. Surely the legislation is looser in Catalonia

q21. *Station cleanness: Are the stations clean?* The stations are usually clean. Although there is also a lot of graffiti, they clean them in a day.

q22. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Yes, there are applications, there is web. They are clear and work.

q23. *Information at station: are information in stations clear?* Yes, and in fact lately they have put monitors on the platforms.

q24. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* It depends on the trains. If they are CIVIA, the screens work by saying destination, stops and correspondence and time, temperatures. There's even advertisement. But at 447, quite a few times the screens are off and only indicate next stop and final destination. As for pictograms it's all pretty understandable.

q25. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* Yes but I don't use them. And there are also buttons on the machines to answer you

q26. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* It is not usual. Usually the driver goes alone. Between Mollet and Barcelona it is not usual to find train inspectors. The attitude is correct.

q27. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* Almost all trains are accessible by PRM, a renovation has been done. The only inaccessible fleet is the 450 double deck. There are some stations with low platforms, although many have been increased to 680mm. In addition, there are no lifts at all stations (which at the same time prevent people from crossing the road).

- **Prices and tickets**

q28. *Price fairness: are train ticket prices fair?* Yes, they are fair. And they have been reduced. Quarterly tickets, two zones, unlimited trips cost 104 euros. And before they costed 140 eur.

q29. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* If there is no vendor, on the machine. You can't buy it online. But everything is pending reform. The machines are intuitive.

q30. *Use of combined cards: are combined cards with price advantages useful?* Yes, the card gives me points to get discounts on the long distance services

q31. *Customer service attention: is customer service helpful and friendly?* I have never had any experience, I have not claimed anything.

- **Safety**

q32. *Safety in the train: Do you feel safe traveling by train?* To go to work yes. But sometimes on weekends when I leave early there may be users who don't inspire too much confidence ... but in these cases security is enhanced. There are usually security personnel on the train.

q33. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes, in La Sagrera (Barcelona) because there are always security personnel. But in Mollet, there are no staff except at the box office. Although in the hours I go there I never feel insecure.

### **Final evaluation of the railways in Spain**

- q34. How would you value the overall railway system in Spain?* Around 6/10. There are many things to fix. Especially infrastructure, such as the splitting of the R3. There are plans to improve it but generally not concrete.
- q35. How do you see the railways in Spain in comparison with other countries?* In Spain, many trains have been cancelled due to the pandemic, which have not been reopened. In other parts of Spain, however, it is much worse with the maintenance. The line from Madrid to Valencia via Cuenca was closed for a few days, but now they have only reopened the Madrid section. However, the Cuenca section has not been reopened and there are no plans to reopen it. There are no plans to reopen when two trains pass by. There seems to be a desire to close secondary lines.
- q36. If you could improve something, what would you that be?* Improve the maintenance of the conventional network to achieve more reliability, reduce breakdowns. On a high-speed line, they will do it for safety, but not on the conventional one. There are many speed reductions. Lack of preventive maintenance, the big thing is expected to happen. Frequencies are limited by line capacity. Those of the R3 go in simple composition. In the morning, it would be interesting to do the service in double composition, especially to encourage more distance between passengers. Perhaps it is due to lack of material.

### **Additional questions for the experts**

- q37. Why do you think the number of users of railways in Spain is relatively so low?* Poor rail network. Extensive network of motorways and expressways, which make it easier to travel by car or intercity bus (cheaper).
- q38. What did Spain wrong compared to other countries to have a lower usage or rail?* They closed several lines in 1985. Since then the conventional railways have been not cared enough.
- q39. Which factors do limit the increase of rail users?* The price and travel time in connections that are not covered by high speed. *Which factors limit the efficiency of the trains and lines?* Especially the state of the conventional network (lack of maintenance and investment), most of the resources for high speed.

*q40. Which would be the easiest measures to increase the situation? Reconversion of conventional lines at high speed (200km / h max) and electrification in case that it is technically possible and does not require a very high investment. In what should be focused the future investments? More investment in maintenance of the current conventional network.*

## **2.5 Interview 5**

**Name:** Marc Tostado

**Date:** 07.04.2021

### **User profile:**

- **Identification of the interviewee**

*q1. City of residence:* Igualada, Spain

*q2. Age:* 22

*q3. Occupation:* Train driver

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes?* Train and car

*q5. How many kilometres do you approximately travel weekly?* 180 km daily, so 900 weekly

*q6. Could you travel by train instead?* No, there is no direct train connection between Igualada and Lleida (my working place).

- **Use of railways**

*q7. How often do you use the railways?* Daily

*q8. What are your mostly used type of railways?* Middle-distance

*q9. When you travel for your holidays, leisure or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* Yes, whenever I can. If the lack of communication by rail prevents it, but I almost always do it by train

### **Rail transport motivations and priorities:**

- q10. *What motivates you using rail? To decide travel by train instead of other modes?* It is fast, efficient and sustainable. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* I feel is much more pleasant than any other transport
- q11. *What makes you avoid using railways, to decide travel using other modes?* Lack of connection. *What negative feeling creates you traveling by train?* Nothing, I adapt to the schedule.
- q12. *What are your demands to railway, what do you expect as primarily an essentially?*  
Fast connections, punctuality and reliability.

### Questions about the quality and performance of the railways in Spain

- **Connectivity, operation and transport convenience**

- q13. *Network size: Can you get by train to your habitual destinations?* Not always
- q14. *Speed: Are trains fast?* The speed is good
- q15. *Frequency: Are enough trains running per hour?* There could be more frequencies but they are not scarce either.
- q16. *Punctuality: Are trains punctual?* The ones I take are punctual, except for the Rodalies in Martorell, which you can't trust too much.
- q17. *Convenience: Are the stations good located and easy to access?* Not always

- **Safety**

- q18. *Safety in the train: Do you feel safe traveling by train?* Yes, I feel safe
- q19. *Safety in stations: Do you feel safe entering and waiting in the stations?* There are stations where you may not feel safe enough because there is a lack of staff or security as there are stations that are located in conflicting points such as Cornellà

- **Comfort, accessibility and travel experience**

- q20. *Seat occupation: It's easy to find seats available?* Trains run at medium occupancy, seats can be found.
- q21. *Seat comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* They are comfortable, yes
- q22. *Train cleanness: Are the trains clean?* The trains are clean. *Station cleanness: Are the stations clean?* There is everything, some yes and some no
- q23. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* They are very understandable as they are identified by a nomenclature.

- q24. *Information at station: are information in stations clear?* it is clear. There could be more screen panels at the stations, although there is public address (audio messages)
- q25. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* There is enough information on board the trains. There are indicators everywhere, screens, and early warning.
- q26. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* They are friendly (there will always be some who are not)
- q27. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* The personal on board are also kind
- q28. *Customer service attention: is customer service helpful and friendly?* The service is staff efficient. What is missing is more regularity.
- q29. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* Some do and some don't. There are some stations on the Lleida line that are yes and others that are not.

- **Prices, tickets and after-sales**

- q30. *Price fairness: are train ticket prices fair?* I think they could be cheaper but not bad because discounts apply
- q31. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* In the case of suburbs and regionals can only be purchased at the stations. But yes, it's easy and intuitive, and otherwise there's always the box office.
- q32. *Use of combined cards: are combined cards with price advantages useful?* The cards are useful because they allow you to transfer to other transport and are cheaper than a single ticket.

## **Final evaluation of the railways in Spain**

- q33. *How would you value the overall railway system in Spain?* The suburban network is good in all the centres of Spain. What should be strengthened is the regional service. Missing trains on lines.
- q34. *How do you see the railways in Spain compared with other countries?* I have been to Sweden, and there punctuality is no better than here. Instead, comparing it to Germany, if the situation is different, better there.



*q35. If you could improve something, what would you that be?* Improve regional transit times and frequencies.

### **Additional questions for the experts**

*q36. Why do you think the number of users of railways in Spain is relatively so low?* In certain areas it is not so low. In the vicinity it is fine, but in the regional ones the frequencies are ill-adapted and it would be necessary to add them because sometimes the first train passes too late and then it does not work.

*q37. What did Spain wrong compared to other countries to have a lower usage or rail?* I don't see Spanish railways in worst position than other countries I have visited. I think we could improve.

*q38. Which factors do limit the increase of rail users?* The connection timetables are not optimal, so passengers that use several lines need to wait too long in the stations when they change trains. There is a lack of frequencies in the middle-distance trains in the rush hours too. *Which factors limit the efficiency of the trains and lines?* Trains are generally efficient enough, some are old but will be replaced. The lines do need to do infrastructure work. There are too many speed limits that shouldn't be there.

*q39. Which would the easiest measures to increase the situation?* Do the necessary work to reduce travel time. Set the frequencies at the most appropriate hours in order to meet the needs of the population.

*q40. In what should be focused the future investments?* Especially to improve the service of regional and medium distance throughout Spain

## **2.6 Interview 6**

**Name:** Johana Cadena

**Date:** 10.04.2021

### **User profile:**

- **Identification of the interviewee**

*q1. City of residence:* Olot, Spain. Previously in Vic, Spain.

*q2. Age:* 30

q3. *Occupation:* Nurse

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* Nowadays car. When I was studying in Barcelona and living in Vic, also train.

q5. *How many kilometres do you approximately travel weekly?* With car 80km per day, so 400km per week. Not anymore with train, because there is no train in Olot and I finished my studies last semester.

q6. *Could you travel by train instead?* No, there is no connection.

- **Use of railways**

q7. *How often do you use the railways?* I used it before when I didn't have a car. Now never.

q8. *What are your mostly used type of railways?* Before I used the regional, for example when I went to Barcelona for the master.

q9. *When you travel for your holidays, leisure or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* Train when I go to Pamplona or Madrid (AVE), or airplane to further destinations. But I drove to Barcelona, because I had to catch the train very early.

### **Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* Because I didn't want to go by car, because there was a lot of traffic on the rounds in Barcelona. It was going direct from Vic to Bellvitge, with a transfer at Sants. I went twice a week for a year. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* No stress from traffic when driving

q11. *What makes you avoid using railways, to decide travel using other modes?* If there are no trains I can't take them... *What negative feeling creates you traveling by train?* Sometimes fear from other users and feeling is not going fast

q12. *What are your demands to railway, what do you expect as primarily an essentially?* That it can be a good alternative than going with car

### **Questions about the quality and performance of the railways in Spain**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* Not at all

- q14. *Speed: Are trains fast?* No, it took an hour and a quarter, it could have been faster. It took less than an hour by car
- q15. *Punctuality: Are trains punctual?* Quite
- q16. *Frequency: Are enough trains running per hour?* Yes, there were enough.
- q17. *Convenience: Are the stations good located and easy to access?* If they were well located, the Bellvitge station would leave me next to the University and in Vic too, I would walk.

### **Customer satisfaction and on-train experience**

- **Comfort, accessibility and travel experience**

- q18. *Occupation: It's easy to find seats available?* Yes, because did I take it before, it filled up halfway
- q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* Yes, although one day I was cold on the train, especially at night.
- q20. *Train cleanness: Are the trains clean?* Not especially, not enough. *Station cleanness: Are the stations clean?* Not enough, it looked bad. But nothing comparable with Italy (in Rome), where the situation was much worse and disgusting.
- q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* More or less yes.
- q22. *Information at station: are information in stations clear?* Yes it was clear
- q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Sometimes they were spoiled
- q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* No, one day I argued with one of them, they were bitter. I once had an argument with one in Vic, when he asked me to pay cash because he didn't have a card machine.
- q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* Sometimes yes sometimes no. They were friendly, usually yes.
- q26. *Customer service attention: is customer service helpful and friendly?* I never used it
- q27. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* Yes, I noticed that there were people with wheelchairs

- **Prices, tickets and after-sales**

q28. *Price fairness: are train ticket prices fair?* I found it expensive. For students they should be cheaper (15 euro to go and return).

q29. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* I always bought at the station, online was not possible.

q30. *Use of combined cards: are combined cards with price advantages useful?* I once had and yes, it saved money.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Yes pretty sure. But once I was scared inside the train with strange personnel, with "bad looks" and I did not see that there were security personnel.

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes, but someday, in late hours someday I was a little scared. But overall fine.

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* Regular, the vicinity could be improved. The train is slow, it makes many stops, there is no direct train to Barcelona. When I went to Bellvitge I always put the balance on myself, which wasted time but did not arrive so tired. When we went to Madrid in Ave it was because there was an offer.

q34. *How do you see the railways in Spain compared with other countries?* Compared to other countries it depends. In Paris I remember that they were chaotic there too. In Turkey I was surprised that it was very good, more comfortable. In Belgium it was good too. But for example in Italy it was a disaster.

q35. *If you could improve something, what would you that be?* Time. Poor infrastructure, very dirty and poorly presented. If there was a line between Vic and Olot it would be ideal, I would surely go by train.

## **2.7 Interview 7**

**Name:** Esther Bolekia

**Date:** 15.04.2021

**User profile:**

- **Identification of the interviewee**

q1. *City of residence:* Paris, France. Originally from Madrid, Spain.

q2. *Age:* 31

q3. *Occupation:* engineer.

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* train and metro

q5. *How many kilometres do you approximately travel weekly?* daily, 10; weekly, 90 km

q6. *Could you travel by train instead?* Yes. I combine train, metro and walking

- **Use of railways**

q7. *How often do you use the railways?* Almost every day before confinement

q8. *What are your mostly used type of railways?* Cercanias in Spain and RER train in Paris

q9. *When you travel for your holidays, leisure or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* It depends. I often take the train if the distance or time travel are not too long.

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* The fact that it is the available mode of transport and it saves me from having to drive. What makes you enjoy a rail travel, what creates satisfaction to your trip? It's convenient to

q11. *What makes you avoid using railways, to decide travel using other modes?* Before the pandemic, the fact that it was too crowded and dirty. *What negative feeling creates you traveling by train?* When it's overcrowded I feel really stressed and anxious

q12. *What are your demands to railway, what do you expect as primarily an essentially?* Connections and efficiency

**Questions about the railways in Spain:**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* Yes

q14. *Speed: Are trains fast?* Yes

q15. *Punctuality: Are trains punctual?* In Paris I can't trust the punctuality of the trains. In Madrid I trust them more.

q16. *Frequency: Are enough trains running per hour?* Yes

q17. *Convenience: Are the stations good located and easy to access?* In my case, yes, they are well connected with buses and metros. But once outside of central Paris or Madrid it may not be so.

- **Safety**

q18. *Safety in the train: Do you feel safe traveling by train?* In France I have to pay close attention because I'm afraid of being robbed. In Madrid I feel safer.

q19. *Safety in stations: Do you feel safe entering and waiting in the stations?* No, I always look in all directions and when the train approaches the platform I take a step back, because there are people pushing others onto the tracks.

- **Comfort, accessibility and travel experience**

q20. *Occupation: It's easy to find seats available?* Yes

q21. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* No, most RER trains are pretty dirty and don't inspire confidence in me. Renfe Cercanias trains in Madrid are cleaner.

q22. *Train cleanness: Are the trains clean?* Paris, compared to Madrid, no. *Station cleanness: Are the stations clean?* Paris, compared to Madrid, no.

q23. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Yes.

q24. *Information at station: are information in stations clear?* In Paris they have done a good job of information, because the lines are complex. In Madrid it is not so complex.

q25. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Yes, something I like is the illuminated panels inside the trains that show where the train is on the line, the stations it is going to pass through... so no one gets lost. In Madrid this could be improved.

q26. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* Yes

q27. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* Neither in Madrid nor in Paris are there inspectors on board, but there are at the entrance / exit of the stations.

q28. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* In France no, absolutely not. In Spain some yes, some no.

- **Prices, tickets and after sales**

q29. *Price fairness: are train ticket prices fair?* The price of the monthly ticket in Paris is very good compared to Madrid. The configuration of the Pass Navigo is the most practical I have ever seen for residents of Ile de France and for people who are passing through.

q30. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* It can be purchased online and at stations. In Madrid only at the stations.

q31. *Use of combined cards: are combined cards with price advantages useful?* The combined Paris cards allow access to train, metro, tram and bus. I think bikes too. In Madrid it is not so flexible.

q32. *Customer service attention: is customer service helpful and friendly?* It is correct

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* In Spain it can improve

q34. *How do you see the railways in Spain compared with other countries?* There is room for improvement: I see the trains in Spain very clean, but the network can gain in functionality.

q35. *If you could improve something, what would you that be?* That the train reaches more cities in the Community of Madrid and make a transport card that is more efficient. Now you have the public transport card that is valid for all modes (train, metro, bus), but only if you pay for 30 days and limit yourself to the fare zone you choose. If you don't choose to buy that card, you need one card for the train and one for the metro. In addition, I would change the prices: those under 26 pay € 20 and have access to all areas, a person over that age pays € 72 and has access only up to area B2 (if they want to have more access they have to pay more than € 100 per month).

### **Additional questions for the experts**

*q36. Why do you think the number of users of railways in Spain is relatively so low?*

Because the affordable transport network does not reach points that can be trip generators. For example, there are cities in Spain and towns that have train tracks, but the train does not arrive. There is a focus on developing high speed, but the conventional train needs to get to quite a few places.

*q37. What did Spain wrong compared to other countries to have a lower usage of rail?*

Every country have its handicaps. Spain did not invest in the past to extend the regional network. Instead it was invested too much in extending the motorways and creating regional airports.

*q38. Which factors do limit the increase of rail users?* Economic factor and the competition of land and air transport.

*q39. Which factors limit the efficiency of the trains and lines?* The lack of connections with other transport modes and the lack of agility of the correspondence

*q40. Which would the easiest measures to increase the situation?* Streamline projects and studies and expand lines strategically. *In what should be focused the future investments?* In reaching population centres that have grown but are not yet reached by the train and metro lines.

## **2.8 Interview 8**

**Name:** Andreu Llòria

**Date:** 17.04.2021

### **User profile:**

- **Identification of the interviewee**

*q1. City of residence:* Sant Cugat, Barcelona, Spain

*q2. Age:* 24

*q3. Occupation:* University master's degree student (secondary school teacher)

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes?* Train, railway, bus (urban and intercity) and bus (long distance)



q5. *How many kilometres do you approximately travel weekly? Between 15 and 40 daily (St Cugat at the UAB, or in Barcelona). About 150 km a week.*

q6. *Could you travel by train instead? Yes and I do them all by train*

- **Use of railways**

q7. *How often do you use the railways? Daily*

q8. *What are your mostly used type of railways? The FGC (suburban / commuter), from St Cugat to the UAB and to Barcelona from Sarrià, Gràcia and Plaça Catalunya. When doing internships in Granollers also the surroundings of Renfe, but much more occasionally.*

q9. *When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train? I always take the train unless it's night and I travel alone, then I take the bus. If it is daytime I always prioritize the train. Unless the journey is shorter and cheaper (for example Barcelona - Perpignan). But if the price difference is smaller I prioritize the train. Only if the journey is long and there is a substantial price difference I don't take the train.*

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes? Relaxation, tranquillity, practicality (which you don't have to drive), speed, regulated schedules and punctuality (bus you can't be sure) and the stories that are lived there sometimes, especially in the stations where you can observe people. At larger stations you can observe other users. What makes you enjoy a rail travel, what creates satisfaction to your trip? Social aspect, relax, tranquillity.*

q11. *What makes you avoid using railways, to decide travel using other modes? Sometimes the lack of train that does not reach certain places, lack of night trains (as it is ideal when you can do tourism traveling at night) and the price, especially long distance. What negative feeling creates you traveling by train? At night maybe people you find that create some discomfort for you, that no one is in the car or guards, just machinists. But otherwise I am always at ease. In a coach I am always suffering watching for example the driver.*

q12. *What are your demands to railway, what do you expect as primarily an essentially? Frequencies, safety, personalized attention (that there are personnel to deal with), and information (for example if there is any breakdown, incident that can be reported*

to you, especially if there is an incident. For example speed of reaction and capacity to glimpse the great punctual capacities and to react quickly with the correspondences via putting buses or elements that assure that everybody can arrive at the destiny.

### Questions about the quality and performance of the railways in Spain

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* Yes, the most common yes. Other destinations not desired (e.g. Aran Valley). For example, if there were more trains in the Pyrenees and Urgell. We are lucky that in the Barcelona area there is a lot of railway connection, but the north is much more abandoned.

q14. *Convenience: are the stations good located and easy to access?* In my next case yes. In general there are many small stops that have no connection with the village. On the FGC Llobregat Anoia line (where the stations are a bit on the outskirts), there are always bus services that connect. Case of Capellades and Pierola. But on the La Pobla line, for example, there are none. On the R15 for example there are many stops without. In High Speed in the Camp de Tarragona the buses are not coordinated. In Requena-Utiel there was the service on each of the two buses but they cancelled it due to lack of passengers (with the aggravation of the staff involved in high speed stations in terms of security of passage of luggage, none station ...). The staff who control the passage of 2 trains a day that could be dedicated to other stations without any staff.

q15. *Frequency: Are enough trains running per hour?* Compared to other European countries, I think it's good, and it's the closest thing to Switzerland. Because in France there are only in Paris. In Lyon for example you have regionals very often and integrated tickets, but not suburbs. In Spain, there are many population centres that. It's a concept difference, as the suburbs of Paris (RER) go underground. Transilien are the regionals of Paris. Each RER has its own tunnel and dedicated line. In Lyon there are no tunnels, everything is surface and the regionals share the track with the rest of the trains. But in Spain, at medium distance the frequencies are very low. In addition, long distance requires ticket booking. Case of Oviedo - Leon, which is an important long-distance line, there are about 4-5 a day, but only one regional per day that stops at the intermediate stations. There are several lines with only one regional train, and there is a Huelva-Mérida case where in one of the stations the train only stops once a week. In the case of FGC the frequencies are

very good. There is only the downside of La Pobla de Segur, in which the schedules should be better placed. In the Vallès at rush hour there are every 3 minutes, at night 1 every 20 minutes. The difference between urban and other areas is very noticeable, in which regional trains become a service to users who travel on time but not to workers and students who move daily.

*q16. Punctuality: Are trains punctual?* In general, especially compared to the rest of Europe. Suburbs except Catalonia which are not very (personally I think it is the worst suburban network in Spain (it is the most complex and compared to Madrid which is more modern and has more tunnels) .There are more important problems in Spain than punctuality In France, long-distance journeys (TGVs) are less punctual because in many cases they use shared lines, not as dedicated as in Spain. A short delay in Paris can affect the entire French network. See punctuality statistics The best in Europe are Luxembourg, Switzerland and the Nordic countries.

*q17. Speed: Are trains fast?* Except for the average distance (which I think is the Achilles' heel of Spain), in general yes. There are several examples of medium distance that are not fast enough: BCN - Lleida 3h10, 3h30min. Ciudad Real - Badajoz 5h. Madrid - Badajoz 5h (and added to the infrequent frequency and delays of these lines in the south). Oviedo - Leon, 2h30 / (But there is the long-distance direct train without an intermediate stop –perhaps with a few stops– it takes 30 minutes less).

- **Comfort, accessibility and travel experience**

*q18. Occupation: It's easy to find seats available?* Yes, very easy. Except suburbs at rush hour, like any other comparable place (Paris, Berlin, Milan, Vienna,) although in Vienna you want to extend trains to improve occupancy. On long-distance trains such as Barcelona - Galicia (journey in summer and Easter) and Barcelona - Andalusia (Easter, although in the south there are two per day) Malaga, Granada and Seville, in times of high demand the train stays full for up to 2 months before departure. In the case of suburbs, the R1 (of the coast) has trains of 3 cars and double composition and of a flat goes. In the Vallès line of FGC (simple compositions of 4. The stations are not prepared for double) the trains are very full, to the maximum. I have experienced situations in which I let trains pass to wait to find some less crowded ones. To compensate for the lower frequency of the R2, trains with a higher capacity such as the Civia or R50- are dedicated to it. New two-story trains are needed. Since the Euromeds no longer cross the coast, capacity has been

gained. The R4 del Vallès have been vacated due to the existence of FGC. There are fewer travellers now than there were a few years ago.

*q19. Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* For comfort of the seats, in the vicinity there is a big difference between FGC clearly better than Renfe. In temperature, FGC temperatures are more extreme (cold in summer and hot in winter). Renfe is more balanced. In terms of long distance and medium distance, in France and Switzerland (where different trains are combined under the same trade name) you have more nice plugs, tables, interiors but in Spain there is nothing except the 449 (for example R11 in Girona). At high speed the comfort is maximum, with mobile bar service, headphones,. The first class in Spain is exceptionally comfortable, affordable in the cases of Germany, Thalys and Eurostat (although you do not have free food or newspapers).

*q20. Train cleanness: Are the trains clean?* Yes, they are not the best, or they could always be better. Renfe always has cleaning staff at the end of the season. FGC does not have this fact, they are only cleaned at night. But the deep cleaning of FGC is more complete and at the beginning of the day it looks cleaner. In France there are no cleaning staff at the end of the season with neighbourhoods like Spain. In Italy in terms of cleanliness they are the worst. The seats are broken, doors closed ... In Switzerland and Austria, and a little German and Nordic countries would be best. In France there is a QR code where in case a vehicle is detected in poor condition, the operator can be informed. In Spain there are trains with broken glass, especially Renfe. At Renfe the surface cleaning works well, the main and thorough cleaning fails and FGC and France have it much better. Except for the AVE which is another level, the trains are always almost perfect. *Station cleanness: Are the stations clean?* Except for the graffiti, Adif's medium-distance stations (for example: Figueres, Portbou, Cervera ...) are much worse than Renfe's (suburbs), where you don't even have machines to buy tickets and are usually in a state of disrepair. general negligence.

*q21.Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* In Rodalies, not because of the lack of ticket integration. One from Madrid looked at him. In Catalonia you have to look at the Rodalies de la Generalitat website. In Sants there are many tourists who just look at the Renfe website and think that there are far fewer trains than there really are. You have to be an expert in rail geography to understand everything. But a basic user may not know it. In Germany,

France and Switzerland you see a lot of backpacking hiking by train and Interrail, but here you never see hikers for example the Camino de Santiago, they always go by car or plane.

*q22. Information at station: are information in stations clear?* Whistles and audible warnings are missing. Being on the platform you can never be sure when the train will leave. It may be punctual, delayed, or even leave a little early, but the passenger on the platform is not informed.

*q23. Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Not because I compare it to France, but also to Germany. Staff differences are very noticeable. On the one hand, there is a clear lack of staff in Spain, and the inspector does nothing. If the train stops, in France there is information about what is happening but in Spain not..

*q24. Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* They do, but there is too little personnel.

*q25. On-board crew: Are there normally personal on-board?* Do inspectors behave in a proper manner? In Spain, the person in charge of long-distance communication is the caterer, not the inspector. Inspectors control occupancy but hardly ever ask for the ticket, so there is often no passenger control. There is a clear lack of information because the auditor does not report incidents. In Spain there is a lack of staff and therefore the driver who has good will reports the incident, which is who can have more information about the situation. But the machinist is not obliged to communicate anything, so most do not, only the specially motivated ones. It is therefore necessary to strengthen staff training and establish clear information protocols for the client. When you travel with Renfe, you feel a lack of human presence and support. The user in Spain is generally less informed than the rest.

*q26. Customer service attention: is customer service helpful and friendly?* The treatment is not so close, the staff is less flexible than other countries like France

*q27. Are stations and trains adapted for PRM's (persons of reduced mobility)?* Some yes some no, but step by step Adif is making efforts to transform the stations

- **Prices, tickets and after sales**

q28. *Price fairness: are train ticket prices fair?* The price of the suburbs / regions, for the salary of a Spaniard is good, I think it's fair. For the middle distance not so much. And for long distance, the tickets are very expensive. In the long run there is also time flexibility in the sense that if you buy earlier they are cheaper, although the discounts are not amazing compared to other places in Europe. Regionals, on the other hand, have rigid prices, they do not change when they buy them in advance.

q29. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* For Renfe no. Usually there are problems or incidents, the problem is that the vending machines only accept contact, without contact you cannot. If there are no machines, you can't buy the ticket at VISA with the inspector, only with not very large cash and tickets, but you don't have a hole. There are no apps to buy online; in Rodalies you cannot buy any ticket online. This only in Rodalies de Catalunya, unlike other "Cercanias" networks where you can. That's why I think a lot needs to be improved.

q30. *Use of combined cards: are combined cards with price advantages useful?* If they exist yes. In central Catalonia, a metropolitan area, there is an ATM that works well. But if someone wants to go from Girona to Barcelona for example they always need to buy a ticket. In France, each region has magnetic cards that integrate travel and adapt to the mobility needs of the user. Instead here we still go with cardboard letters that are also broken and lost. For Rodalies with a card you can go to all the lines, although the combined ones of the RENFE do not allow you to travel by metro, in this case you need the integrated ones of the ATM. For regionals on the other hand this does not exist. For example, if you are going from Girona to any point in Barcelona requiring regional, suburban and metro passes, you need 3 tickets, one for each. In addition to France, apart from the subscription to your line with unlimited travel. you have a discount on all other lines in the same region. So here I am missing discounts of this style in order to encourage transport on non-frequent lines as well. And the fact is that in Spain the surroundings work well, but then people go by car to go on holiday.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Yes. There may be lines that have not been renewed but trains are already slowing down and you feel safe. Also, at 447 there were no cameras, although they are now installing them (and in the long run probably the 446 in Madrid). This is because there are no intervenors in the

suburban networks. In the middle distance there are no cameras but there is an inspector. There are also security personnel in the vicinity, although it depends. And if they are there they get in a car and don't see the other cars especially the 447s that don't have intercirculation. On the Tarragona-Salou line (which have now closed), there was a problem of insecurity and. There are currently a lot of graffiti issues, as in many convoys with graffiti booths. Unlike other lines where there is an authoritative railway guard, here a security guard cannot ask for a DNI (but the user can refuse) and cannot impose fines. In France the first thing the railway police ask for is the ticket. Here the agents are private and cannot impose fines. A railway police puts him in touch and he is coordinated with the security agents.

- q32. Safety in stations: Do you feel safe entering and waiting in the stations?* In small stations, because they are in the villages, you tend to feel safer than in the cities, even though there are no staff (no people). But the fact that there is no customer service is a grievance.

### **Final evaluation of the railways in Spain**

- q33. How would you value the overall railway system in Spain?* It has its positives and negatives. In Rodalies it is quite efficient, since in Spain there are many areas with their own networks. Regionals is the black sheep, as it is only used for travel but not for the frequent user. Rail investment is total low and mostly going to stop at high speed. In terms of service and attention it could improve a lot.
- q34. How do you see the railways in Spain compared with other countries?* In the commuters (Rodalies/Cercanias) I see Spain better than other countries, France you only have suburbs in Paris, in Lyon they are all TER, there is no RER. At rush hour there are trains every 30 min, although in places like Nice at rush hour there are regional trains every 5 minutes. The advantage of the suburbs is that you have a well-defined map with the destinations and the trains make circulating routes, so that the user has more security in the perception of the schedules and the connections.
- q35. If you could improve something, what would you that be?* Frequencies in regionals, rates and that there is a lot more intermodality, which works a lot outside of Spain. In Spain the train and bus stations are separate while in Europe they are next to each other. This is also why there is a lack of connections between buses and trains, to make it easier for users to take public transport. And except for a few cases, high speed doesn't work for every day. We also need to increase the staff, as we are far

below Europe. France has a lot of staff, there you see SNCF staff everywhere. There are very few staff in Spain, except for the staff at the information desks. There are a lot of half-distance trains with a lack of inspectors, so people feel a lack of personal attention.

### **Additional questions for the experts**

*q36. Why do you think the number of users of railways in Spain is relatively so low? The reason that comes to mind is the culture of the people: with a lot of friends I talk to, they say, "I'm going to Oviedo," I'm going by plane because there's only one direct train and I don't want to transfer. Here the connections are very lazy, people pass by the train, they go directly to look for the direct connection by plane or bus, even if it is longer or offers less comfort. If the correspondence is efficient, nothing should happen to change trains. In Switzerland, for example, the user is used to this. Spain is the only country where you are not sold tickets between multiple destinations. For example, if you put "Barcelona - Badajoz" the search engine says it does not exist, although if you buy the tickets separately you get there. This therefore generates a reluctance to travel by train. On the other hand, the "combined train" is successful, for example the Barcelona - Cadiz, composed of a regional AVE + is offered by Renfe, with the particularity that when you buy the ticket it shows you only as a single train. On the one hand, there is the strategy of breaking the barrier of correspondence, showing only the destination so that the user does not back down. Thanks to this many people take the train. But this should extend to all other lines and create a real network of combined trains or the possibility of multiple destinations.*

*q37. What did Spain wrong compared to other countries to have a lower usage of rail ? Missing Intercities network. In Spain we are the first in bus passengers in Spain, this shows that there are people who prefer to pay less but go slower. An AVE cannot compete with a coach but a network (Flixbus) (Intercity100% eco), with older and slower trains, it takes the same as a coach and you can set competitive prices. You can make a train network linking all the cities at really very competitive prices. A conventional Intercity network. There are no night trains in Madrid now, but you have a bus every 30 minutes and the current ALSA prices are much more expensive than the previous Estrella trains, so there is no demand. And a pass that allows users to move, which is not limited to a single operator. Here the problem is that transport is in competition and not in cooperation. Here it has to be restructured so that each one*



fulfills a function and one is needed for the other. In France, when a line is inaugurated, all schedules are reorganized. Nothing like that is done here. People would take the AVE much more if you had a good correspondence with the regionals and not just between big cities.

*q38. Which factors do limit the increase of rail users?* Prices, the AVE thanks to Avlo and OUIGO has increased a lot. Fact that shows that long distance, if you put competitive fares, people move by train, there is demand.

*q39. Which factors limit the efficiency of the trains and lines?* Concessions to coaches. There is competition on the railways, but not on the coaches as the coaches are in line concession. That is why sometimes politicians for their own interests are given concessions to coaches. For example, the R12 did not pass through Igualada because at that time the friends were friends of the Hispano Igualadina. The La Pobla line between Cervera and Lleida takes the same route as it takes the same with a bus that leaves 5 minutes before. We should change the mindset / perception of the middle distance which is something of lower quality. Between the frequencies that prevent you and the trains that do not have the level (for example they do not have tables) for example in some lines you have tables and all. It makes no sense but to put express coaches with incredible comfort level, so invest in trains every 5 min and. So there is no policy to prioritize the train. All the effort put into high speed applied to regional and medium distance and even long distance everything would change.

*q40. Which would the easiest measures to increase the situation?* Start investing in intermodality. Intermodal tickets and intermodality between trains and buses. Everything is an investment. Since 2005, each provincial capital has been building an AVE. By investing less you can reach a much larger population. Also, is a network that you already have, that already exists. If you have an electrified grid and a collapsed highway next door, you need to put more trains on the track and encourage people to travel by train as you will pay the same for trains to pass or not, you need to take advantage of it. *In what should be focused the future investments?* If we could, build new lines as everything is very radial. In La Cerdanya you don't have a transversal train, an access to the western Pyrenees should be created. In addition to Catalonia, the Lleida - Girona cross line without passing through Barcelona. Also Reopen old lines such as Soria - Tudela (Castejón) or Leon - Zamora Badajoz (vertical) not passing through Madrid. But actually taking advantage of the lines we already have would greatly improve the situation, although many of them need more

maintenance. In Catalonia, of the current lines, except the R11, all would require improvement and renewal. It doesn't make sense that we have a motorway like the collapsed AP7 and next to it an R8 (Martorell-Granollers) with a train that passes every hour. Or from Vilafranca to Tarragona. You have an infrastructure that allows it, but you don't exploit it. For example to make regional trains that go from Girona to Tarragona that direct without happening through Barcelona (the R8 is not at all saturated and would allow interprovincial regional trains). Even the La Pobla line could be greatly improved by fitting the timetables. In the rest of Spain there are many lines with one train a day or even one a week, such as the line from Huelva to Extremadura). From Valencia de Alcantara, right on the border with Portugal, there is a train a day that goes to Mérida with a terrible schedule, it leaves at 12 noon. If it was at 8am it would at least allow people to go to work. In Canfranc there are 2 a day. In Puebla de Sanabria there is also only one, but an AVE has been built nearby, in the middle of the countryside. In France, Germany and Italy you have a lot of networks traveling between cities without going through big cities, but here this does not exist, we do not have cross lines, and in addition the ALVIA have a very low frequency. Between Madrid and Gijón you only have 3 trains a day. Conventional halfway and long distance is where the work is lacking. And luckily for Talgo's 730 and CAF's 120, which allow for a quick change of width on both types of line. In other countries however this is more difficult. This has done a good job, but it is due to the particularity of the Spanish network with two track widths.

## 2.9 Interview 9

**Name:** Queralt Dos Santos

**Date:** 12.05.2021

### **User profile:**

- **Identification of the interviewee**

q1. *City of residence:* Manresa, Spain

q2. *Age:* 32

q3. *Occupation:* Teacher of primary school and student of a Master of music.

- **Transport needs and main travel purpose**

q4. *What are your typical transport modes?* Car and train

q5. *How many kilometres do you approximately travel weekly?* I am studying in Barcelona two times per week (Friday and Saturday) and working 4 days in Piera (Monday – Thursday). So 65km to go to Barcelona (260 km weekly) and 42km to go to Piera (336km)

q6. *Could you always travel by train?* To Barcelona yes, and I do, from Manresa to Piera I could but it would take too long so I go by car

- **Use of railways**

q7. *How often do you use the railways?* Now 2 time per week. Last year I was working in Barcelona and I took it every day.

q8. *What are your mostly used type of railways?* Renfe regional suburban train

q9. *When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* Normally not, I travel by car. I've travelled however some times to Madrid with the high speed AVE.

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* I started using railways because I did not have car. Also, using trains you don't need to worry about parking your car. Destinations of the train war more clear for me at the beginning, but then I started also alternating with the bus when I discovered it. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* When I travel with my son I choose train. It's easy for the babies to seat as they have more free space to move around. Instead in a bus it's difficult to carry the baby buggy and less comfortable as they need a special baby seat.

q11. *What makes you avoid using railways, to decide travel using other modes?* Travel time, as from Manresa to Barcelona by train is 1h20min. Instead the bus is faster, it takes 1h10min. From my home, the bus station is closer, so then if the timetable fits sometimes I take the bus instead but it has less frequency. *What negative feeling creates you traveling by train?* Seats of the bus are more comfortable, more padding and cushioned. Users of the train can be sometimes annoying. Users of the bus are normally calm so I feel more comfortable also due to that. When I am alone in a train

carriage I have some concerns about safety if there isn't a guard. For that nowadays whenever I can I travel by bus, I prefer it.

*q12. What are your demands to railway, what do you expect as primarily an essentially?*  
Accessibility. I want that the train is near from me and that transports me where I want.

### **Questions about the quality and performance of the railways in Spain:**

- **Connectivity, operation and transport convenience**

*q13. Network size: Can you get by train to your habitual destinations?* To go to Barcelona yes: I walk from home to Manresa station (20min) then I took the regional train to Barcelona (1h20m) and change to the metro in Plaça Catalunya up to Av Tibidabo. To Piera I could but it's too long so never did and I go by car.

*q14. Access and proximity of stations: Are the stations good located and easy to access?*  
They are not accessible. When I travel with my son it's very difficult to access with the carriage as many cases I need to carry it through the stairs and that is extremely difficult.

*q15. Frequency: Are enough trains running per hour?* No. From Manresa there is only one train every half an hour and in weekends every hour. You depend on the train. If you miss it you need to wait for very long.

*q16. Punctuality: Are trains punctual?* In general yes, they are punctual, even though not always. And in Spain the definition of punctuality is not the same as in Europe.

*q17. Speed: Are trains fast?* No, they are too slow, travel time to Barcelona is 1h20 (by car is less than an hour). I feel they move too slow. Instead, the AVE ( high speed train) gave me a sensation of travelling very fast. It has nothing to do the regional trains with the AVE.

- **Comfort, accessibility and travel experience**

*q18. Occupation: It's easy to find seats available?* to go to Barcelona yes (8h), but in the half a way the carriage got crowded. In the way back (19h) I always had to wait until half of the ride to seat

*q19. Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* Seats of the Renfe regional trains could be better. Temperature normally good except a day it was specially cold. Noise depending on the users but

not due to the train. In the bus, apart from the music that sounds, people are more quiet. In the high speed lines, seats are very comfortable, and you feel relaxed.

q20. *Train cleanness: Are the trains clean?* In general yes. But for example the floor whose colour grey make you doubt if it is clean or dirty, it resembles a street floor which is not attractive. Buses transmits a feeling of more cleanliness however. The outer appearance of the regional trains with the graffiti is appealing. But inside they are correct. I avoid using toilets. *Station cleanness: Are the stations clean?* Could be better. For example the Station of Catalunya of the regional trains tends to be slightly dirty. Instead, the station of Sants of long distance trains is much better.

q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Yes

q22. *Information at station: are information in stations clear?* It's correct

q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* In general yes. Only when you stop and you don't know what happens and the information doesn't arrive and you get nervous.

q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* I always bought tickets in the machine. Many times the station in Manresa do not have personnel.

q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* There are not always controllers – I think there should be always. If they control every day it would be clear for the users that they need to pay the ticket and there would be more money to invest in improving the situation. Otherwise too much people travel without paying the tickets and we pay for them.

q26. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* There is a specific carriage adapted for PRM.

- **Prices, tickets and after sales**

q27. *Price fairness: are train ticket prices fair?* I think they are expensive if you don't get a combined card. For example bus and train had the same cost using the combined card of 6 zones from Manresa to Barcelona, and I think Renfe must be cheaper if they want to promote the people to travel with train.

q28. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* I always got them in the machines.

q29. *Use of combined cards: are combined cards with price advantages useful?* Yes they are very useful if you are a frequent traveller

q30. *Customer service attention: is customer service helpful and friendly?* I think yes

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* I feel uncomfortable only due to some users than cause trouble.

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes I feel safe, especially when they are crowded and you feel the crowds avoid bad things to happen to you.

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* In Spain I can't tell because I don't have enough experience, although the high speed Barcelona Madrid is very good even though it has nothing to do with the rest. In Catalonia the railway situation is standstill, I think is not improving for so long. Since I am young it's taking the same time to go from Manresa to Barcelona, in more than 20 years it has not improved.

q34. *How do you see the railways in Spain compared with other countries?* I don't have enough experience to tell.

q35. *If you could improve something, what would you that be?* Travel time. This must be improved. Because if time is reduced, all the discomforts are relatively less important to you.

## **2.10 Interview 10**

**Name:** Ramon Cuéllar

**Date:** 15.05.2021

**User profile:**

- **Identification of the interviewee**

*q1. City of residence:* Valencia, Spain. Native to Tarragona.

*q2. Age:* 54

*q3. Occupation:* Engineer

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes ?* Train and metro

*q5. How many kilometres do you approximately travel weekly?* I go with the commuter from Valencia to work every day (15km one way) and from Valencia to Tarragona with Euromed (long distance train) almost every week (go and back) (260 km one way).

*q6. Could you travel by train instead?* I usually go by train.

- **Use of railways**

*q7. How often do you use the railways?* Daily

*q8. What are your mostly used type of railways?* Commuters and long distance or high speed

*q9. When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* It depends. Mostly flying if it's a business trip to Europe, to Madrid by train and other parts in Spain by car (I rent with my company as I don't have a car in Valencia). From Barcelona I also go holidays with my car.

**Rail transport motivations and priorities:**

*q10. What motivates you using rail? To decide travel by train instead of other modes?* I am not depending on traffic jam and don't suffer the stress. And that is planned, you know the time you will arrive and you can organize yourself in advance. It's not that dependent on delays for traffic as a bus for example, and probably safer or at least trains give the people the feeling are safer than buses. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* I can use the time I am travelling, otherwise if I go by car I lose the time. It makes me also exercise to get to the station so it's keeps me in a good mood, not like the car that make me angry.

q11. *What makes you avoid using railways, to decide travel using other modes? Nothing even though they could be much better. What negative feeling creates you traveling by train? Only in case of delays but it's not typical so it's okay.*

q12. *What are your demands to railway, what do you expect as primarily an essentially? I suppose trustworthiness, so that they bring you to your destiny without problems.*

### **Questions about the quality and performance of the railways in Spain**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations? Me yes but many people not.*

q14. *Punctuality: Are trains punctual? Sometimes not, but as a rule yes they are.*

q15. *Speed: Are trains fast? The commuters stop too much so they lose time, but I understand they need to cover all the length of the journey, otherwise people in the villages complain the train don't stop. And the Euromed is too slow but I trust someday they will make it really high speed.*

q16. *Frequency: Are enough trains running per hour? I think yes, you just need to know the frequencies and arrive on time, it's ok.*

q17. *Convenience: Are the stations good located and easy to access? Strictly not. The location of the station "Camp de Tarragona" is very funny in the middle of nowhere but my wife come to pick-me up, otherwise I call a taxi. But apart from that yes.*

- **Comfort, accessibility and travel experience**

q18. *Occupation: It's easy to find seats available? In rush hours in Valencia it's difficult to find but I don't care, there are declivable seats and I can read. Only if the train is really crowded makes the trip uncomfortable.*

q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)? The Euromed is not the most comfortable train. If you compare it with the AVE to Madrid it has nothing to do. For me it's convenient because I stop in Tarragona but people traveling to Barcelona they prefer to fly or drive even though the travel time is similar or driving makes you really tired.*

q20. *Train cleanness: Are the trains clean? Yes. Station cleanness: Are the stations clean? Yes*



q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Yes it's clear.

q22. *Information at station: are information in stations clear?* Yes

q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Yes, enough

q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* I never use them

q25. *On-board crew: Are there normally personnel on-board? Do inspectors behave in a proper manner?* There are not always personnel in the commuters. In the Euromed I think yes, always.

q26. *Customer service attention: is customer service helpful and friendly?* Never used

q27. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* I think yes

- **Prices, tickets and after sales**

q28. *Price fairness: are train ticket prices fair?* I think yes, they are cheap. If you purchase the ticket in advance of the Euromed you travel really cheap, much less than the money it would cost driving. And for the commuters the Renfe cards is also cheap

q29. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* For the Euromed I do it online and is clear. The Renfe cards I think is only in the machines, not sure. Anyway I always do it in the machines.

q30. *Use of combined cards: are combined cards with price advantages useful?* Yes, but for the Euromeds are a little bit chaotic as it's with points and I change my email and I lost all my points but I still need to fix it.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Yes sure

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes I have no problems with that

## **Final evaluation of the railways in Spain**

- q33. How would you value the overall railway system in Spain?* It could be better. The high speed lines are the best in Europe even though are all going to Madrid and not between other points of the country. I suppose in the future it will be better with the corridor of the Mediterranean but it's not improving fast enough. But we also need to take time perspective because considering the past situation which was terrible, Spain has changed a lot with the high speed, that must make us optimistic regarding the future.
- q34. How do you see the railways in Spain compared with other countries?* In Barcelona and Valencia is not bad, the problem is in other regions of the country that have not railways, and that instead of opening lines they are closing for example the line to Salou that connected with Tarragona was closed recently, that is a shame because now people must go by car.
- q35. If you could improve something, what would you that be?* Ensure a bus connection with the high speed stations that are far from cities like Camp de Tarragona, is terrible that at some hours you don't have any bus or shuttle or something to the Tarragona city centre.

## 2.11 Interview 11

**Name:** Maria Garcia

**Date:** 29.05.2021

### User profile:

- **Identification of the interviewee**

*q1. City of residence:* London, native from Soria, Spain. Lived long time in Terrassa, Spain.

*q2. Age:* 38

*q3. Occupation:* Engineer

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes?* In England Metro and commuter, in Spain mostly car

q5. *How many kilometres do you approximately travel weekly?* Around 30 x day and

q6. *Could you travel by train instead?* Yes I do

- **Use of railways**

q7. *How often do you use the railways?* Daily

q8. *What are your mostly used type of railways?* Metro and commuter, sometimes regional

q9. *When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train?* I go to Brighton often with train from London to visit my friends. Otherwise I take the plane to travel further

**Rail transport motivations and priorities:**

q10. *What motivates you using rail? To decide travel by train instead of other modes?* It's easier, I wouldn't drive in London. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* I can sleep in the early hours and relax in the afternoon and I don't need to think about traffic

q11. *What makes you avoid using railways, to decide travel using other modes?* For example in Spain it's impossible to go from Barcelona to Soria with train, or at least it takes too long, not one do that. Also to go to Madrid I take the car. *What negative feeling creates you traveling by train?* In Barcelona I remember going from Terrassa to Barcelona for party and sometimes other passenger were strange people and I was a little bit afraid

q12. *What are your demands to railway, what do you expect as primarily an essentially?* That they bring me to my destinations in a reasonable time

**Questions about the quality and performance of the railways in Spain**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* In the UK yes. In Spain not always. In Soria you can only go to Madrid because they closed the line to Zaragoza, it's very precarious

q14. *Speed: Are trains fast?* In England yes. In Spain the commuters to Barcelona could be faster and the regional trains to the rest of Spain except the high speed are very slow, it's a shame.

q15. *Punctuality: Are trains punctual?* In the UK yes except if there are strikes or breakdowns. In Spain I don't remember big delays

q16. *Frequency: Are enough trains running per hour?* Yes in the UK. In Spain definitively not, in Soria there are only two or three trains per day, is not serious

q17. *Convenience: Are the stations good located and easy to access?* In general yes

- **Comfort, accessibility and travel experience**

q18. *Occupation: It's easy to find seats available?* In the metro it's difficult but they are never super crowded so I don't care.

q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* Yes

q20. *Train cleanness: Are the trains clean?* Yes. *Station cleanness: Are the stations clean?* Yes

q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* Yes.

q22. *Information at station: are information in stations clear?* Yes

q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* Yes

q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* Yes

q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* Yes

q26. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* I think yes

- **Prices and tickets**

q27. *Price fairness: are train ticket prices fair?* They are quite expensive, in Spain are much cheaper but everything in London is so expensive so people accept it.

q28. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* Yes

q29. *Use of combined cards: are combined cards with price advantages useful?* I think yes

q30. *Customer service attention: is customer service helpful and friendly?* I never used

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Sometimes I fear other users but never happened anything bad

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* I have also some concerns but not that much as in the trains

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* The high speed is really good and not expensive for the service they offer. I pay the same to go from London to Brighton than from Barcelona to Madrid if I purchase in advance. But in small cities in other less populated regions like Soria the railways are forgotten and people never use it. Instead in the UK people tend to use more the train.

q34. *How do you see the railways in Spain compared with other countries?* Compared to the UK they are a step below.

q35. *If you could improve something, what would you that be?* Better connections to less “important” regions. They should invest to make some direct trains from Soria to Zaragoza, maybe in that case I could connect with Barcelona.

## **2.12 Interview 12**

**Name:** Mikel Basaras

**Date:** 17.06. 2021

### **User profile:**

- **Identification of the interviewee**

q1. *City of residence:* Aachen, Germany. Native to Bilbao, Basque Country, Spain

q2. *Age:* 25

q3. *Occupation:* student

- **Transport needs and main travel purpose**

*q4. What are your typical transport modes? Train and car*

*q5. How many kilometres do you approximately travel weekly ? I live in Aachen, where I do 10 km per day during weekdays. On weekends I travel much more kilometres, I take advantage of the fact that we have the NRW Nordrhein-Westfalen card so we can travel all along the Bundesland, and since this also allows me to go to Maastricht in the Netherlands, which is next to the border.*

*q6. Could you travel by train instead? Yes*

- **Use of railways**

*q7. How often do you use the railways? Now in Germany, once every two weeks (one weekend every two). Practically never in Spain because Bilbao today is not competitive in terms of time or frequency. In Bilbao I had a car because from Bilbao to Donostia it takes almost 3 hours by train, it is not competitive. The Euskotren makes stops at all stations. The connections that go to Madrid or Zaragoza, the train goes through a conventional network, so cost and time is not competitive. By plane it has more frequencies than the train. Most of the people I know go by bus to Madrid (4h30). Most people go to Barcelona with Vueling because it is low cost and has many. The buses leave from Bilbao centre, in this sense the train does not have. In the station there are two stations. The train station is separated 2 km. At the airport you only go by bus. Until the high speed arrives. Cercanías works very well for a radius of a few km. The Bilbao metro also works very well but because it is a closed system.*

*q8. What are your mostly used type of railways? Especially regional. Longest excursion to Berlin with ICE.*

*q9. When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train? Basically always by train in Germany. The Semesterticket has a symbolic price that is included in the fees you pay to the university, it costs about € 180 / semester. Only regional trains are included, ICE is not. Local transportation is also included. In Spain, I travel by car.*

### **Rail transport motivations and priorities**

*q10. What motivates you using rail? To decide travel by train instead of other modes? On a personal level because I like it. The environmental factor that seems important to me. Third, because you can dedicate the time on the train to yourself, not in the car. Enjoy the experience. For time it is not always the best option, if I am in a hurry I go*

by plane but for example the night connections are good. I went from Cologne to Vienna, at night you save time. *What makes you enjoy a rail travel, what creates satisfaction to your trip?* The social level, you can meet people.

q11. *What makes you avoid using railways, to decide travel using other modes?* First, if you can reach the destination I want to go to. Frequencies to remote sites are infrequent, lacking frequency. The extra time it takes you. Aachen is well connected with other countries. But from Bilbao to France, there is no international train that goes direct. From Bilbao to Irún it takes more than 3h30min instead by car you can get there in 1h15min. *What negative feeling creates you traveling by train?* When you are not on time, in Germany you have to plan many times to catch the previous train because the punctualities are not the best. We went to Hamburg and there was a problem, we were an hour late. From 5h we go to 6h. You have to plan the time plus add the possible delay or loss of the connection. Not having the assurance of reliability. The noise, the rude people. But this is something in common in all public transport.

q12. *What are your demands to railway, what do you expect as primarily an essentially?* Efficient connections, make it a real alternative. Frequency, since the more frequent and more flexible it is, the more people are encouraged to use it.

### **Questions about the quality and performance of the railways in Spain**

- **Connectivity, operation and transport convenience**

q13. *Network size: Can you get by train to your habitual destinations?* No, by rail, the example of my family who lives in a town near Bilbao in Muja, where there was a railroad but the line was closed. I usually go to visit them and I can't go by train. Everything that is not large towns along the Bilbao estuary, rail connections are quite few.

q14. *Speed: Are trains fast?* In Germany they are correct, in Spain they are not (the long distance).

q15. *Punctuality: Are trains punctual?* For the fame that have Germany, they do not have good punctuality. Considering the 5 minutes, many times it is more than a 15 minute delay. I don't have enough experience in Spain.

q16. *Frequency: Are enough trains running per hour?* The Bilbao metro and Cercanías yes, enough. The rest of regional or long distance not, and for that reason people do not use them to a large extent.

q17. *Convenience: Are the stations good located and easy to access?* In Germany my experience is that yes, the Cologne station is right in the centre, in Aachen, Hamburg, Frankfurt, they are all central. In Bilbao it is also central.

- **Comfort, accessibility and travel experience**

q18. *Occupation: It's easy to find seats available?* In Germany normally yes although there are moments that no. At the ICE, at sometimes, you even have to go standing.

q19. *Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)?* Yes

q20. *Train cleanness: Are the trains clean?* In Germany the trains mostly yes. The Bilbao metro is very clean. The surroundings are generally clean. *Station cleanness: Are the stations clean?* In Spain the stations are cleaner than in Germany.

q21. *Pre-trip information: are timetables, network and destinations easy to find (online, etc)?* In Germany, for young people, because you have the Deutsche Bahn application, where you can buy tickets. The "user experience" of this application is not the best I have seen and therefore stopping older people can be more difficult.

q22. *Information at station: are information in stations clear?* In general I would say yes.

q23. *Information on-board: are there enough information on board (destination and time panels, labels, sound advises, etc)?* In general I would say yes.

q24. *Stations staff: Are vendors and information personnel useful and behaving in a proper manner?* I think so.

q25. *On-board crew: Are there normally personal on-board? Do inspectors behave in a proper manner?* On regional trains it is very rare that there is someone besides the conductor in Germany. Very occasionally there are personnel checking. I could not say if there is in Spain. Most of the people in Aachen use public transport and they have the Student-ticket so they trust people to pay for the ticket.

q26. *Are stations and trains adapted for PRM's (persons of reduced mobility)?* I believe so.



- **Prices and tickets**

q27. *Price fairness: are train ticket prices fair?* Germany, which is a country where many people have a car, may not be fair since private operators have to have benefits. But to attract people to use transport, if it is worth more than the private one, people will continue to use the car. In the Basque Country, the prices are acceptable because you have monthly commuter passes that the regular customer does well and is a good alternative. In long distances, the price is not bad but the problem is not the price but the time you need to reach the destination and the few frequencies. People would be willing to pay more if the connections were better.

q28. *Ticket purchasing easiness: can tickets be purchased easily (online...)?* In Germany yes, they can be bought online and at the stations. Not in Spain, only in the machines or the vendor places (for regional and commuters).

q29. *Use of combined cards: are combined cards with price advantages useful?* In Germany you have the "Spar-angebot", which offer many offers. In Spain there is a lack of ticket options. If there was an option for the long distance trains, like a voucher that you could take as many trains as you wanted, for example that you could go to Donosti every day without being aware of buying the ticket. Other options would be an unlimited travel pack by paying a little.

q30. *Customer service attention: is customer service helpful and friendly?* I have never used it.

- **Safety**

q31. *Safety in the train: Do you feel safe traveling by train?* Yes, I have never had bad experiences. It could be the people factor but nothing particular. I don't even think about having accidents. By plane the risk is just as small, although the perception of risk from the train is much lower.

q32. *Safety in stations: Do you feel safe entering and waiting in the stations?* Yes

### **Final evaluation of the railways in Spain**

q33. *How would you value the overall railway system in Spain?* I don't know that much. I think that the Basque Country is an island, it is an area in which it is still pending to build good connections with the peninsula, because the current trains are too slow, and there are too few. People I know from other parts of the country I know are happy

with the high-speed connections with Madrid (Zaragoza, Seville, Malaga), although the prices were expensive but now they have improved thanks to OUIGO and AVLO low-cost trains.

*q34. How do you see the railways in Spain compared with other countries?* In Spain depending on the region it changes a lot. In Germany or Switzerland you do not have so much these differences between regions. The networks are not centralized or radial like Spain but are more of a matrix or transversal. In Spain, everything that comes out of these concepts is not well connected. So there is a clear lack of connectivity.

*q35. If you could improve something, what would you that be?* In Spain, a lot has been invested in high speed in places that are not economically viable. Politically it is easy to promise but you have to do an real analysis of the lines that are viable, and the remaining money need to be dedicated to non-high speed lines with lack of connections. In the Basque Country, a station is planned in Mondragón with 30,000 inhabitants with the Basque “Y”. I do not understand why you have to put these stops on high speed if what they do is delay the journey.

### 3. Analysis of the results

Due to the extension of this section, this has been moved to this annexes. The phase 3 of the analysis can be found in the memory of the master thesis.

#### 3.1 Analysis of the results for each group of questions (Phase 2)

The interviews were clearly pre-structured in different category groups. The second phase of the analysis in this study is based on identifying patterns and highly critical points within the different respondents for each question group. In this phase, all irrelevant information have been omitted.

The three sections of the interview have been separately analysed:

- Interviewee profile
- Motivations and priorities
- Railways in Spain

##### 3.1.1 Interviewee profile

- Identification of the interviewee

| Question               | Answers analysis   |
|------------------------|--|
| q1. City of residence: | <p>User living in Spain: 6/11</p> <ul style="list-style-type: none"> <li>- Barcelona (4)</li> <li>- Igualada (5)</li> <li>- Olot (6)</li> <li>- St Cugat (8)</li> <li>- Manresa (9)</li> <li>- Valencia (10)</li> </ul> <p>Users living abroad: 5/11</p> <ul style="list-style-type: none"> <li>- St Gallen, Switzerland (1) (2)</li> <li>- Chicago, US (3)</li> <li>- Paris, France (7)</li> <li>- London, UK (11)</li> <li>- Aachen, Germany (12)</li> </ul> <p>Users living abroad natives from following Spanish cities and regions:</p> |

### Appendix: Interviews

Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|                 |   |
|-----------------|---|
|                 | <ul style="list-style-type: none"> <li>- Malaga, Andalucia (1)</li> <li>- Zaragoza, Aragon (2)</li> <li>- Sabadell, Catalunya (3)</li> <li>- Madrid, Comunidad de Madrid (7)</li> <li>- Soria, Castilla-Leon (11)</li> <li>- Bilbao, Basque Country (12)</li> </ul> |
| q2. Age:        | <ul style="list-style-type: none"> <li>- Between 20 and 24: (5) (8)</li> <li>- Between 25 and 29: (1) (2) (12)</li> <li>- Between 30 and 34: (3) (6) (7) (9)</li> <li>- Between 35 and 40: (4) (11)</li> <li>- More than 40: (10)</li> </ul>                        |
| q3. Occupation: | <ul style="list-style-type: none"> <li>- Working: 10 /11</li> <li>- Studying: 1</li> <li>- High education: all</li> <li>- Working and studying: 1</li> </ul>  |

Table 1: Interviewee profile (phase 1)

#### • Transport needs and main travel purpose

| Question   | Answers analysis   |
|--|--|
| q4. What are your typical transport modes ?                  | <ul style="list-style-type: none"> <li>- Train (1) (7) (10) (11)</li> <li>- Car (6)</li> <li>- Train and car (9) (12)</li> <li>- Train and bus (2)</li> </ul>  |
| q5. How many kilometres do you approximately travel weekly ? | <ul style="list-style-type: none"> <li>- 325 km (1) all by train</li> <li>- 150 km (2) (4) (8) all by train</li> <li>- 80 km (3) all by train</li> <li>- 900 km (5) all by car*</li> <li>- 400km (6) all by car</li> <li>- 90 km (7) all by train</li> <li>- 260 km (9) by train + 336 km (9) by car</li> <li>- 150 km commuter + 520 km long distance (10) by train</li> <li>- 150 km commuter + 240km middle distance (11) by train</li> </ul> |

## Appendix: Interviews

Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|  |  |
|--|--|
|  | - 50 km bike + several kms on weekends by train (12)   |
| q6. Could you travel by train instead? | <ul style="list-style-type: none"> <li>- Yes (1), (4), (7), (8), (9) (10) (11)</li> <li>- Need bus to complete the train connection (2) (3)</li> <li>- Not always (3) (12)</li> <li>- Can't (5), (6), (9)</li> </ul> |

Table 2: Transport needs and main travel purpose (phase 1)

### • Use of railways

| Question   | Answers analysis  |
|--|---|
| q7. How often do you use the railways?   | <ul style="list-style-type: none"> <li>- Daily (3) (11)</li> <li>- Frequently (1) (9) (10) (12)</li> <li>- Seldom (2)</li> <li>- Now never, did in the past (6)</li> </ul>  |
| q8. What are your mostly used type of railways?  | <ul style="list-style-type: none"> <li>- Metro (6)</li> <li>- Commuters / regionals (1) (2) (4) (6) (7) (9) (10) (11) (12)</li> <li>- Long distance (10)</li> </ul>   |
| q9. When you travel for your holidays or for a business trip, which transport do you use? If not, for which reasons don't you travel by train? | <ul style="list-style-type: none"> <li>- train if the distance or time travel are not too long (6) (7) (10) (11)</li> <li>- Yes whenever I can (4) (5) (12)</li> <li>- Rarely (2)* (3) (9)</li> </ul> <p>*But in Switzerland usually.</p> |

Table 3: Use of railways (phase 1)

### 3.1.2 Rail transport motivations and priorities

The questions inquire on the drives and main concerns of the interviews for the use of railways:

| Question   | Answers analysis   |
|--|--|
| q10. What motivates you using rail? To decide travel by train instead of other modes? What makes you | <ul style="list-style-type: none"> <li>- Frequency (1)</li> <li>- Speed and Ecology (2)</li> <li>- Attractive yearly card in which all travels are included (2)</li> <li>- Cheaper than car (1) (3) (4)</li> </ul> |

## Appendix: Interviews

*Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport*

|  |   |
|--|---|
| <p>enjoy a rail travel, what creates satisfaction to your trip?</p>  | <ul style="list-style-type: none"> <li>- Can use time for other things (3) (2) (10) (11) (12)</li> <li>- Fast, efficient and sustainable (5) (12)</li> <li>- No need to worry about parking the car (9)</li> <li>- Not depending on traffic (10) (11) No stress from traffic (6)</li> <li>- Is safer than cars (10)</li> <li>- Relax and socialization (1) (12)</li> <li>- Higher quality of life (3)</li> <li>- Landscape contemplation (4)</li> <li>- Exercise to get the station (4) (10)</li> <li>- More pleasant than other modes (5)</li> <li>- Better to travel with babies (9)</li> </ul>                             |
| <p>q11. What makes you avoid using railways, to decide travel using other modes? What negative feeling creates you traveling by train?</p> | <ul style="list-style-type: none"> <li>- Lack of connections (1) (5) (6) (12)</li> <li>- Too long travel times (2) (9) (11) (12), night schedules (2)</li> <li>- Expensive prices (2)</li> <li>- Covid-19 (4) and breakdowns</li> <li>- Too crowded and dirty (7)</li> <li>- Reduced frequencies due to covid (3)</li> <li>- Discomfort from train (1) (2)</li> <li>- Risk of infection with Covid19 (3)</li> <li>- Delays (4) (10) (12)</li> <li>- Nothing (5)</li> <li>- Other users (6) (9) (11) &amp; Feeling is too slow (6)</li> <li>- Seats of the bus are more comfortable, more padding and cushioned (9)</li> </ul> |
| <p>q12. What are your demands to railway, what do you expect as primarily an essentially?</p>  | <ul style="list-style-type: none"> <li>- Similar speeds than road (1) (6)</li> <li>- Good relation price-quality (2)</li> <li>- Reliability (3), Trustworthiness (10)</li> <li>- Punctuality and comfort (4)</li> <li>- Fast connections, punctuality and reliability (5)</li> <li>- Accessibility: the train is near from me and that transports me where I want (9)</li> <li>- Transport to usual destinations in a reasonable time (11)</li> <li>- Frequency (12)</li> </ul>   |

Table 4: Rail transport motivators and priorities (phase 1)

### 3.1.3 Questions about the quality and performance of the railways in Spain

These questions are oriented to make the interviews reflect about his/her experiences when travelling with railways in Spain. Are divided between the questions about their feedback about rail transport performance and the satisfaction during the travel and due to additional services.

- **Connectivity, operation and transport convenience**

| Question   | Answers analysis   |
|--|--|
| q13. Network size: Can you get by train to your habitual destinations? | <ul style="list-style-type: none"> <li>- Yes in big cities, not in middle sized cities. If there is not main line crossing, many middle-cities don't have railway (1)</li> <li>- No (2) (6) (9) (11) (12). Several examples of lack of connections in Spain</li> <li>- Not always (3) (4) (5) (10)</li> </ul>  |
| q14. Speed: Are trains fast?   | <ul style="list-style-type: none"> <li>- Speed is good (2) (5)</li> <li>- Commuters are not fast (1) (4) (6) (9) Trains are not fast except AVE (9) (12)</li> <li>- They could be faster (3) (10) (11)</li> <li>- Regionals are too slow (11)</li> <li>*Trains are fast. Is the infrastructure that make them slow (single track lines)</li> </ul>                 |
| q15. Punctuality: Are trains punctual?                                 | <ul style="list-style-type: none"> <li>- Trains are normally punctual (1) (2) (6) (7) (9)* (10) (11)</li> <li>- Commuters not always (3) (5)</li> <li>- *But our conception of punctuality is maybe not same as the European</li> </ul>  |
| q16. Frequency: Are enough trains running per hour?                    | <ul style="list-style-type: none"> <li>- Not enough (1) (2) (4)* (5) (9) (11) (12) -especially the regionals</li> <li>- Yes (3)* (6) (7) (10)</li> </ul> <p>Also not regular frequencies: sometimes 20min, sometimes 45min (not in valley hours).</p> <ul style="list-style-type: none"> <li>- *double tracks are missing to have fast and slow convoys</li> </ul> |

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|   |  |
|---|--|
| q17. Convenience: Are the stations good located and easy to access? | <ul style="list-style-type: none"> <li>- In high speed not (1) (10) Examples of AVE station in Puente Genil &amp; Camp Tarragona without bus connections.</li> <li>- Yes (2) (6) (11) (12)</li> <li>- It could improve (3) Good located but platforms not at correct height (4)</li> <li>- Not always (5) (9) / In big cities yes (7)</li> </ul> |
|---|--|

Table 5: Questions about network (phase 1)

### • Comfort, accessibility and travel experience

| Question   | Answers analysis   |
|--|--|
| q18. Occupation: It's easy to find seats available?  | <ul style="list-style-type: none"> <li>- Yes (1) (5) (6) (7) (9)* *But in rush hour you may need to wait</li> <li>- No (3) (10)* (11)* *Only for commuters in rush hours</li> </ul>  |
| q19. Comfort: Do you feel comfortable, when traveling by train (regarding temperature, noise, seats...)? | <ul style="list-style-type: none"> <li>- Yes (1) (2) (3) (4) (5) (6) (7) (12)</li> <li>- Regional trains seats for long trips (&gt;1h) are not comfortable enough (9) (11)</li> <li>- Not enough in the long distance conventional trains (10)</li> </ul>                                  |
| q20. Train cleanness: Are the trains clean?  | <ul style="list-style-type: none"> <li>- Yes (1) (2) (3) (5) (7) (10) (11)</li> <li>- Not enough (6)</li> <li>- All commuter trains go with graffiti (4) (9). According to Renfe 80% of train have a graffiti (4)</li> <li>- Yes but appearance of the floor isn't the best (9)</li> </ul> |
| Station cleanness: Are the stations clean?   | <ul style="list-style-type: none"> <li>- Yes (1) (2) (7) (10) (11) (12)</li> <li>- It could be improved (3) (5) (6)</li> <li>- Clear difference between commuter/regional trains and long distance trains (these much better) (9)</li> </ul>   |
| q21. Are timetables, network and destinations easy to find?  | <ul style="list-style-type: none"> <li>- Yes</li> <li>- Yes but there is no app/web that covers all services (2) (3) (12)</li> </ul>   |
| q22. Is information in stations clear?   | <ul style="list-style-type: none"> <li>- In some minor stations there is a lack of screens (3)</li> <li>- Yes</li> </ul>   |



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|   |   |
|---|---|
| q23. Is there enough information on board?  | <ul style="list-style-type: none"> <li>- Depends on the trains (4)</li> <li>- In Spanish commuters information could be improved (7)</li> <li>- Not in case of incidence (9)</li> </ul>   |
| q24. Are vendors and information personnel useful and behaving in a proper manner?  | <ul style="list-style-type: none"> <li>- Yes</li> <li>- Some stations do not have personnel (5) (9)</li> </ul>  |
| q25. Are there normally personal on-board? Do inspectors behave in a proper manner? | <ul style="list-style-type: none"> <li>- Yes</li> <li>- Not enough inspectors (2) I think there should be always controllers. If they control every day it would be clear for the users that they need to pay the ticket (9)</li> </ul> |
| q26. Are stations and trains adapted for PRM's (persons of reduced mobility)?       | <ul style="list-style-type: none"> <li>- Yes (1) (2) (6) (7) (9) (10) (11) (12)</li> <li>- Almost all (4)</li> <li>- Some do some not (3) (5)</li> </ul>  |

Table 6: Questions about comfort, accessibility and travel experience (phase 1)

### • Prices, tickets and after sales

| Question  | Answers analysis   |
|---|--|
| q27. Price fairness: are train ticket prices fair?                            | <ul style="list-style-type: none"> <li>- Yes they are fair (4) (10) (11) (12)</li> <li>- High speed sometimes more expensive than flying (1)</li> <li>- Could be cheaper (2) (3) (5) even though there are several discount options</li> <li>- Prices not fair enough for commuters (6) (7) (9)</li> </ul> |
| q28. Ticket purchasing easiness: can tickets be purchased easily (online...)? | <ul style="list-style-type: none"> <li>- Yes (2) (11)</li> <li>- Yes but commuters can't be purchased online (1) (5) (6) (7) (9) (10) (12)</li> <li>- There is a project that will make able to buy it online (4)</li> </ul>   |
| q29. Use of combined cards: are combined cards with price advantages useful?  | <ul style="list-style-type: none"> <li>- Lack of combined cards including several transport modes in all country (2)</li> <li>- Combined cards are not flexible enough (7) (12)</li> <li>- Yes (3) (4) (5) (6) (9) (10) (11)</li> </ul>  |
| q30. is customer service helpful and friendly?                                | <ul style="list-style-type: none"> <li>- Yes</li> </ul>  |

Table 7: Questions about prices, tickets and after sales (phase 1)

• **Safety**

| Question  | Answers analysis   |
|---|--|
| q31. Safety in the train: Do you feel safe traveling by train?                  | <ul style="list-style-type: none"> <li>- Yes (1) (5) (7) (10) (12)</li> <li>- Some concerns about other users but not important (3) (4) (6) (9)</li> <li>- Concerns about security (2) (11)</li> </ul>                     |
| q32. Safety in stations: Do you feel safe entering and waiting in the stations? | <ul style="list-style-type: none"> <li>- Yes (1) (7) (10) (12)</li> <li>- Feeling of insecurity is due to a lack of staff (4) (5)</li> <li>- Some concerns about other users but not important (3) (6) (9) (11)</li> </ul> |

Table 8: Questions about safety (phase 1)

### 3.1.4 Final evaluation of the railways in Spain

| Question   | Answers analysis   |
|--|--|
| q33. How would you value the overall railway system in Spain?            | <ul style="list-style-type: none"> <li>- Only good to connect main cities, bad for others (1) (11)</li> <li>- Lack of combinations and price offers (2) (12)</li> <li>- Suburban and commuters are good (5). Regional must be reinforced. Long distance not enough utilisation of the network (12)</li> <li>- It can improve (5) (6) (7) (10)</li> <li>- There are many things to fix (3) (4)</li> <li>- Except the high speed which is really good, the conventional railway is standstill, to be improved (9) (11) (12)</li> </ul> |
| q34. How do you see the railways in Spain compared with other countries? | <ul style="list-style-type: none"> <li>- Wrong (1) (2)</li> <li>- Too little network density (3)</li> <li>- It depends (6) (7) depends on the region (12)</li> <li>- There seems to be a desire to close secondary lines (4) (10) example line Tarragona – Salou.</li> <li>- Step below (11)</li> </ul>  |

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Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>- Lack of connectivity (12)</li> </ul>  |
| q35. If you could improve something, what would you that be? | <ul style="list-style-type: none"> <li>- Reduce time travel (1) (6) (9)* / Increase maintenance to reduce speed limitations (4)</li> <li>- Make train prices competitive compared to other means especially bus (2)</li> <li>- Extend network to all the territory not only most dense (3) (11) / Train to reach more cities (6) (7) (12)</li> <li>- Improve reliability (reduce breakdowns) (4)</li> <li>- Improve regional transit and frequencies (5) (12)</li> <li>- Cleanliness and appearance (6)</li> <li>- Combined cards more flexible to use it for different transport modes, now it's too limited (7)</li> <li>- Rationalize prices, too cheap for youngsters &lt;26, too expensive for adults &gt;26 (7)</li> <li>- Ensure a bus connection with the high speed stations that are far from cities (10)</li> </ul> <p>* if time is reduced, all the discomforts are less important</p> |

Table 9: Final evaluation of the railways in Spain (phase 1)

### 3.1.5 Additional questions for the experts

| Question  | Answers analysis  |
|---|---|
| q36. Why do you think the number of users of railways in Spain is relatively so low?  | <ul style="list-style-type: none"> <li>- Travelling by car in Spain is cheaper and faster (1) (4)</li> <li>- Prices not attractive (2)</li> <li>- It's low in the regionals due to lack of lines and frequencies (5)</li> <li>- transport network does not reach points that can be trip generators (7). Focus only in high speed.</li> </ul> |
| q37. What did Spain wrong compared to other countries to have a lower usage or rail ? | <ul style="list-style-type: none"> <li>- No investment in medium-sized cities (1)</li> <li>- Road transport was always the priority (2)</li> <li>- No investment in regional network (7), too much investment in road and air</li> </ul>  |

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Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|  |   |
|--|---|
| q38. Which factors do limit the increase of rail users?          | <ul style="list-style-type: none"> <li>- Poor connection of the stations to city centres (1)</li> <li>- Price and the uncoordinated connections to get to the stations (2)</li> <li>- Coordinate connection timetables of different trains (5)</li> <li>- Lack of frequencies for middle-distance trains (5)</li> <li>- Economic factor and the competition of land and air transport (7)</li> </ul>  |
| q39. Which factors limit the efficiency of the trains and lines? | <ul style="list-style-type: none"> <li>- Lack of infrastructure (1)</li> <li>- Low occupation means it's not profitable (2)</li> <li>- Lack of investment in conventional network (4)</li> <li>- Speed limits due to lack of maintenance (5)</li> <li>- lack of connections with other transport modes and the lack of agility of the correspondence (7)</li> </ul>   |
| q40. Which would the easiest measures to increase the situation? | <ul style="list-style-type: none"> <li>- Increase speeds and frequencies (1)</li> <li>- Homogenization of transport modes, consortium with all transport companies to optimize timetables reflected in an APP so the user has all the travel information (2)</li> <li>- Increase speed of conventional lines and electrification (4)</li> <li>- Reduce travel time (5) and optimize timetables (5)</li> <li>- Expand lines strategically (7)</li> </ul> |
| In what should be focused the future investments?                | <ul style="list-style-type: none"> <li>- Extend network. Compensate use of the train (1)</li> <li>- Improve economic accessibility of the population to the railroad (2)</li> <li>- maintenance of the current conventional network (4)</li> <li>- Improve the service of regional and medium distance (5)</li> <li>- Reach middle cities with train (7)</li> </ul>   |

Table 10: Additional questions for the experts (phase 1)

## **3.2 Cross analysis of the findings and combination into themes (Phase 3)**

The third phase of the analysis is to define the themes that are meaningful to the research question of the study. These themes have been structured as follows:

### **3.2.1 Interviewees profile**

| <i>Question group</i>           | <i>Answers' analysis</i>  |
|---------------------------------|---|
| <b>Living place and origins</b> | <ul style="list-style-type: none"> <li>- Half of the user come or reside in the region of Catalonia: 6 out of 12</li> <li>- 6 others live or come from others regions: Aragon, Andalucía, Madrid Valencian Community, Castile and León and Basque Country</li> <li>- 6 of them reside abroad: Switzerland, France, Germany the United States and the United Kingdom</li> </ul>  |
| <b>Occupation</b>               | <ul style="list-style-type: none"> <li>- All interviewees are either studying or actively working. Most of them are engineers.</li> </ul>   |
| <b>Weekly use of railways</b>   | <p>Commuters to work / study by train:</p> <ul style="list-style-type: none"> <li>- Less than 100 km: 2</li> <li>- Between 100 and 200 km: 5</li> <li>- More than 200 km: 2</li> </ul> <p>Frequent long distance: 1</p> <p>Commuter to work / study by car:</p> <ul style="list-style-type: none"> <li>- Less than 400 km: 1</li> <li>- Between 400 and 500 km: 1</li> <li>- More than 500 km: 1</li> <li>- The majority of the respondents can go by train to their habitual destinations, although 3 quoted they can't</li> </ul> |

*Table 11: Cross analysis of the interviewees' profiles (phase 2)*

### **3.2.2 Rail transport motives**

In the analysis it has identified the following patterns:

| <i>Question group</i> | <i>Answers' analysis</i>  |
|-----------------------|---|
| <b>Drives</b>         | <ul style="list-style-type: none"> <li>- Within the main reasons users pointed the economic factor (cheaper than having a car) and the absence of dependency to the traffic</li> <li>- Use time for other activities</li> </ul> |

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Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|                   |  |
|-------------------|--|
|                   | <ul style="list-style-type: none"> <li>- To have “all-travels-included” card as main motivator</li> <li>- Sustainability and safety</li> </ul>   |
| <b>Barriers</b>   | <ul style="list-style-type: none"> <li>- Lack of connections and too long time travel is the most common reason</li> <li>- Discomfort, mainly due to other concerning users</li> <li>- Delays</li> </ul>   |
| <b>Priorities</b> | <ul style="list-style-type: none"> <li>- The most common demands quoted by the respondents are               <ul style="list-style-type: none"> <li>o Reasonable speeds (comparable to road)</li> <li>o Punctuality and reliability</li> <li>o Reach destinations</li> </ul> </li> </ul> |

Table 12: Cross analysis of the interviewees drives, barriers and priorities to rail transport (phase 2)

### 3.2.3 Quality and performance of the Spanish railways

Regrouping in categories:

| Question group       | Answers' analysis   |
|----------------------|---|
| <b>Network reach</b> | <ul style="list-style-type: none"> <li>- Several examples raised of lack of connections</li> <li>- General perception that network is not enough extended</li> </ul>  |
| <b>Operation</b>     | <ul style="list-style-type: none"> <li>- General perception that except high speed, all other trains are too slow</li> <li>- In general punctuality is perceived good</li> <li>- Several respondents complain about lack of frequencies, especially the regional trains , but also for long distance trains other than high speed lines</li> </ul>        |
| <b>Convenience</b>   | <ul style="list-style-type: none"> <li>- Several examples raised of dedicated high speed stations outside of the cities without bus connections</li> <li>- Some examples of lack of timetables integration, so people avoid changing lines due to high waiting time</li> <li>- General perception that in big cities stations are good located</li> </ul> |
| <b>Comfort</b>       | <ul style="list-style-type: none"> <li>- For short distance trips &lt;1h respondents do not complain about comfort but for regional and conventional long distance, they do</li> </ul>  |
|                      | <ul style="list-style-type: none"> <li>- Some complaints against cleanness of the regional stations and the graffitis of the trains</li> </ul>  |
|                      | <ul style="list-style-type: none"> <li>- Information is mostly perceived good. 2 relevant comments identified:               <ul style="list-style-type: none"> <li>o There is no information app/web that covers all services</li> </ul> </li> </ul>   |

## Appendix: Interviews

Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport

|                           |  |
|---------------------------|--|
|                           | <ul style="list-style-type: none"><li>○ Lack of information in case of delay or incidence</li></ul>  |
|                           | <ul style="list-style-type: none"><li>- The attendance is mostly perceived good. 2 relevant comments identified:<ul style="list-style-type: none"><li>○ Some small stations do not have personnel</li><li>○ If there were more controllers on board, people would pay tickets</li></ul></li></ul>  |
| <b>Prices and tickets</b> | <ul style="list-style-type: none"><li>- There is controversy about prices, but the majority of users feel they could be cheaper or they are not fair enough</li><li>- Some respondents pointed combined cards should be more flexible</li></ul>  |
| <b>Safety</b>             | <ul style="list-style-type: none"><li>- Many users show concerns about security in stations and specially on-board due to lack of guards</li><li>- People do not care about the risk of accident term of safety (which means, they trust the trains as safe transport mode), but more the “secure” term, so unsafety due to the danger other users may cause</li></ul> |

Table 13: Cross analysis of the interviewees satisfaction with the Spanish railways (phase 2)

### 3.2.4 Final evaluation of the railways in Spain

| Question group                    | Answers' analysis   |
|-----------------------------------|---|
| <b>Spanish railways valuation</b> | <ul style="list-style-type: none"><li>- Several pointed that high speed is good</li><li>- All users answered Spanish railways need to improve</li><li>- Users are disappointed with regional trains and with the closing of lines</li></ul>                     |
| <b>What needs to improve?</b>     | <ul style="list-style-type: none"><li>- Extend network and reduce time travel are the most common answers</li><li>- Others: improve frequencies, ensure connections to HS stations, make prices more competitive compared to bus, enhance cleanliness</li></ul> |

Table 14: Cross analysis of the interviewees evaluation of the Spanish railways (phase 2)

### 3.2.5 Additional questions for the experts

| Question group                   | Answers' analysis   |
|----------------------------------|---|
| <b>Reasons for the low usage</b> | <ul style="list-style-type: none"><li>- Travelling by car and bus in Spain (even flying) is cheaper and faster due to priority investments on road infrastructure and airports</li><li>- High speed do not attract potential users of regional transport</li><li>- Lack of frequencies for middle-distance trains</li></ul> |

### **Appendix: Interviews**

*Study of the best solutions to increase the use of railways as a strategy to attract passengers to public transport*

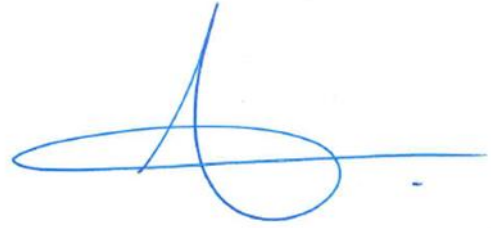
|                          |   |
|--------------------------|---|
|                          | - Lack of agility of the correspondences & connections with others modes  |
| <b>Proposed measures</b> | <ul style="list-style-type: none"><li>- Apart from those pointed in the previous point, these were relevant:<ul style="list-style-type: none"><li>o Compensate users their use of train</li><li>o Homogenization of transport modes, consortium with all transport companies to optimize timetables reflected in an APP so the user has all the travel information</li><li>o More investment in conventional network: enlarge network connectivity, increase maintenance and spread electrification</li></ul></li></ul> |

*Table 15: Cross analysis of the interviewees railway experts (phase 2)*



## **Statutory declaration**

I hereby declare on oath that I have prepared this master's thesis independently and without the use of other than the specified aids. The positions taken directly or indirectly from external sources are identified as such. The work has not yet been submitted in the same way or a similar form to another examination authority and has not yet been published.

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a loop.

Dornbirn, 7.1.2021

Joaquim Font Canyelles