

= R1 ? RG1 (Rodalies de Catalunya) =

The R1 is a line of Rodalies de Catalunya 's Barcelona commuter rail service , operated by Renfe Operadora . It runs northwards from the Barcelona area to the southern limits of the province of Girona , passing through the coastal Maresme region . Since 2014 , some services have been extended further north towards Portbou , near the French border . These services are designated RG1 and are considered part of the Girona commuter rail service . According to 2008 data , the line 's annual ridership is 39 @. @ 6 million , the highest on any line of the Barcelona commuter rail service , with an average weekday ridership of 102 @, @ 214 .

R1 ? RG1 trains primarily run on the Barcelona ? Mataró ? Maçanet @-@ Massanes railway , the first railway line in the Iberian Peninsula . They use the Meridiana Tunnel in Barcelona , where they share tracks with Rodalies de Catalunya 's Barcelona commuter rail service lines R3 and R4 , as well as regional rail line R12 , calling at Sants , Plaça de Catalunya and Arc de Triomf stations . R1 services use Molins de Rei as their southernmost terminus and Maçanet @-@ Massanes as their northernmost one . On the other hand , no RG1 services run south of L 'Hospitalet de Llobregat , or north of Portbou .

Together with lines R2 , R3 , and R4 , the R1 (then simply numbered line 1) started services in 1989 as one of the first lines of the Cercanías commuter rail system for Barcelona , known as Rodalies Barcelona . Originally , R1 services had two southern termini , L 'Hospitalet de Llobregat and Barcelona ? El Prat Airport stations . In 2005 , all trains terminating at the airport moved their southern terminus to Molins de Rei . In the long @-@ term future , it is projected that the R1 will take over the southern section of line R2 , creating a major north ? south axis that will extend along the coast of the Barcelona metropolitan area .

= = History = =

The current line scheme of the R1 started operating on 28 May 1989 (1989 @-@ 05 @-@ 28) , after the dismantling of the former route of the Barcelona ? Mataró ? Maçanet @-@ Massanes railway through the Barcelona neighborhood of Poblenou . Earlier , all the commuter rail services coming from Mataró used the route through Poblenou , terminating at Estació de les Rodalies , a terminus station that was located adjacent to the still existing Estació de França . All services coming from Mataró were then rerouted through the Sagrera rail complex and the Meridiana Tunnel to access Barcelona , terminating at L 'Hospitalet de Llobregat or Barcelona ? El Prat Airport stations , depending on the station of origin . The services coming from Mataró terminated at the airport , whilst the services coming from north of Mataró terminated at L 'Hospitalet de Llobregat . Since the new through line scheme offered more stops within Barcelona and better connections with the city 's metro system , the line 's ridership doubled . Throughout 1989 , this new line scheme was incorporated as part of line 1 of Rodalies Barcelona (predecessor of the R1) , the Cercanías commuter rail system for the Barcelona area , created in the same year .

On 4 December 2005 , the services between Mataró and the airport were suspended due to the construction works of the Madrid ? Barcelona high @-@ speed rail line in Barcelona 's southern access , leaving the airport without any direct trains to Barcelona . These services moved their southern terminus from the airport to Molins de Rei , originating the line 's current termini . The R1 also started operating as a shuttle line between the airport and El Prat de Llobregat railway station until 22 July 2006 , when line R10 was created , providing a direct rail link between the airport and central Barcelona anew .

= = Infrastructure = =

Like the rest of Rodalies de Catalunya lines , the R1 ? RG1 runs on the Iberian gauge mainline railway system , which is owned by Adif , an agency of the Spanish government . All of the railway lines carrying Rodalies de Catalunya services are electrified at 3 @, @ 000 volts (V) direct current (DC) using overhead lines . The R1 ? RG1 operates on a total line length of 181 @. @ 2 kilometres (

112 @. @ 6 mi) , which is entirely double @-@ track , excepting for the single @-@ track section between Arenys de Mar and Maçanet @-@ Massanes stations . The trains on the line call at up to 48 stations , using the following railway lines , in order from south to north :

The entire length of the Barcelona ? Mataró ? Maçanet @-@ Massanes railway is solely used by the R1 ? RG1 , though the rest of the infrastructure it uses is shared with other services . South of L 'Hospitalet de Llobregat , it shares tracks with Rodalies de Catalunya 's Barcelona commuter rail service line R4 . Between L 'Hospitalet de Llobregat and Arc de Triomf stations , R1 and RG1 trains share tracks with commuter rail lines R3 and R4 , and regional rail line R12 , using the Meridiana Tunnel through central Barcelona . After Arc de Triomf , they branch off to El Clot @-@ Aragó railway station , running on exclusive tracks from this point on to Maçanet @-@ Massanes . North of Maçanet @-@ Massanes , the R1 ? RG1 shares tracks with regional line R11 and freight services .

In May 2015 , Adif announced that the R1 ? RG1 would be the first Rodalies de Catalunya line to feature the European Rail Traffic Management System (ERTMS) signaling and security system . ERTMS Level 2 will be installed on the 56 @-@ kilometre @-@ long (35 mi) section between L 'Hospitalet de Llobregat and Mataró , increasing capacity and reliability parameters .

= = Operation = =

There are no end @-@ to @-@ end services between Molins de Rei and Portbou stations on the R1 ? RG1 , which means only partial services operate on the line . The services commencing or terminating at Molins de Rei do not usually run north of Mataró or Arenys de Mar. On the other hand , most services commencing or terminating at L 'Hospitalet de Llobregat run north of Arenys de Mar , using Calella , Blanes , Maçanet @-@ Massanes , Figueres or Portbou stations as their northern terminus , in order from south to north . Furthermore , since 31 January 2009 , there have been no limited services , so that the entirety of R1 and RG1 trains call at all stations . Previously , some R1 trains had operated limited services , skipping Montgat , Montgat Nord , and Cabrera de Mar @-@ Vilassar de Mar stations . The first trains run about 5 : 00 in the morning , with the latest arriving at about 1 : 00 at night .

The designation of the services operating on the line depends on the route they operate . The services between Molins de Rei and Maçanet @-@ Massanes are designated R1 in coordination with the rest of Barcelona commuter rail service lines , whilst the services between L 'Hospitalet de Llobregat and other stations located further north of Maçanet @-@ Massanes are designated RG1 (the letter ' G ' stands for Girona) to indicate that they are part of the Girona commuter rail service . RG1 services began operating on 20 March 2014 (2014 @-@ 03 @-@ 20) after former R1 services between L 'Hospitalet de Llobregat and Maçanet @-@ Massanes were extended northwards to Figueres . Since 20 June 2014 (2014 @-@ 06 @-@ 20) , some of these services have been extended further north to Portbou .

As of July 2015 , the service routes operating on the R1 ? RG1 are as follows :

The line 's activity gathers on the section between L 'Hospitalet de Llobregat and Mataró , where a peak @-@ time frequency of 6 minutes has been offered since 26 June 2011 , that is the highest on any line of the Rodalies de Catalunya system . The service frequency reduces as the line moves away from Barcelona , especially on the section north of Maçanet @-@ Massanes , where only RG1 services operate on weekdays , and which is already served by regional rail line R11 . Moreover , the R1 does not operate south of L 'Hospitalet de Llobregat on weekends , when this section is solely served by Barcelona commuter rail service line R4 .

As of July 2015 , the approximate service frequencies on the R1 ? RG1 are as follows :

The trains used on the R1 ? RG1 are Civia ? specifically , the 463 , 464 and 465 Series , which consist of three , four and five cars per set , respectively ? and 447 Series electrical multiple units (EMU) . Civia trains have been running on the line since July 2006 , initially only operating services between Molins de Rei and Calella . On average , these trains operate a total of 216 services on the line every day on weekdays .

= = Future = =

The 2008 ? 2015 Rail Infrastructure Master Plan for the Barcelona Commuter Rail Service , developed by the Spanish Ministry of Public Works and Transport , plans to establish a " coast @-@ to @-@ coast " and " inland @-@ to @-@ inland " line scheme . According to this project , the current R1 will be extended southwards from Barcelona Sants to Sant Vicenç de Calders stations , via Vilanova i la Geltrú , taking over the southern section of the present line R2 . The R1 will become the " coast @-@ to @-@ coast " line , creating a new major south ? north axis along the coast of the Barcelona metropolitan area . R1 trains will continue to use the Meridiana Tunnel in central Barcelona with the new line scheme , which is currently not possible due to the configuration of the southern rail accesses to Barcelona Sants . A long @-@ term project with an uncertain completion date , the new configuration would require multi @-@ million euro investments since it is associated with the construction of a new underground route in L 'Hospitalet de Llobregat for the Rodalies de Catalunya lines running through the city as well as the new rail link for Barcelona ? El Prat Airport .

As stated in the master plan , the proposed peak @-@ time service frequencies for the future R1 would be as follows :

= = List of stations = =

The following table lists the name of each station served by line R1 ? RG1 in order from south to north ; the station 's service pattern offered by R1 and / or RG1 trains ; the transfers to other Rodalies de Catalunya lines , including both commuter and regional rail services ; remarkable transfers to other transport systems ; the municipality in which each station is located ; and the fare zone (s) each station belongs to according to the Autoritat del Transport Metropolità (ATM Àrea de Barcelona) and the Autoritat Territorial de la Mobilitat de l 'Àrea de Girona (ATM Àrea de Girona) fare @-@ integrated public transport systems , as well as Rodalies de Catalunya 's own fare zone system for Barcelona commuter rail service lines .