

DEMAND RESPONSIVE TRANSPORT IN RURAL AREAS OF CASTILLA Y LEON

Country: Spain

OVERVIEW

The Region of Castilla-Leon is located at the north of the peninsula along the Spanish Duero basin and it consists of a central plateau surrounded by mountains. It is ranked in first position amongst EU regions for lowest population density. Demand responsive transport services in Castilla y Leon serve low demand areas consisting of small isolated villages and scattered settlements outside the main transport connections. The service has currently about 800 routes operated in 105 areas belonging to 9 provinces of the region.

The DRT acts as a feeder for conventional services which serves the connections among main towns. The service is funded by the Regional Administration which launched a large investment programme in 2004 in order to make the Public Transport more efficient both in terms of compliance with users' needs in remote areas and in terms of costs as well.

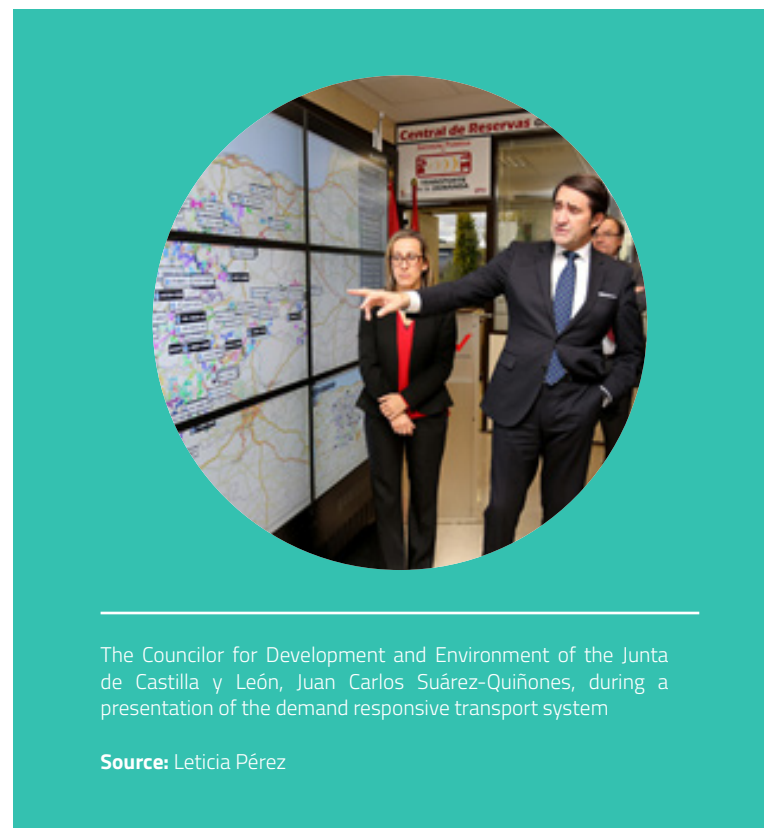
The IT system supporting the DRT operation was contracted (and now maintained) by the Regional Administration; the service operation is tendered by the Municipalities (for each area). The service is managed by a centralized booking/dispatch centre operated by the Regional Administration. Vehicles are equipped with on-board units in order to enable communication with the dispatch centre and to generate info for providing user

Main aspect/issue addressed by the good practice

Selection criteria (ToR, pag.9): Solutions usable by all the population and specially the disadvantaged, financially viable system.

Most of the population is concentrated in the larger urban areas served by main transport connections. When the pilot action of the service was launched in 20014, the high number of widely scattered municipalities with low, shrinking and aging populations was identified as a challenge for Public Transport in order to offer financially sustainable transport services. Conventional Public Transport was proven not to be effective from the users' point of view as the journeys run over extremely long itineraries, the travelling time was very high and the load factor of vehicle was very low in certain hours. The profitability of conventional PT reached deficit levels in many cases, which in turn made them difficult to maintain.

Furthermore, in 2004, the Regional Administration decided to adapt the service concession schemes to new mobility needs which are demanded by society.



The Councilor for Development and Environment of the Junta de Castilla y León, Juan Carlos Suárez-Quiñones, during a presentation of the demand responsive transport system

Source: Leticia Pérez

information services (for example: real-time arrivals of the vehicle). The added value of this Good Practice stands in the regional scale area of operation and in the coordination role of Regional Administrations which funded the services and operates also the dispatch centre which provides centralized services for all the served areas.

Main objectives of the good practice

The DRT services have been introduced to integrate the PT conventional offer with the main objectives to provide a feasible transport solution answering to unmet needs of small villages and settlements (five residents upwards).

The DRT services have been introduced as part of the whole strategies put in place by the Regional Administration of Castilla y Leon. In 1998 the Regional Administration of Castilla y Leon launched the supporting programme for the operation of transport services in remote area as measure to tackle depopulation in rural areas and to guarantee widest access to basic services such as health, education, culture, tourism and leisure even where these services were located far from the place the people lived.

DESCRIPTION OF THE AREA

<i>Region</i>	<i>Target area</i>	<i>Population</i>	<i>Population density</i>
Castilla y Leon, Spain	94.226 [Km ²]	2.557.330 inhab.	27 [inhab. /Km ²]

Other

The Region of Castilla-Leon is made up of 9 provinces: Ávila, Burgos, León, Palencia, Salamanca, Segovia, Soria, Valladolid and Zamora. It is one of the zones of the European Union with lowest population density as well as the third least populated region in Spain (average 78 inhabitants/km²).

The number of villages/settlements in the region is very high (almost 6.000 as a total) grouped into 2.249 municipalities (most of them are (very) small ones), more than any other region in Spain. On the whole only 274 municipalities have over 1.000 inhabitants; only 50 have more than 5.000.

Target user groups and needs

Currently the DRTs serve 3.557 villages/settlements (belonging to 1.368 Municipalities) with a target population of about 1 Million residents of Castilla-Leon region (9 provinces, 105 areas). Among them about 1400 settlements were identified as lacking acceptable transport services to reach basic social services around. The mobility needs answered by DRT service related to people accessing social services, in particular health and personal care (due to the previous reason). Due to organizational restructuring of services such as mail, bank, shops, pharmacies, surgeries. etc., mainly related to money saving, small settlements (50 people or fewer)

have not direct access to such basic services (which are not available anymore in the settlement itself) and people need to move to the nearest place where they can find them. Conventional Public Transport was proven not be able to answer to such mobility demand for peripheral connections and it was not cost effective for demand in remote areas. The demand responsive transport operated in Castilla y Leon is general-purpose (not targeted to any specific user groups) even the population is affected by a relevant ageing trend making the elderly a large population group and the most relevant user group of the service.

DETAILED DESCRIPTION OF THE PRACTICE

Timeframe(s)

The pilot project was implemented in 2004 in Barco de Ávila, which led to the following mass extension of the services. During the first ten years (2005-2014), DRTs were extended to all the 9 provinces of the region: 18 areas were served in 2005, 57 in 2007, 85 in 2009, 105 in 2014 when the maximum level of geographical coverage was achieved with about 800 routes operated. Due to the cut of public funding carried out by the Regional Administrations from 2011, the DRT services were restructured: all the areas already activated are still served but the number of weekly trips for each route were decreased.

Bodies involved

The stakeholders involved are: a) Development Department of the Regional Government of Castilla-Leon: promoter of the initiative, funding body, in charge of the contracting of implementation and maintenance of IT system, responsible for the management of centralized dispatching centre and service assessment, b) Municipalities in charge of the service contracting (in the specific area), c) Transport companies operating the services (in the specific area) after winning the related procurement. As a total now there are 106 concessions for the operation of DRT services and about 160 transport operators involved (bus, vans, taxi).

DETAILED DESCRIPTION OF THE PRACTICE

Mobility services provided/addressed

The DRT service has currently about 800 routes in operation in 105 areas belonging to 9 provinces of the region.

The DRT service connect the main towns/villages (places where the basic services are located) with dispersed settlements and remote areas. The service is operated under two different schemes: over a flexible area or as pre-defined routing with scheduled stops and options for "on-demand" diversions. For the second type, the service is operated from 3 to 5 days a week with a (variable) minimum number of daily trips. The scheduling of the trips is defined in order to allow residents of dispersed settlement to reach healthcare services and markets in main villages/towns and return to home.

The operated fleet consists of: buses (29%), vans (62%), taxi (9%) [2012].

Legal Framework

In 2004 Conventional Public Transport services in Castilla-Leon were provided according to 156 Autonomous Regular Service Concessions (services with fixed routes and scheduling) and 95 Special Transport Administrative Authorisations (services with fixed route and more flexible operation conditions). All this organization was not able yet to answer to mobility demand in rural areas. Some municipalities (29% of the interviewed) attempted to provide solutions on their own but the results were not so good apart for the school services. Furthermore, these kind of (local) initiatives were affected by the PT regulation which makes it obligatory to have a license to operate a transport service. The licenses are assigned locally by the Municipalities but the maximum number for them are defined at regional level. In 2004, as already explained, the Regional Administration decide to make the service in rural areas more efficient and more responsive to users' needs (in particular taking into account the low demand area and the dispersed destinations). For each route/area, the DRT concession is contracted to the PT operator already providing conventional public transport passengers services on roads (based on current concessions). In cases where there is more than one operator for the route/area, the concession is assigned to the operator which serve

more towns/villages on the route/area. The funding is assigned by the Regional Administration only for the route/area serving rural area: some criteria were defined in order to assess "how much rural" is a route/area (deficit amount of conventional transport service, mobility needs of the residents, impacts in terms of accessibility improvements, etc.). Then the amount of € 931.000 which have been funded in 1998 increased three times over the following five years reaching € 3 million in 2003. The Province of Leon receives the larger part of the funding (37%, 2012).

The new contracting modalities for PT concession which will be adopted by 2019 (according to the EU Regulation (CE) 1370/2007 from which it brings the competitive approach) establish that all the types of the transport services (conventional, DRT, special services) are tendered based on a geographical area (Zone Concessions) which is larger than the current operated concessions.

The procurement of each route/area is carried out by each Municipality.



Council of Avila asks for transport on demand in basic health areas
 Source: www.europapress.es/castilla-y-leon/noticia-diputacion-avila-pide-transporte-demanda-zonas-basicas-salud-20180625164957.html

Cost and Financing sources

The investment costs (IT system including the platform supporting the dispatch centre and the "on-board" equipment) sustained by the Regional Administration was about € 8.000.000. The annual subsidies for operating costs of the service (financed by the Regional Administration) was about € 8.000.000 [2012].

The tariff are "flat" (not depending on the travelled Kms): the price for a trip was € 1,00 until 2012 and € 2,00

DETAILED DESCRIPTION OF THE PRACTICE

afterwards. The tariffs are low as DRT is considered as a social service to be accessible by all the population.

Organizational set-up

The bookings are collected by a “centralized” dispatch centre which manages all the service areas. The dispatch centre is accessible by phone from 8:00 in the morning to 8:00 in the evening. The call is free of charge for the user. For each area, the dispatch centre schedule the service based on the bookings and assign the service to be operated to each vehicle (based on the requirements in terms of street width, users’ needs, etc.). The dispatch centre is operated by the Regional Administration.

Supporting technologies

The IT system supporting the operation of the system was provided by Spanish IT provider, GMV. The Regional Administration contracted a local company for the annual maintenance.

The system consists of an IT platform operated at dispatch centre level and by the units installed on the vehicles. The IT platform of the dispatch centre allows the collection of the bookings received from the users, schedules the service (for each area), it assigns the service to be operated to each vehicle, it notifies the planned service to each operator (by web access to the platform) and it enables the reporting of events occurring during the service’s operation and the collection of data for the assessment of performance indicators on the operated service. The IT platform allows the monitoring of the service by the dispatch centre and the control operations. The IT platform manages the data communication with the vehicles: it send to the vehicle the planned service (for the current day and the day after), it receives location data from the vehicles and it can also send/receive messages to/from the vehicle. The vehicles are equipped with “on-board” units (driver terminal, GPS, GPRS module for long-range data transmission).

The on-board unit detects and transmits the vehicle positioning to the dispatch centre. The vehicle can also send/receive messages to/from the dispatch centre. Based on the location data transmitted by the vehicle and the scheduled service, the dispatch centre generates the estimated arrival times for next stop of the trip. This information is visualized on info-panels installed “on the road” together with notification of any other problems occurring during the operation of the services. The irregular service conditions (i.e. incidents, traffic congestion, road closure, etc.) are notified by the driver to the dispatch centre through messages.

INNOVATION ASPECTS

ORGANISATIONAL RESPONSIBILITIES AND PARTNERSHIP WORKING ARRANGEMENTS

Regional Administration managing the operation of the centralized dispatch centre (for different areas). The Regional Administration is in charge of monitoring the service performance and the utilization level over the whole served areas.

LEVEL OF PUBLIC SECTOR FINANCIAL SUPPORT

Strong role of Regional Administration for financing the services at regional scale over more than years. The funding covers both implementation and operation costs. Public Transport services in rural/remote areas are considered as a basic public service to be provided to avoid depopulation effects.

INTERCONNECTIONS BETWEEN SHARED AND PUBLIC TRANSPORT SERVICES

The DRT services connect the main towns/villages with dispersed settlements allowing people to reach the main interchange points.

ICT CONNECTIONS AND IMPACTS OF THE TECHNOLOGICAL SOLUTIONS IMPLEMENTED

Vehicles are equipped with on-board units (fleet monitoring system) in order to allow monitoring of the service and to generate info to provide users information

OTHER (E.G. SOCIAL INNOVATION, ETC.)

Not applicable

ASSESSMENT

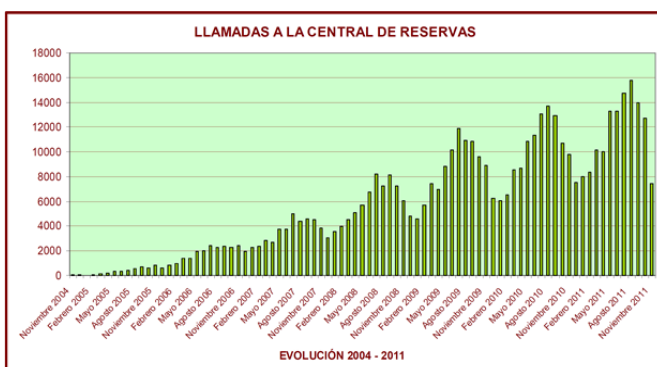
Ridership and other key metrics/results (through key-indicators, where applicable)

Since the launch in the first pilot areas (2013) the DRT services in Castilla-Leon has served 3 millions of users. In 2011, for example, about 85000 trips were operated. The yearly number of trips decreased after 2012 due to the service reduction carried out as a consequence of public funding cuts. Nevertheless, in 2017 the number of users increased again compared to the previous year by 7% (for example, in the province of Leon, 51000 passengers used the services in 2017).

In 2011, it was assessed that the 85,830 journeys carried out contributed to saving 59.62% of journeys planned by the conventional service.

The user profile consists of 66.69% women and 63.64% over 65 years old. Users give a score of 4.75 out of 5 when asked to assess the "Transport on Demand" service in general, along with 4.79 for vehicle comfort.

The figure below details the number of booking requests received by the dispatch centre in the period November 2004 – November 2011. The figures show an increasing trend over time (from 4000 requests/month in 2008 to 16000 requests/month in 2011) and a repetitive seasonality effect in all the years (the requests increase in the summer compared to the winter as a lot of people return to the region from their work locations).



The days with more requests received (64%) are Tuesdays, Wednesdays and Thursdays, 21% of the request are received on Monday and Friday and only 3% on the weekends (this is explained by the reasons of the trips).

Good Governance

The Regional Administration of Castilla - Leon has guaranteed financial support for the operation of DRT service schemes in the region as part of a development program to sustain social services in the rural and low populated areas. The Administration guarantees also the contracting of supporting IT devices through a "centralized" procurement in order to decrease costs and to guarantee a common technological backbone to all the services.

Success factors/strengths

The success of a service lies mainly in the effectiveness of the design phase which needs to identify the main gaps of the conventional public transport services and how the new shared services will be able to answer to the identified needs.

In Castilla-Leon the Regional Administration allocated appropriate resources and time to carry out the needs analysis. The design was carried out at regional level which also contributed to approach this with the appropriate scale avoiding conflicts and overlapping among the Municipalities and Local Authorities.

The design analysis included a survey which took place in 2002-2003 among the target population: the data collected through this survey contributed to identify the areas where the PT accessibility must be improved and which trips (origin-destination) were requested and when. In parallel, the conventional public transport was duly re-designed in order to guarantee the optimized interconnections with the DRT services.

Difficulties encountered/weakness

The cuts affecting public funding (due to the austerity measures) resulted in a reduction of 30% of the funds provided by the Regional Government and up to 50% of services from 1st August 2012 and the price of tickets increasing from 1 to 2 euros as a result of the funds decrease.

FEATURES THAT ARE CONSIDERED TO BE GOOD PRACTICE (LESSON(S) LEARNT)

The relevance of the Good Practice is in the regional wide scale and the durability over time (more than 10 years). Furthermore, Regional Administrations fund the flexible transport services as a measure to overcome accessibility barriers in remote areas and to give “transport” options also to people living in scattered settlements. The operation of a centralized dispatch centre on a regional scale represents also a solution to decrease operational costs. The role of Regional Administration to coordinate the project is remarkable. The success of the service in terms of users and quality perceived is confirmed over time even after the service reduction due to public budget cuts.

Key references

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Websites

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