

INTRODUCTION

The impact of the economic recession that began in 2008 has involved deep changes in the metropolitan society of Barcelona. Daily mobility has reflected these changes. This study focusses on the relationship between the economic cycle and pedestrian mobility between 2004 and 2016 in this metropolis.

SOURCES AND METHODOLOGY

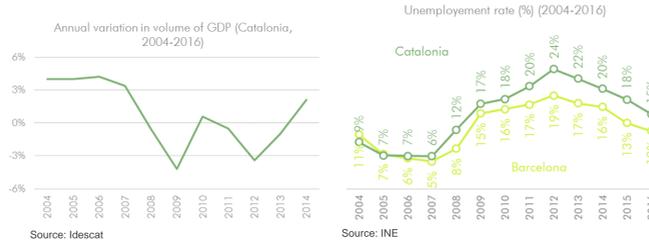
It is based on the treatment of data on economic situation, traffic on the road network, supply and demand of public transport, and databases of travel surveys that are conducted periodically in the metropolitan region of Barcelona (RMB).

SOURCE	DESCRIPTION
Workday Mobility Survey (EMEF)	Official annual statistics promoted by the Metropolitan Transport Authority (ATM) and metropolitan administrations since 2003. The objective is to know travel behaviour and attitudes towards mobility on working days of the resident population within the framework of the Integrated Tariff System of Barcelona aged 16 and over. IERMB is responsible for the supervision of field work, coding, data processing and analysis of results. https://iermb.uab.cat/es/encuestas/encuestas-de-movilidad/
System of metropolitan indicators of Barcelona (SIMBA)	The objective is to make accessible to public managers and researchers the metropolitan phenomenon and the reality of the metropolis of Barcelona, through accurate, updated and comparable information. It is promoted by the Metropolitan Area of Barcelona (AMB) and the IERMB is responsible for its preparation. https://iermbdb.uab.cat/?ap=0
Metropolitan mobility reports of Barcelona	Annual and quarterly reports promoted by the Metropolitan Area of Barcelona (AMB). They collect social, economical and mobility indicators. The IERMB is responsible for preparing the reports. https://iermb.uab.cat/ca/iermb/estudi/dades-socioeconomicques-i-demobilitat-a-larea-metropolitana-de-barcelona-informe-2017/

CONTEXT

ECONOMIC SITUATION

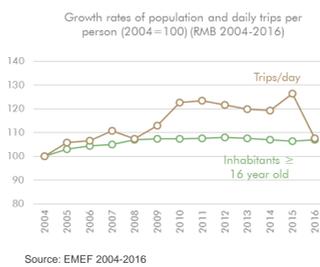
Catalan economy has experienced a strong economic recession. From 2008 until 2014, GDP showed a negative annual variation (except 2010). The unemployment rate reached 19% in Barcelona and 24% in Catalonia. Since 2014, the economy has changed, returning to positive values (lower than 2001 and 2007).



RESULTS

NUMBER OF TRIPS

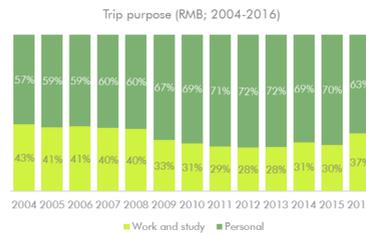
During the period studied, **mobility grew above the rate growth population** (except 2008 and 2016).



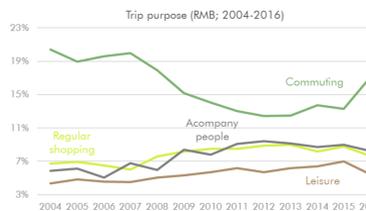
Trips raised particularly between 2010-2012, when economic indicators experienced greater decreases.

TRIP PURPOSE

Between 2009 and 2013 occupational trips (work or study) were reduced and personal trips increased. Commuting trips decreased significantly.



The increase of unemployed population and the decrease in income led to changes in daily activities. **Personal activities like taking children to school, leisure activities, outdoor sports, personal business and regular shopping, grew.** The increase of regular shopping's frequency is explained by the price comparison when searching for products, and because citizens reduces monthly or weekly purchases. The unemployed population, for example, does not stop making trips, but **changes their travel behaviour and performs other activities that they can not do when they work.** Besides, activities are closer to households, because trip distances reduce when rents are lower.

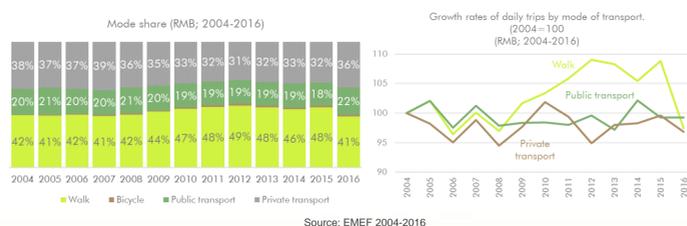


Since 2014, there has been an increase in commuting trips, but still without recovering the 2007 values.

TRANSPORT MODES

The activities that grew are related to pedestrian mobility, growing short-distance trips on foot. Modal share of pedestrian mobility increased almost 8 percentage points between 2007 and 2012.

Private transport is reduced slightly, since the territorial frames of mobility for work (that decreases) are greater. **Use of public transport remains stable with a slight upward trend**, being more resilient than private transport.



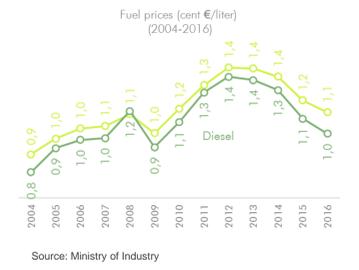
RESULTS

TRANSPORT MODES

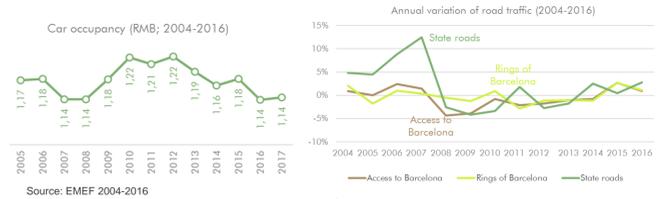
Consequently, **municipal self-containment increased and travel time and travel distance were slightly reduced.**



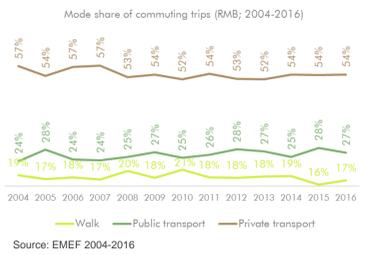
Fuel price is also a cause of the reduction in the use of private transport. Since the beginning of the crisis, fuel consumption has been reduced coinciding with the latest escalation in the price of oil.



Between 2009 and 2013, **car occupancy rose making mobility more efficient**, but roads also showed a **significant traffic decline because of the reduction of freight transport.**

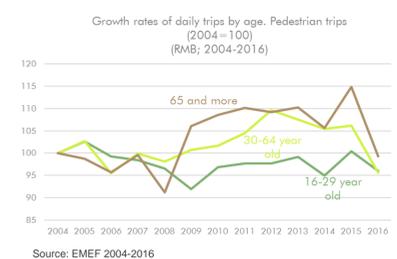


There was no significant increase of pedestrian trips in commuting (except 2008 and 2010). However, public transport rose in commuting trips.



SOCIAL PROFILES

Pedestrian mobility increases among people older than 30, with higher employability rates than young people. The increase among of population over 65 years old is explained for structural generational causes (hypermobility) and because they probably assumed roles of family care during recession.



CONCLUSIONS

In a few years, **the metropolitan population has moved from an expansive period to a recessive one**, increasing certain situations of vulnerability and decreasing household incomes. This situation persists, even with positive macroeconomic indicators.

The adaptation to this new situation has meant **changes in daily activities, which have favored pedestrian mobility.** Mobility per capita grew during the recession.

However, **since the economic recovery started in 2014, pedestrian trips have been reduced.** At the same time, a certain trend of modal transfer from private to public transport is maintained. It could be explained because salaries and income level have not experienced evident improvements.

The authors would like to thank the Metropolitan Transport Authority of the Barcelona region (ATM) and the Metropolitan Area of Barcelona (AMB) for financing the three studies that support this work.

CONTEXT

FRAMEWORK

The RMB is one of the main European metropolitan concentrations with **more than 5 million inhabitants** (67% of Catalonia).



Between 2004 and 2010 the **population raised by 7.3%**. This increase is mainly explained by the arrival of immigrant population. **After 2011, there has been a certain stagnation**, a phenomenon that has affected the entire area of Catalonia and could be explained by the crisis context.

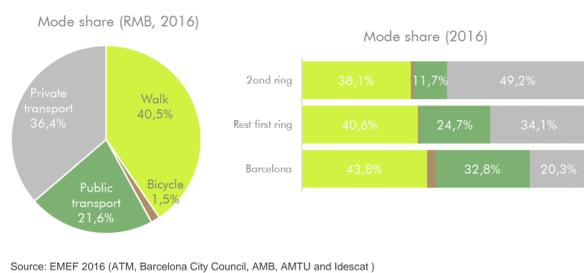
The territorial framework is organized in two areas:

- Barcelona and the rest of the first metropolitan ring:** a single labour market, with Barcelona as the inner city. High population density and great internal and external accessibility.
- Rest of the RMB or second RMB's metropolitan ring,** with regional capitals, industrial areas and medium and small cities.

Basic information	2017	
	Absolute	%
Barcelona	1.620.809	31,9%
Rest first ring	1.235.170	24,3%
Inhabitants	2.218.014	43,7%
RMB	5.073.993	100,0%
Growth 2004-2017	8,6%	
Residents born abroad	660.053	13,0%
Area (km ²)	3.243	
Region	Urban floor (km ²)	392
Density (inhabitants/km ²)	1.565	
Urban density (inhabitants/km ²)	12.947	

Source: Idescat and CREAM

DAILY MOBILITY



Source: EMEF 2016 (ATM, Barcelona City Council, AMB, AMTU and Idescat)