



QUICK APPRAISAL REPORT

**AUTOVÍA DEL ALMANZORA A-334. TRAMO: BAZA –
HUERCAL OVERA**

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European Commission – Directorate General Regional Policy

Unit G1

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1 INTRODUCTION

1.1 Project Appraisal Fundamentals

This Quick Appraisal (QA) is prepared in accordance with the “QA Check List” for major transport investments agreed with the EC – Directorate General Regional Policy Financial Greffe REGIO.

The objective of this QA is to support a constructive dialogue between the EU and the Applicants providing recommendations and suggestions, based on an in depth analysis of the application form and annexed documentation.

The structure of this report is in line with the sections and headings of the Quick Appraisal Check List and the Investment Application Form.

Along with the description of the findings of the analysis in each Chapter or Section of Chapter in relation to which: a) the quality of the information provided and available is not satisfactory, or b) the quality of the project is deemed to be improved, or c) the methodological and technical solutions adopted to undertake the CBA analysis, demand studies and project design are deemed as not adequate or reliable, the comments are highlighted in a recommendations and suggestions box.

In the concluding remarks Chapter we summarize the main findings of our appraisal commenting on the essential elements of the project, and suggesting any potential solution that can improve its quality according to the findings of the analysis as appropriate. This section highlights any important issue that should be considered before the Commission can approve the project.

1.1.1 Applicant and project managing authority

The Applicant is the *Dirección General de Fondos Europeos y Planificación* who is responsible for developing the road related investments to be funded by the European Union according to the principles and objectives set in the *Programa Operativo FEDER de Andalucía 2007-2013*.

The Beneficiary of the project is the *Dirección General de Infraestructuras Viarias*. The grantor for the PPP concession for the construction, operation and maintenance of the project is the *Agencia de Obra Pública de la Junta de Andalucía*. The project is going to be implemented by means of two PPP schemes. The first one, concerning implementation of the Purchena-A7 Section is already under development; the concession contract for this section was signed mid of March 2012 with the concessionary company – *Autovia del Almanzora S.A*. The second PPP scheme for the implementation of the Baza-Purchena Section is still to be defined and it's tendering related process still to start.

1.1.2 Documentation available

The application documents made available in electronic format through the CIRCABC system of the European Commission include the following:

- Natura 2000 declaration;
- Cost-Benefit Analysis;
- Additional documentation concerning the environmental impact assessment procedures for the works to be implemented as part of the major project under appraisal.

The project dossier is complete and complies with the EC Regulations. The information provided is consistent with Art. 40 Reg. 1083/2006, Annex XXI and Commission Regulation 1828/2006.

2 PROJECT STRATEGY AND OBJECTIVES

2.1 Strategic objectives of the project

The investment under appraisal is expected to speed up the completion of the *Autovia A-334 – Autovia del Almanzora – Section Baza – Huerca Overa*.

The project consists in the upgrade of a regional road corridor in the Andalucía Region, inter-connecting the A-7 and the A-92N highways, crossing the territories of 17 municipalities in the Almería and Granada districts. Once completed, the project will improve accessibility to a total number of 28 municipalities in the two above mentioned districts as well as between these territories and the Murcia region.

The investment contributes to the realization of the objectives of the priority axis IV of the PO FEDER 2007-2013 of the Andalucía Region. It was also included in the *Plan Director de Infraestructuras de Andalucía – PDIA 1997-2007* – as well as in the *Plan de Ordenación del Territorio de Andalucía*. It is also aimed at reaching the targets set in the *Plan de Infraestructuras para la Sostenibilidad del Transporte en Andalucía – PISTA 2007-2013*.

2.2 Project description

The *Autovia A-334 – Autovia del Almanzora – Section Baza – Huerca Overa* is a double carriageway road project with two lines per direction. The road has a total length of about 84.5km.

The project has been planned to be implemented identifying two main operational phases – *Section Baza-Purchena* and *Section Purchena-A7* (See Figures 1 and 2 below). Although feasibility and design studies have been undertaken for various stretches of the road over the course of the past decade, these two main phases have been lastly identified for the preparation of feasibility and design studies as well as for the construction, ordinary and extra-ordinary maintenance of the project as well as its operation.

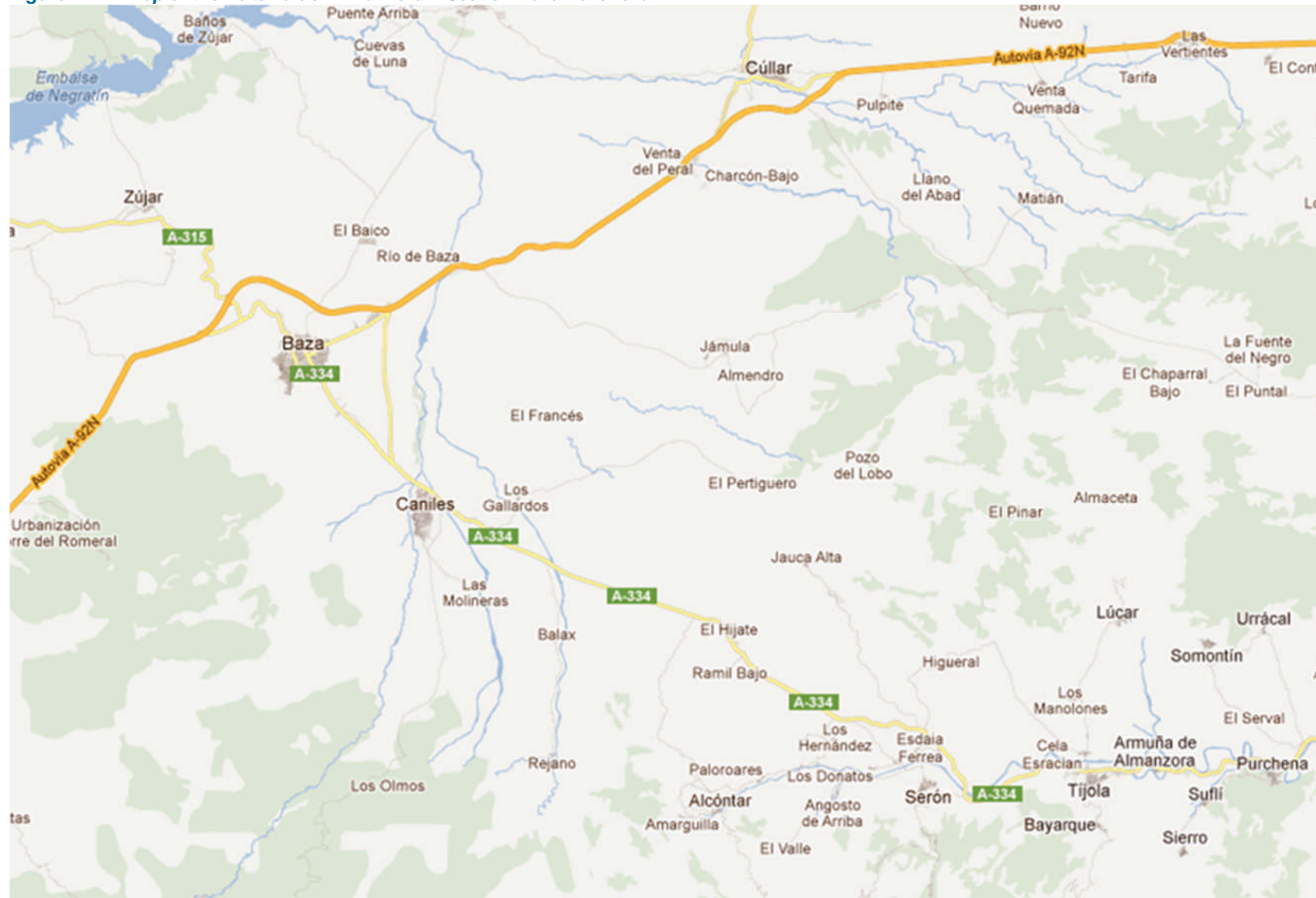
For the Section Purchena-A7, a PPP (*Public Private Partnership*) 30 years concession contract was awarded late December 2011¹ and recently signed² for the preparation of its construction design, the construction works of part of the section, and the operation and maintenance of the whole operational phase. For the section Baza-Purchena, the mentioned PISTA plan also predicts a similar PPP concession is adopted for the implementation of the operational phase – Section Baza-Purchena, to be launched soon according to the project time-schedule included in the application form.

Along with the two operational phases mentioned above, a total of 8 stretches (See figure 3 below) – operational works – has been identified to implement the construction works [as well as to undertake the related feasibility studies and detailed design]; one of these is already in operation and two are currently under construction, while the rest of them are already planned and designed but still to be constructed. All of these sections have been designed and budgeted as independent unit, which allows the Administration to develop various stages simultaneously, at a different pace.

¹ <http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

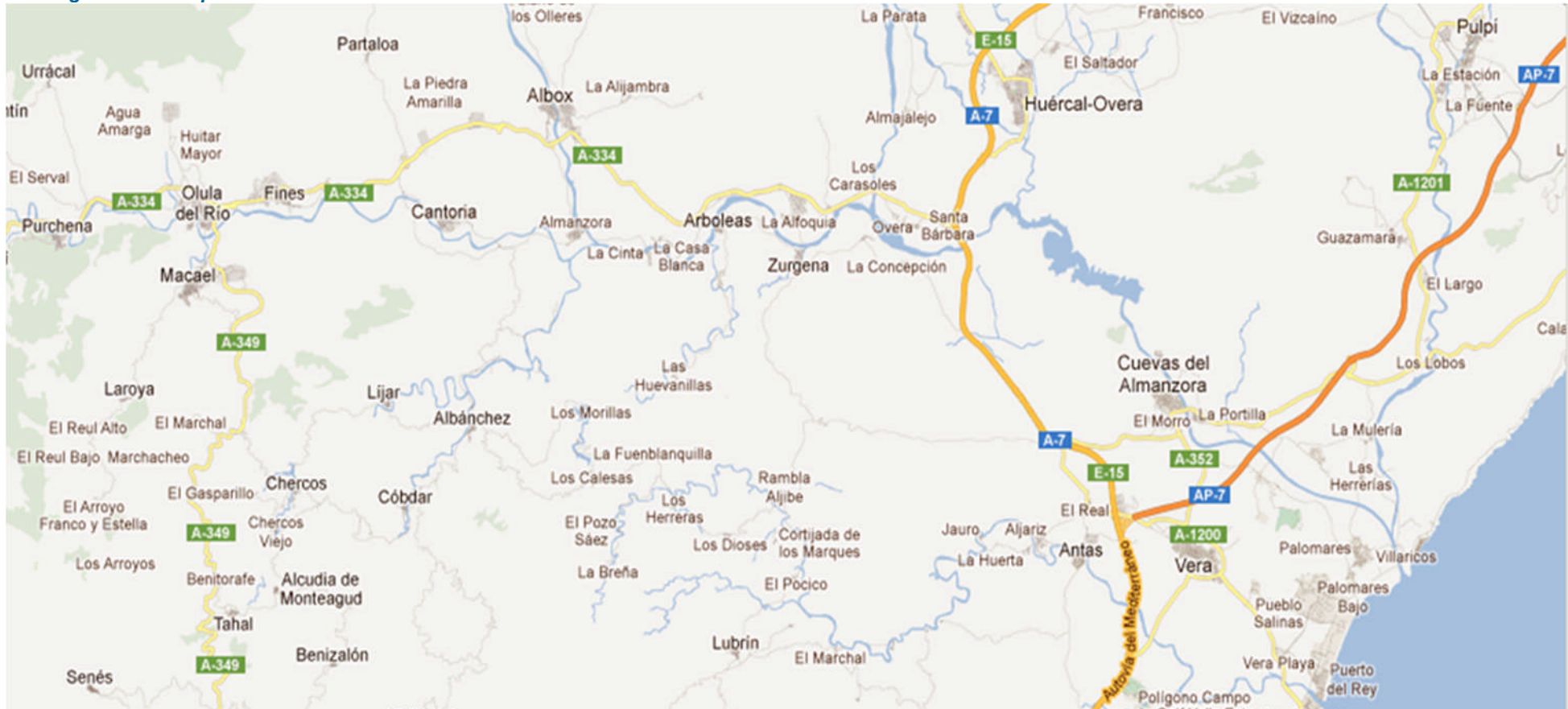
² <http://www.juntadeandalucia.es/obraspublicasyvivienda/obraspublicasyvivienda/portal-web/web/noticias/d1d2f6dc-6e92-11e1-b3ef-6583fdb537d9>

Figure 1 Map of the Autovía del Almanzora – Section Baza-Purchena



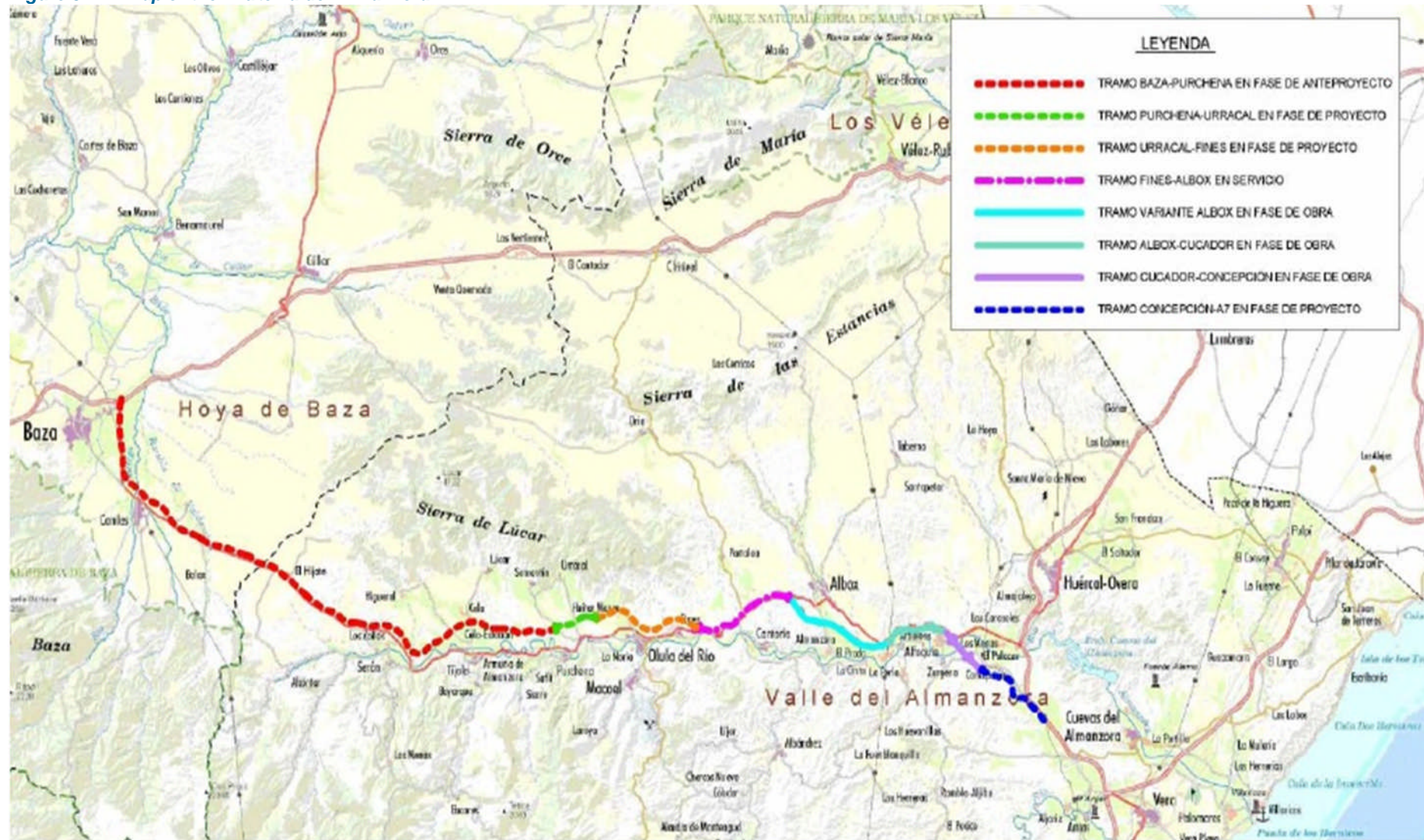
Source: Google Maps 2012

Figure 2 Map of the “Autovía del Almanzora” – Section Purchena-A7



Source: Google Maps 2012

Figure 3 Map of the “Autovía del Almanzora”



Source: Annex I

The following table provides a summary of the operational phases and works identified to implement the major project under appraisal, also providing information on their status of progress.

Table 1 Project Phases and Works

Status (according to the application dossier)	Status (updated March 2012) ¹	Section	Length (km)	Total investment (million €)			
				Application Form	Anteproyecto Section Baza-Purchena ²	Estudio Viabilidad Purchena A7 ³	Web Site Junta de Andalucía ¹
Operational Phase Baza-Purchena			42.3	177.44	287.47		
1	Planned. "DIA" published in June 2009	Planned. "DIA" published in June 2009	<i>Operational Work Baza-Purchena</i>	42.3	177.44	287.47	
Operational Phase Purchena-A7			40.76	268.97		293.35	
2	Detailed design pending approval	Concession contract signed March 2012 (Construction, operation and maintenance)	<i>Operational Work Purchena-Urracal</i>	3.2	34.08		34.08
3	Detailed design pending approval		<i>Operational Work Urracal-Fines</i>	8.51	79.72		79.73
4	In operation since 2009		<i>Operational Work Fines-Albox</i>	7.9	25.18		28.36
5	Under construction		<i>Operational Work Albox Bypass-El Cucador</i>	5.61	15.3		18.55
6	Under construction		<i>Operational Work Albox Bypass</i>	8.7	43.8		60.58
7	Contract awarded. Construction still to start		<i>Operational Work El Cucador-La Concepción</i>	3.3	35.37		35.37
	5+6+7		5+6+7	17.61	94.47		114.5
8	Tendering process still to start		<i>Operational Work Concepción-A7</i>	3.54	35.52		36.05
	Tendering process still to start		<i>Autovia A334-Albox Industrial District</i>				0.63
Total			83.06	446.41			

Notes: 1) http://www.aopandalucia.es/principal.asp?alias=not_bus&t=5&tipo=noticias&id=4435

2) http://www.juntadeandalucia.es/obraspublicasyvivienda/estaticas/sites/consejeria/areas/carreteras/documentos/Viabilidad/BAZA_PURCHENA/Memoria_Anteproyecto.pdf;

3) Information included in the tender dossier for the Section Purchena-A7:

<http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

The mentioned Section Purchena - A-7 (*Autovía del Mediterráneo*) with a total length of 40.76 kilometres, comprises all operational works listed in Table 1, except the Baza-Purchena one. The Purchena-A7 operational phase also includes additional works such as the 0.70km link connecting the highway to the Albox-Almanzora Industrial Park, whose construction design was already approved.

The table also includes a comparison of the investment costs between the information provided in the application dossier and other available sources such as the *Anteproyecto* for the Section Baza-Purchena – see page 46 – and the last prepared Feasibility Study for the Section Purchena-A7 – see pages 30 to 33 – included in the tender dossier concerning the concession for the construction, operation and maintenance of this operational phase (*Estudio de Viabilidad para la construcción, conservación y explotación de la Autovía de la Almanzora. Tramo: Purchena-A7* – a study which is also mentioned in Table D.1. of the application form, although its results and data are neither included nor commented in the application dossier). In addition to this the information from a recent press article concerning the signature of this last mentioned contract has also been included in the table.

The confrontation of the available information on the costs raises doubts on the total values presented in the application form and project dossier which should be clarified, particularly considering that the comparison between the available documents shows an overall consistency in the description of the works to be realized, but not in their values.

By comparing the costs in the application form and in the *Estudio de Viabilidad* for the Purchena-A7 Section, we may assume that these refer to the *presupuesto base de licitación* which along with 16% of VAT (this should be updated to 18% now as stated in the mentioned *Estudio de Viabilidad*), these figures include the 13% of *Gastos Generales* and a 6% of *Beneficio Industrial* which are calculated with reference and in addition to the *presupuesto de ejecución material* [this assumption is based on the comparison of the costs for the section Urrácal-Fines included in the *Memoria* of the Construction Project for this section – see page 104 – and those in the mentioned *Estudio de Viabilidad* in line with the ones in the application form]. On the contrary, if we compare the cost for the Baza-Purchena Section provided in the application form with the ones included in the *Anteproyecto* – page 46 – for this operational phase, these are neither in line with the *presupuesto ejecución material* (although they do not differ much from this value – 187.60 million – nor with the *presupuesto base de licitación* including VAT at 18% - € 263.436 million.

Although it is not possible to know what the figures in the quoted article on the Web Site of the Junta de Andalucía refer to (*presupuesto de ejecución material* or *presupuesto base de licitación...* with or without VAT) – and we may assume a reduction in price after tender affected the project cost and is probably reflected in these values – it is not possible to reconstruct the project cost as presented in Table H.1. of the application form. Based on the available information the costs for the investment may be higher than the one included in Table H.1. and although this may imply a more conservative approach in the identification of the EU contribution, a higher infrastructure cost may require higher financial capacity from the Member State than the one indicated.

In addition to this it is also worth noting that the application dossier omits describing what the eligible costs refer to. Especially considering the amount of non eligible costs and the fact that according to the mentioned information on the Web Site of the Junta de Andalucía the value of the contract for the concession is €160.55 million, it is relevant revising the application dossier including a clear explanation on what sections/stretches of the project will be co-financed during this programming period (to this respect it is worth mentioning that the Baza-Purchena Section will not be completed within the current programming period as stated in the application dossier; also the Section Purchena-A7 is actually partially already in operation the section to be constructed possibly at risk of completion by end of 2015).

The project description concerning the investment costs should be updated overall considering the signature of the contract for the implementation of the Purchena-A7 Section between the Spanish Authorities and the concessionary company *Autovía del Almanzora S.A.* The information concerning traffic data and levels on the road are also not satisfactorily described (see section 3.3 below) The same can be said for the CBA related assumptions, inputs and outputs. The application dossier should be revised and made more clear and consistent with the available feasibility studies and design related documentation, explaining the main differences between the application form and the most relevant project related documentation³.

The table below summarizes the unit of analysis identified based on the analysis of the project dossier and additional available documentation; which are acceptable.

Table 2 Units of analysis

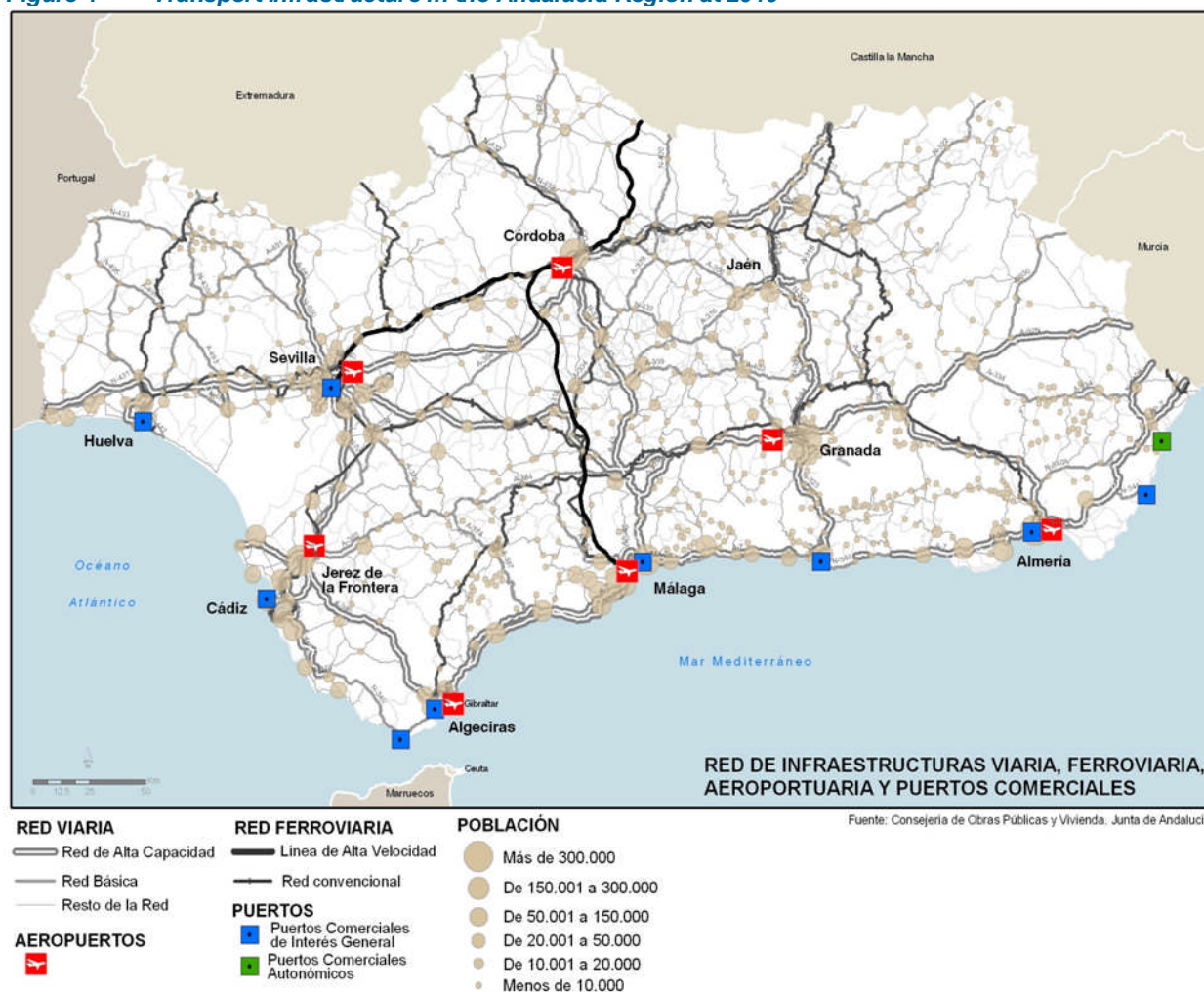
Engineering works including technologies	Autovia A-334 – Autovia del Almanzora – Section Baza – Huercal Overa
Procurement and contracting	Autovia A-334 – Autovia del Almanzora – Section Baza – Purchena Autovia A-334 – Autovia del Almanzora – Section Purchena – A-7 <ul style="list-style-type: none"> • Autovia A-334 – Autovia del Almanzora – Section Fines-Albox • Autovia A-334 – Autovia del Almanzora – Albox Bypass • Autovia A-334 – Autovia del Almanzora – Section Albox Bypass – El Cucador • Autovia A-334 – Autovia del Almanzora – Section El Cucador – Enlace La Concepción
Development consent and environmental certifications	For Natura 2000 related process the unit of analysis is the Autovia A-334 – Autovia del Almanzora – Section Baza – Huercal Overa For EIA related procedures the unit of analysis are the following ones: <ul style="list-style-type: none"> • Autovia A-334 – Section Comarca del Mármol – Huércal Overa • Autovia A-334 – Section Purchena – Albox Industrial District • Autovia A-334 – Section Cucador – Autovia A7 • Autovia A-334 – Section Baza - Purchena
Infrastructure management and operation	Autovia A-334 – Autovia del Almanzora – Section Baza – Purchena Autovia A-334 – Autovia del Almanzora – Section Purchena – A-7
Economic and financial analysis	Autovia A-334 – Autovia del Almanzora – Section Baza – Huercal Overa

³ A number of documents is actually available in addition to the ones mentioned in this section; although these are among the most relevant ones, they represent an example for the ones available and have been quoted to suggest a request for improvement of the application dossier.

2.3 Functional objectives of the project

The beneficiaries of the project have been correctly identified and the investment is effectively supporting the quick and factual implementation of the road infrastructure subject of this analysis. Without the community contribution the project could not be implemented. However the strategic and functional objectives of the project are not strongly supported by traffic levels and socio-economic data for the territories in which the investment is to be implemented, as also commented in Section 3.3 and Chapter 4 below.

Figure 4 *Transport Infrastructure in the Andalucía Region at 2010*



Source: <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/anuario/anuario12/anuario12c09.htm#c424>

The two main objectives of the *Autovía del Almanzora* are: 1) improving accessibility to the population living in 17 municipalities directly crossed by the new infrastructure as well as to other municipalities in the districts of Granada and Almería interconnecting these two provinces of the Andalucía Region to the Murcia one; 2) and supporting the economic development of the area in particular of the stone (*Mármol*) industry.

On one side, as also shown in the picture above, the new road will be located in a very low densely populated area supporting accessibility to these territories thus promoting territorial cohesion by interconnecting the Murcia Region to the Districts of Granada and Almería, with a total population of more than 2 million inhabitants). On the other side the 17 municipalities total less than 100,000 inhabitants (See application form – Page 9), around 1% of the total population of the Region.

It is also worth noting that the road infrastructure index for this region and for the provinces is lower than the average for Spain, and that these territories are showing slightly higher population growth trends than Spain (See Tables 4, 5 and 6).

Table 3 Territorial and Road infrastructure indicators for Spain and its Regions

Regions	Surface in km2	Population	% on Total	Population Density	Total Length of Major Road Network	% on Total	One Line per Direction	Kms of major road network per 1000 Inhabitants	Kms of major road network per 1000 km2
Andalucía	87,598	8,370,975	17.8%	95.6	23,485	14.2%	20,844	2.8	0.3
Aragón	47,721	1,347,095	2.9%	28.2	11,483	6.9%	10,702	8.5	0.2
Asturias Principado de	10,602	1,084,341	2.3%	102.3	5,001	3.0%	4,593	4.6	0.5
Baleares Islas	4,992	1,106,049	2.4%	221.6	2,151	1.3%	1,968	1.9	0.4
Canarias	7,447	2,118,519	4.5%	284.5	4,462	2.7%	4,154	2.1	0.6
Cantabria	5,321	592,250	1.3%	111.3	2,563	1.5%	2,343	4.3	0.5
Castilla-La Mancha	79,462	2,098,373	4.5%	26.4	19,633	11.8%	17,824	9.4	0.2
Castilla y León	94,227	2,559,515	5.4%	27.2	32,725	19.7%	30,424	12.8	0.3
Cataluña	32,113	7,512,381	16.0%	233.9	12,056	7.3%	10,720	1.6	0.4
Comunidad Valenciana	23,255	5,111,706	10.9%	219.8	8,364	5.0%	6,936	1.6	0.4
Extremadura	41,634	1,107,220	2.4%	26.6	9,191	5.5%	8,446	8.3	0.2
Galicia	29,575	2,797,653	5.9%	94.6	17,570	10.6%	16,515	6.3	0.6
Madrid Comunidad de	8,028	6,458,684	13.7%	804.6	3,333	2.0%	2,360	0.5	0.4
Murcia Región de	11,313	1,461,979	3.1%	129.2	3,728	2.2%	3,098	2.5	0.3
Navarra Comunidad Foral de	10,390	636,924	1.4%	61.3	3,946	2.4%	3,566	6.2	0.4
País Vasco	7,230	2,178,339	4.6%	301.3	4,198	2.5%	3,600	1.9	0.6
Rioja La	5,045	322,415	0.7%	63.9	1,834	1.1%	1,669	5.7	0.4
Ceuta y Melilla	33	156,613	0.3%	4,761.7	63	0.0%	60	0.4	1.9
Total	505,986	47,021,031	100.0%	92.9	165,787	100.0%	149,822	3.5	0.3
Regions	State Roads	% on Total	Two Lines per direction	Two Lines Highways	Toll Roads	% on Total	Cars	Cars/1000 Inhabitants	% on Total
Andalucía	2,642	16.5%	251	2,194	197	6.6%	3,755,645	448.7	17.0%
Aragón	781	4.9%	76	548	157	5.2%	573,660	425.8	2.6%
Asturias Principado de	408	2.6%	14	372	22	0.7%	498,750	460.0	2.3%
Baleares Islas	183	1.1%	89	94	0	0.0%	650,541	588.2	2.9%
Canarias	308	1.9%	91	217	0	0.0%	982,865	463.9	4.4%
Cantabria	220	1.4%	2	218	0	0.0%	285,390	481.9	1.3%
Castilla-La Mancha	1,809	11.3%	34	1,536	239	8.0%	971,841	463.1	4.4%
Castilla y León	2,303	14.4%	109	1,914	280	9.4%	1,246,949	487.2	5.6%
Cataluña	1,336	8.4%	136	568	632	21.1%	3,355,779	446.7	15.2%
Comunidad Valenciana	1,427	8.9%	311	749	367	12.3%	2,384,022	466.4	10.8%
Extremadura	745	4.7%	77	668	0	0.0%	544,059	491.4	2.5%
Galicia	1,055	6.6%	94	634	327	10.9%	1,451,547	518.8	6.6%
Madrid Comunidad de	974	6.1%	221	609	144	4.8%	3,297,220	510.5	14.9%
Murcia Región de	630	3.9%	103	412	115	3.8%	688,004	470.6	3.1%
Navarra Comunidad Foral de	380	2.4%	24	218	138	4.6%	297,770	467.5	1.3%
País Vasco	598	3.7%	63	281	254	8.5%	949,655	436.0	4.3%
Rioja La	165	1.0%	6	40	119	4.0%	133,473	414.0	0.6%
Ceuta y Melilla	3	0.0%	3	0	0	0.0%	80,285	512.6	0.4%
Total	15,965	100.0%	1,703	11,271	2,991	100.0%	22,147,455	471	100.0%

Sources: Ministerio de Fomento. Anuario estadístico; Note: the figures highlighted in red show a lower indicator than the average for Spain

Table 4 Road infrastructure indicators for the Andalucía Region and its Districts

	Andalucía	Almería	Cádiz	Córdoba	Granada	Huelva	Jaén	Málaga	Sevilla	Spain
Length of the network (km)	23,524	2,418	2,152	4,002	3,070	2,082	3,426	2,543	3,832	165,463
Network/surface (km/km ²)	0.27	0.28	0.29	0.29	0.24	0.21	0.25	0.35	0.27	0.33
Network/population (km por 1.000 inh.)	2.81	3.48	1.74	4.97	3.34	4.02	5.11	1.58	2.00	3.52
Length toll/shadow, and two lanes highways (km)	2,632	352.0	361.0	200.0	380.0	185.0	222.0	441.0	493.0	15,112
Length of toll/shadow and two lanes highways/surface (km/km ²)	0.0300	0.0401	0.0485	0.0145	0.0300	0.0183	0.0164	0.0603	0.0351	0.0299
Length of toll/shadow and two lanes highways /population (km por 1.000 hab)	0.31	0.51	0.29	0.25	0.41	0.36	0.33	0.27	0.26	0.32

Sources: Consejería de Obras Públicas y Transportes. Dirección General de Carreteras; Ministerio de Fomento. Anuario estadístico

However, after a decade of high population growth rates, the area where the project is going to be implemented is registering a slow increase in its population, which will be also accompanied in the future by a significant aging phenomena.

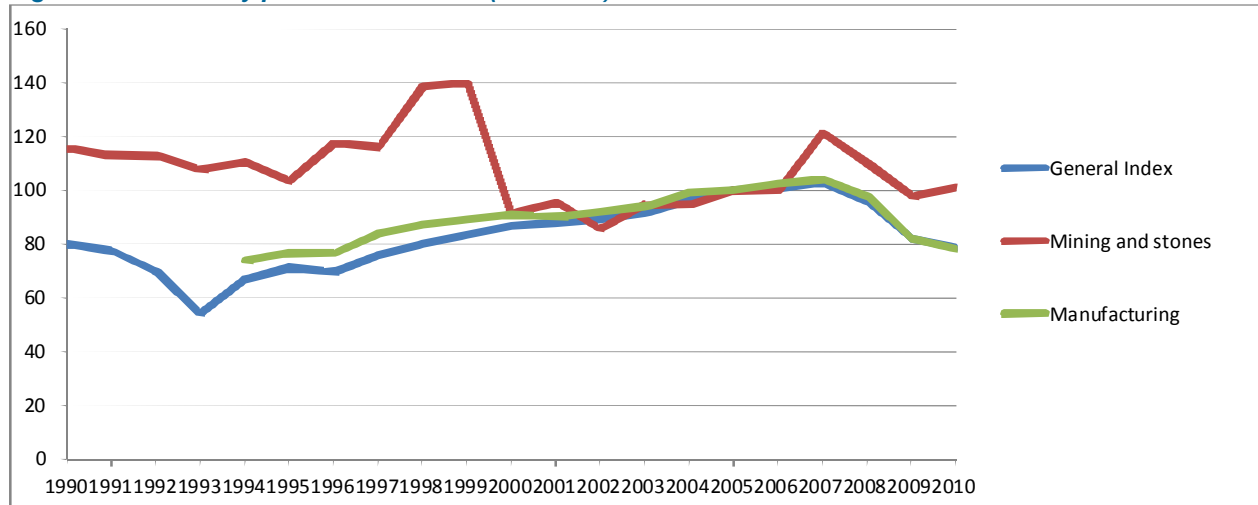
Table 5 Demographic trends in Spain, the Andalucía Region and its Districts (growth % year on year in not otherwise specified)

	2001	2011	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	CAGR '11-'01	CAGR '21-'11
Spain	41116842	47190493	1.8	2.1	1.1	2.1	1.4	1.1	2.1	1.3	0.6	0.4	1.4	-0.1
Andalucía	8594346	8424102	1.0	1.7	1.1	2.1	1.6	1.1	1.8	1.2	0.8	0.6	-0.2	0.3
Almería	533168	702819	2.5	3.4	2.6	5.6	3.8	1.7	3.2	2.5	1.6	1.0	2.8	0.0
Cádiz	1131346	1243519	0.8	1.3	0.7	1.4	1.1	1.1	1.1	0.8	0.5	0.5	0.9	0.3
Córdoba	769625	805857	0.2	0.6	0.5	0.6	0.5	0.5	0.8	0.6	0.1	0.1	0.5	0.0
Granada	812637	924550	0.8	1.1	1.6	2.3	1.8	0.9	1.9	0.7	1.2	0.7	1.3	0.2
Huelva	461730	521968	0.7	1.6	0.9	1.5	1.7	1.1	2.1	1.1	0.9	0.8	1.2	0.3
Jaén	645781	670600	0.2	0.6	0.4	0.9	0.4	0.3	0.4	0.4	0.1	0.0	0.4	-0.4
Málaga	1302240	1625827	2.1	3.4	1.7	4.0	2.6	1.8	3.0	1.9	1.0	1.0	2.2	0.6
Sevilla	1747441	1470069	0.6	1.4	0.5	1.2	1.2	0.8	1.4	1.3	0.9	0.6	-1.7	0.5
	2021	2035	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	CAGR '35-'21	CAGR '21-'11
Spain	45585574	47760810	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	0.3	0.1
Andalucía	8475564	8802464	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.2
Almería	688176	772157	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4
Cádiz	1262463	1272547	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1
Córdoba	786447	806294	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.2	0.0
Granada	925919	964206	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.2
Huelva	521967	554700	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4	0.3
Jaén	629321	641744	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	0.1	-0.2
Málaga	1694827	1800385	0.7	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4
Sevilla	1966444	1990431	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.1	1.3

Source: INE

Specifically concerning territorial cohesion, the *Autovía del Mármol* is expected to support the local industry recovering from the economic crisis started in 2008.

Figure 5 Industry production indexes (100=2005)

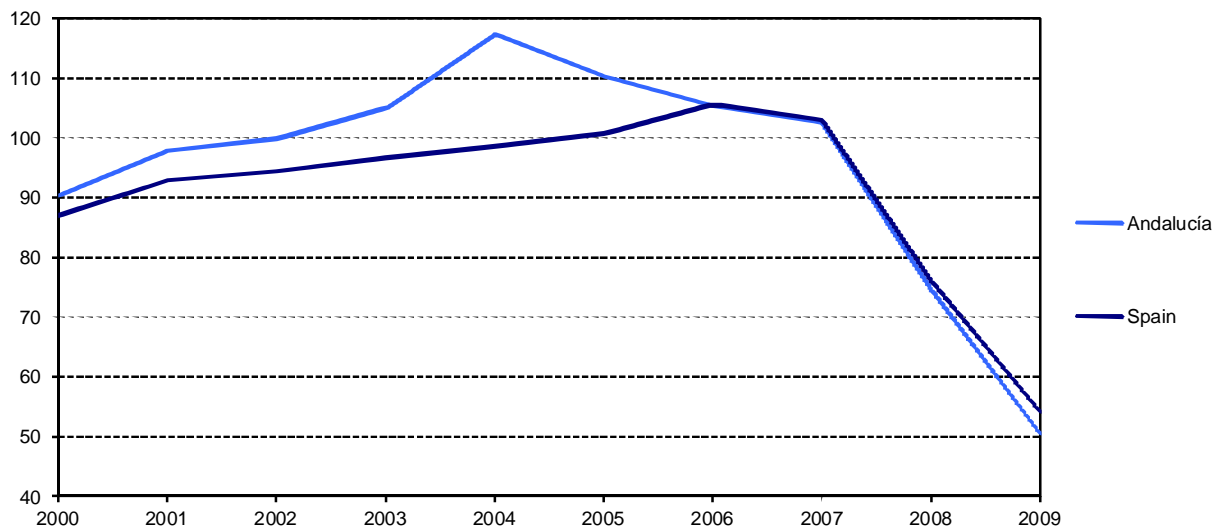


Sources: Junta de Andalucía – Statistic Bulletin

To this respect it must be noted that according to public available information the stone sector in particular lost 2,400 out of its 5,500 employees over the past years and that between 2007 and 2010 the stone economy registered a 30% invoicing decrease.

Although the last two years seem showing a slight recovery for this sector, it seems undergoing a deep structural crisis⁴, also emphasized by critical situation of the real estate and construction industries and markets that were the main engines of the Spanish economic growth in the past 15 years.

Figure 6 Sell of concrete



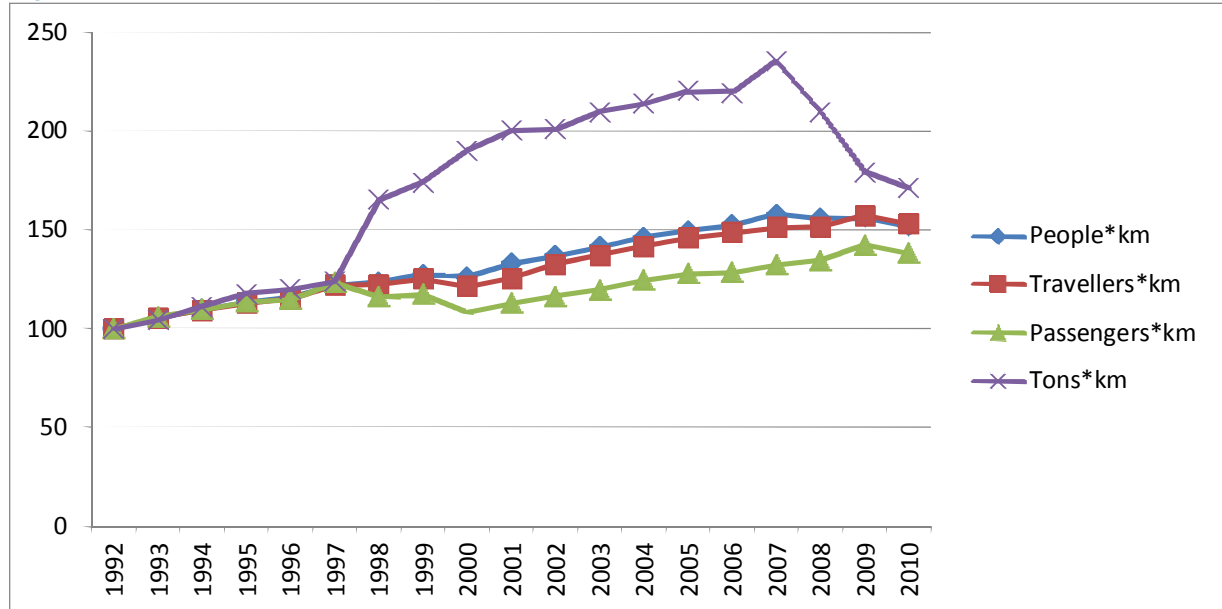
Sources: Junta de Andalucía – Statistic Bulletin

The case to invest in this project is thus undermined by both future demographic and economic trends, the phenomena summarized above having an impact on the existing and future traffic on the road network as shown in the following figures and also commented in Section 3.3 below.

⁴ <http://novapolis.es/index.php/empleo/14584-el-sector-del-marmol-qdebe-realizar-importantes-cambios-para-sobrevivir>; <http://www.stoneworldreview.com/?p=500>

The graph below shows the road traffic trends in Spain. Particularly the trend in freight traffic suggests adopting a conservative methodology when estimating the demand for road transport investments, due to the presence of a clear “*bobble phenomenon*”.

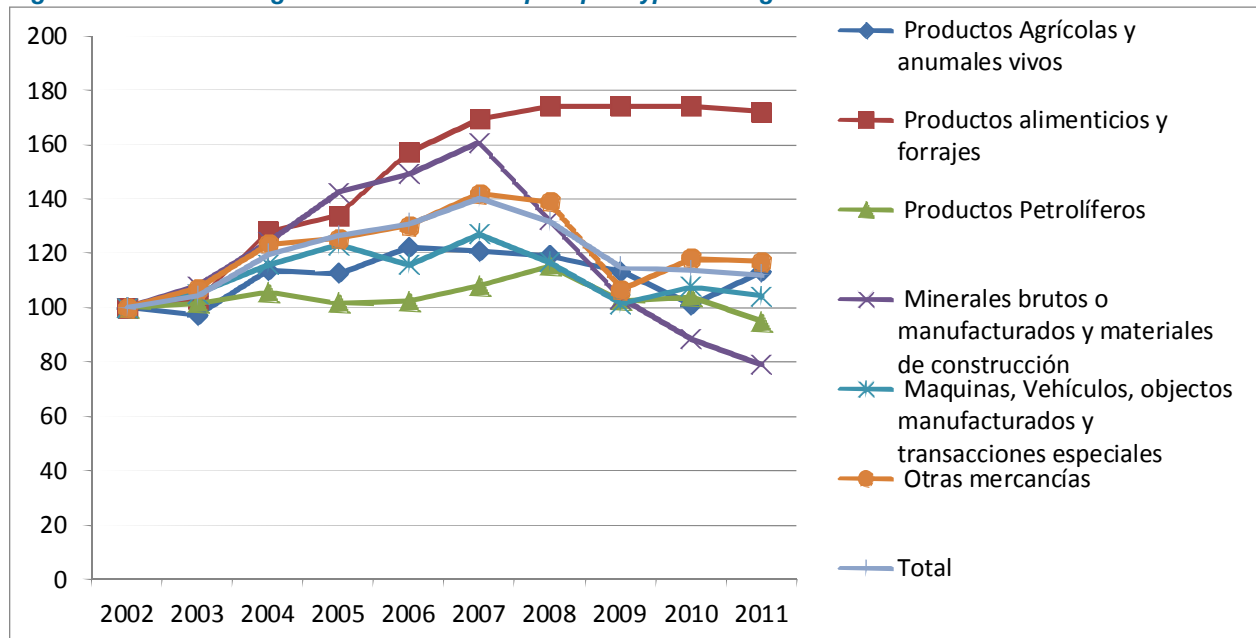
Figure 7 Road Traffic Trends in Spain



Sources: Ministerio de Fomento. Anuario estadístico

Specifically concerning freights, the picture below shows how the crisis particularly affected the stone and construction sector in Spain.

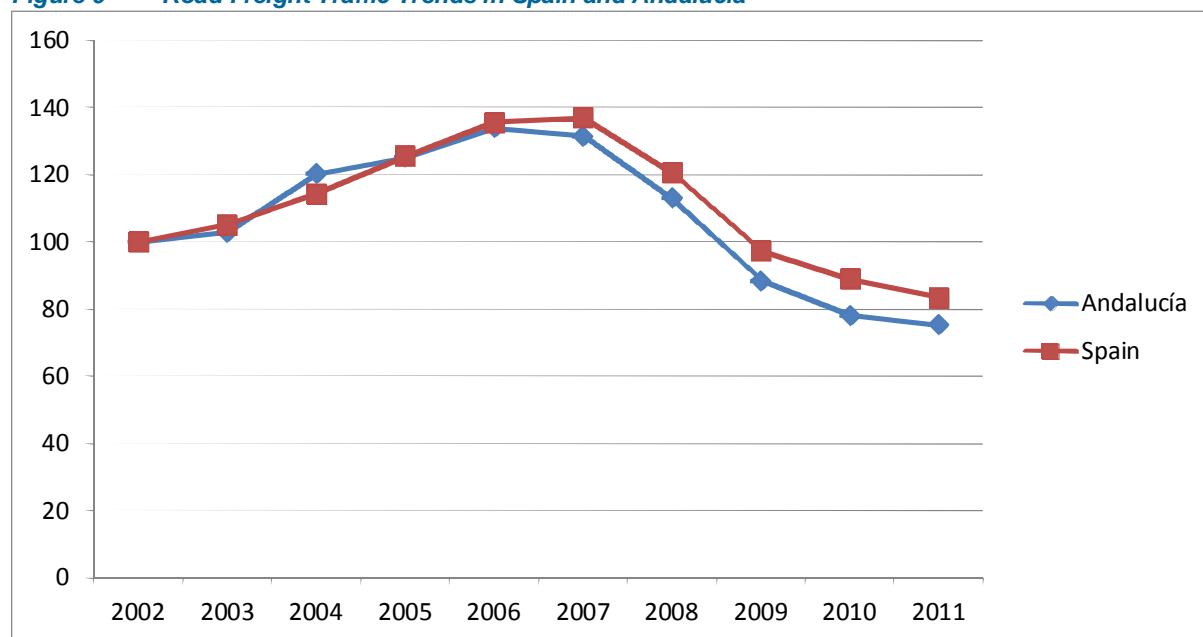
Figure 8 Road Freight Traffic Trends in Spain per Type of Freight



Sources: Ministerio de Fomento. Anuario estadístico

This decreasing pattern in freight traffic is not affecting Spain more than the Andalucía Region. Overall the traffic trends for freight transport in Spain and in the Andalucía Region are similar, the latter actually registering a worse pattern than the national one as shown in the figure below.

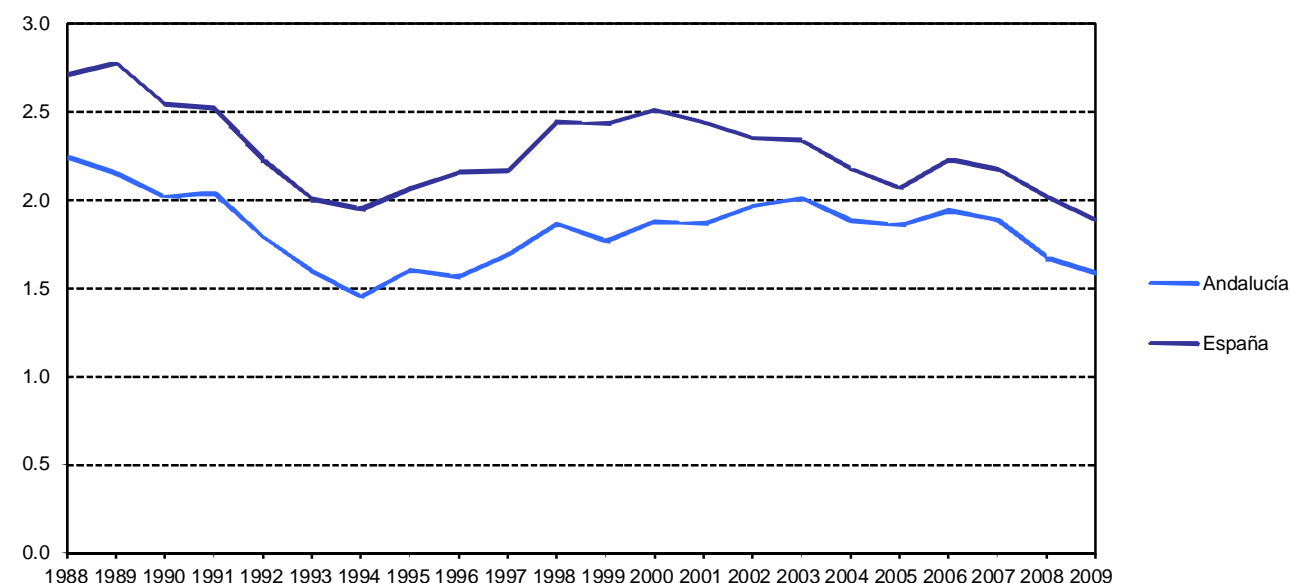
Figure 9 Road Freight Traffic Trends in Spain and Andalucía



Sources: Ministerio de Fomento. Anuario estadístico

Under the functional stand point it is finally worth commenting on the trends in traffic accidents.

Figure 10 Trend in Accidents with Injured People in Spain and Andalucía Region



Sources: Junta de Andalucía – Statistic Bulletin

Despite the fact that Spain and Andalucía show a similar pattern in traffic accidents, the figures illustrated in the table below show slightly worse indexes for the region and the two provinces of Almería and Granada if compared to Spain. This would support the investment although the CBA analysis seems not expecting any benefit from this (See also Chapter 4 below).

Table 6 Road Traffic Accidents Indicators – 2009

	Andalucía	Almería	Cádiz	Córdoba	Granada	Huelva	Jaén	Málaga	Sevilla	Spain
Length of road network	23,524	2,418	2,152	4,002	3,070	2,082	3,426	2,543	3,832	165,463
Accidents with Injured People per km of road network	0.3	0.2	0.5	0.1	0.3	0.3	0.2	0.4	0.4	0.2
Fatal Accidents per km of road network	0.013	0.011	0.014	0.006	0.015	0.014	0.010	0.017	0.017	0.010

Sources: Junta de Andalucía – Statistic Bulletin

2.4 Consistency with Other Union Policies

The sources for the financing of the *Autovía A-334 – Autovía del Almanzora – Section Baza – Huerca Overa* are detailed at page 43 and 44 of the application form. The project is going to be financed by mean of public funds and the ERDF.

Feasibility and design related studies were co-financed during the programming period 2000-2006. This is probably the reason why the costs for the design presented in Table H.1. are considered as not eligible. We suggest checking the scope and results of these studies with the ones the application dossier and additional feasibility and design studies and public available information mentioned in Section 2.2.

The publicity measures, described at page 46 of the application form are in line with the requirements of the EU regulation. The cost for these measures is however not specified in the application dossier.

B.2. Recommendations and suggestions

The description of the project is overall not satisfactory and should be improved. Thanks to additional information available on the Website of the Junta de Andalucía Region, it has been possible to be more precise in our requests for clarification. Although thanks to this additional analysis it is possible to conclude that the project is technically sound, most of the information relating to the strategic and functional objectives of the project and representing an input to the CBA analysis are not described and provided in a reliable way, several of them are not updated or even omitted. These include project costs, traffic data, time-schedule of project implementation.

The analysis of the most relevant socio-economic and traffic trends relating to the implementation of the project question put into question the investment under appraisal which requires particular attention in the development and presentation of the CBA analysis. This is not the case, the results of the CBA provided in the application dossier actually confirming that the project is not worth co-financing in line with the analysis presented in this section.

3 TECHNICAL FEASIBILITY, PROJECT COSTS AND DEMAND ANALYSIS

3.1 Technical Feasibility

3.1.1 Feasibility Study

As reported in Table D.1. Calendario, of the application form, feasibility studies were undertaken between 2003 and 2011.

The analysis of the demand and traffic on the A-334 is commented in Section 3.3 below and in Section 2.3 above.

Concerning the selection of the alternatives, the application form summarizes the results of these studies referring to the two main operational phases, “Baza-Purchena” and “Purchena-A7”.

The description of the proposed alternatives for the Baza-Purchena Section, and of the process to select the preferred solution, is considered accurate and appropriate. It is mentioned that several alternatives (more than 20) were considered and assessed based on the following criteria:

- Functionality
- Environmental impact
- Territorial impact
- Cost- effectiveness
- Total investment

The documentation provided in the application dossier states that the selected alternative was the one which obtained the highest score in the multicriteria evaluation process.

On the contrary, the study undertaken for the Purchena-A7 Section is poorly described. The summarized information lacks even the most relevant details.

The results from the most recent feasibility study concerning the implementation of the Purchena-A7 Section under a PPP concession scheme are not presented (*Estudio de Viabilidad para la construcción, conservación y explotación de la Autovía de la Almanzora. Tramo: Purchena-A7*).

Overall this section of the application form should have been described in a rather more clear way.

3.1.2 Technical Concept

Based on the information available at the Website Page of the Junta de Andalucía dedicated to the bid process for the PPP concession of the Purchena-A7 Section of the investment under appraisal⁵, it can be concluded that the project is technically sound, specified that the proposed type of road seems slightly over-dimensioned for the existing traffic (lower than 7,000 veh/day) - the future expected one not being provided in the application dossier.

Although bypasses at urban centres and links to industrial districts are worth to be constructed with two lines per direction in order to mitigate accident related risks and road traffic pollution, as well as increasing travel time savings, the level of traffic on the roads as declared in the project

⁵ <http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

dossier and public available documentation would more support improving this road (enlargement of the carriageways and re-design of interchanges and curves...) rather upgrading it in its entire length (two lines per direction); this is particularly true for the extra-urban sections of the road, and for the Baza-Purchena Section (see also Section 3.3. and Chapter 4 below).

The documentation enclosed to the mentioned bid process also includes provisions, manuals and specifications ensuring that the road will be designed, constructed and managed according to the relevant national and regional technical standards.

Also concerning the environmental impact assessment related procedures, the information provided and the available one are satisfactory, specified that it is relevant double-checking how the prescriptions and provisions mentioned in the EIA declarations both enclosed to the application dossier and to the mentioned bid dossier for the PPP concession for the implementation and operation of the Purchena-A7 Section have been and will be incorporated and eventually further detailed in the offers and contracts of the entities winning the bids for the two identified operational phases – for the Purchena-A7 one the contact with the concessionary company *Autovía del Almanzora S.A.*

B.3.1.2. Recommendations and suggestions

The project is technically sound although the proposed type of road seems slightly over-dimensioned for the existing traffic (the average AADT on the entire length is lower than 7,000 veh/day according the data available on the website of the *Junta de Andalucía*) - the future expected demand not being provided in the application dossier.

Although bypasses at urban centres and links to industrial districts are worth to be constructed with two lines per direction in order to mitigate accident related risks and road traffic pollution, as well as increasing travel time savings, the level of traffic on the roads as declared in the project dossier and public available documentation would more support improving this road (enlargement of the carriageways and re-design of interchanges and curves...) rather upgrading it in its entire length (two lines per direction); this is particularly true for the extra-urban sections of the road, and for the Baza-Purchena Section. To this respect it is also worth considering the recent guidelines by the *Ministerio de Fomento* on the dimensioning of the road infrastructure related investments – points 6 and 7 page 106253⁶.

3.1.3 Environmental assessment

Environmental Impact Assessment. An Environmental Impact Assessment procedure has been undertaken and completed for the following sections of the A-334. An environmental declaration DIA has been issued accordingly for the following units of analysis which cover together the A-334 in its entire length (the two operational phases Baza-Purchena and Purchena-A7 – as well as the link to the Albox Industrial District):

- Comarca del Mármol -Huércal Overa – 01/02/2005
- Purchena-*Parque Empresarial* – 26/04/2008
- El Cucador-Autovía A7 – 16/06/2009
- Baza-Purchena – 18/06/2009

⁶ Orden FOM/3317/2010, de 17 de diciembre, Instrucción sobre las medidas específicas para la mejora de la eficiencia en la ejecución de las obras públicas de infraestructuras ferroviarias, carreteras y aeropuertos del Ministerio de Fomento; <http://www.boe.es/boe/dias/2010/12/23/pdfs/BOE-A-2010-19708.pdf>

It must be noted that at stage of detailed design of the El Cucador-Autovía A7 section, the project was requested to be modified by the *Ministerio de Fomento* (responsible for the management of A-7 highway) which led to the need to start a new EIA procedure for this section. A specific EIA procedure for the link to the Albox Industrial District was also undertaken in addition to the one for the two main operational phases.

The environmental decision (DIA annexed to the application form) imposed some general obligations regarding environmental impact monitoring and effectiveness of mitigation measures during construction and post-execution phases.

As part of the EIA related procedures it was requested to modify the adopted design solution given to the interference of the road with some “cattle trails”, in order to diminish the impacts.

The EIA document also contains evidences for the public consultation processes undertaken as part of the EIA procedures, including the ones related to the impacts of the project on a water source called *Fuente de Cela*.

It is stated that the preventive and mitigation measures imposed by the DIA have been incorporated to the on-going Mitigation Plan and the Environmental Restoration Project (*Proyecto de Restauración Paisajística*) enclosed to the Detailed Design documentation. It is also stated that environmental audits and on-going supervision are being carried out as requested.

The costs for the identified preventive and mitigation measures have been estimated to be equal to the 10% of the investment. A description of these measures is provided in the application form which is satisfactory, although, given the overall amount of resources absorbed by these measures, the costs details for them should be requested.

Strategic Environmental Assessment. The application form is not clear to this respect. It is stated that the project is not included in a plan subject to SEA Directive, although the various operational phases and works have been assessed also considering its provisions.

Natura 2000. A certificate from the regional environmental authority – *Consejería de Medio Ambiente, Junta de Andalucía*) has been enclosed to the application form (Annex I) stating that the project is unlikely to have impacts on any classified Area Natura 2000. No map was enclosed to the application dossier

3.1.4 Project implementation scheme and time schedule

The beneficiary of the project is the *Dirección General de Infraestructuras Viarias de la Junta de Andalucía*, responsible for the development, operation and maintenance of the *Autovía del Almanzora* corridor.

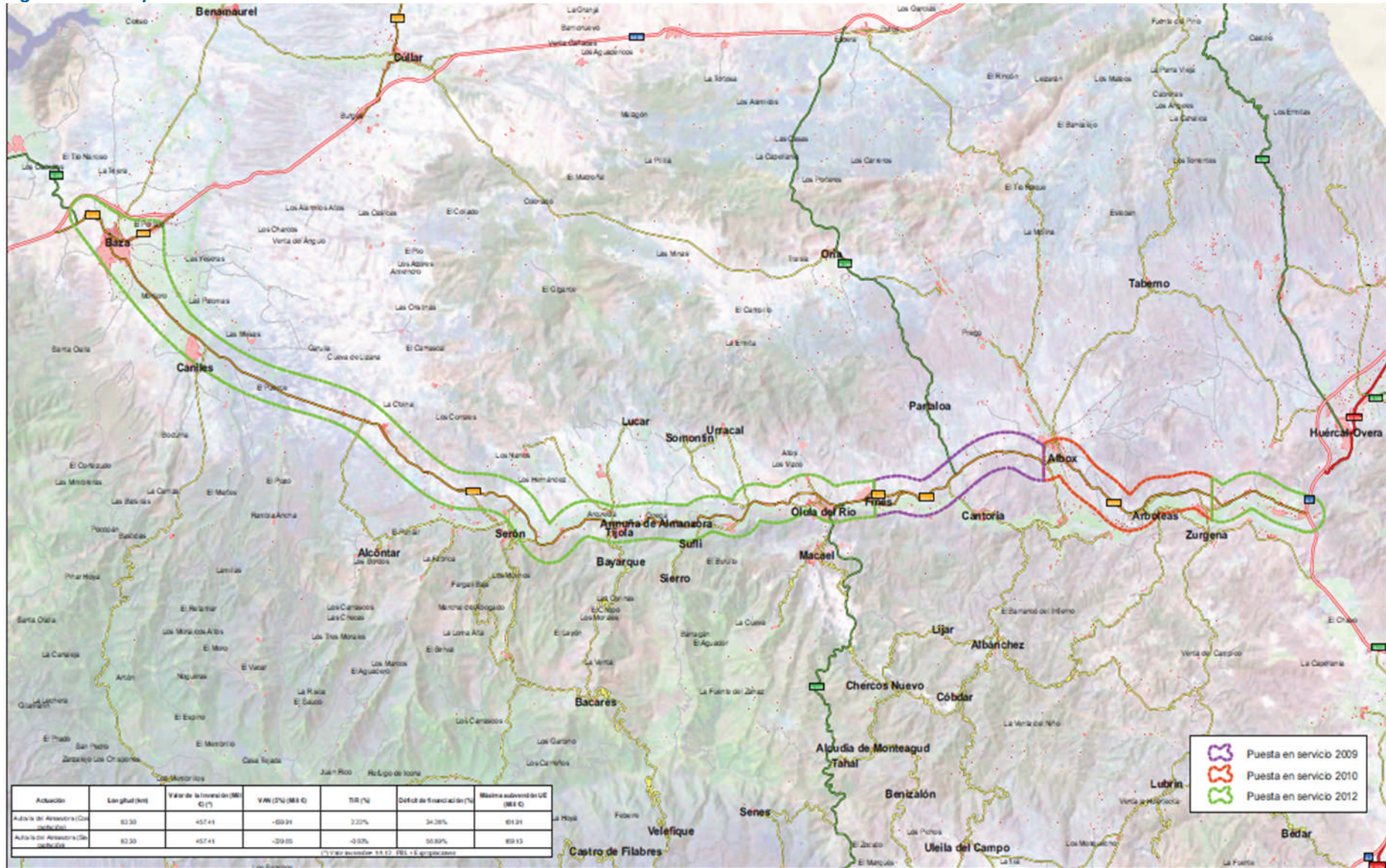
The project is going to be implemented in two operational phases, both to be implemented by means of a PPP scheme based on availability payment. Neither real nor shadow tolls are predicted to be applied for the use of the infrastructure.

The concessionary company is expected to prepare the construction design based on design and feasibility studies developed by the granting authority, and to build and manage the infrastructure for 30 years. During this period the concessionary company will be also in charge of the ordinary and extra-ordinary maintenance of the road.

The granting authority is the *Agencia de Obra Pública de la Junta de Andalucía*, who remains the owner of the infrastructure. According to the adopted PPP scheme, the construction, financial and operation related risks are allocated to the concessionary company. This will be corresponded an infrastructure availability annual fee equal to €18.92 million⁷.

⁷ <http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

Figure 11 Map of the “Autovía del Almanzora” – Section Baza-Purchena



Source: Annex II to the Application Form

The project dossier is not updated concerning the results of the bid process for the selection of the concessionary company for the Purchena-A7 Section – only the information on the Fines Albox, Albox Bypass, Albox Bypass-El Cucador and El Cucador-Enlace La Concepcion is mentioned (page 47 of the application form). The contractor for the Purchena-A7 Section was appointed in January 2012 and the concession agreement signed mid of March 2012. A similar scheme is intended to be used also for the implementation of the Baza-Purchena Section, although the bid process for this stretch is still to be opened.

The description of the project concerning the time-schedule for its implementation as provided in Section D table D.1 and is also illustrated in the GANTT chart included in the application form is not updated. A more updated information is provided in Table 1 in Section 2.2 above, in line with what included at page 4 of the *Estudio de Viabilidad para la construcción, conservación y explotación de la Autovía de la Almazora. Tramo: Purchena-A7*. Actually this study is mentioned in Table D.1. although its content is not commented in the application form and in the CBA. Table D.1. even do not consider that this study also included a CBA section.

In terms of preparation of the tendering procedures for the selection of the concessionary companies for the implementation of the two main identified operational phases are not mentioned in Table D.1., although both the table and GANTT chart at page 27 of the application form include the information concerning the bid – albeit not updated. We assume a similar feasibility study as the one developed for the PPP scheme of the Purchena-A7 Section will be also prepared for the Baza-Purchena one in support of the bid process to be launched for its implementation. The time-schedule for the land acquisition of the Baza-Purchena Section is not commented. The map in the previous page illustrates the status of implementation of the project, showing what sections have already been opened to traffic.

Concerning the completion of the project, the Baza-Purchena Section will not be completed before the end of the programming period. As stated in section D 4.2 early start of the construction of section Purchena-A7 was set in Dec 2011, so it is already delayed since the construction design will not be ready before the summer and the construction is expected to start only by end of this year. Early completion of the Albox Bypass was planned to be Jul 2011 whereas it is believed that it has not been concluded yet.

In conclusion, the construction of the remaining stretches of the Purchena-A7 Section is slightly delayed according to the presented schedule, and there may be risks that some sections of the project will not be completed by end of the programming period.

B.3.1.4. Recommendations and suggestions

Given that the Baza-Purchena Section is still at an earlier stage of development and that the implementation of the Purchena-A7 Section is being implemented in slight delay, we suggest requesting an updated time-schedule. This should refer to the preparation and implementation of the PPP scheme for the Baza-Purchena Section and should also specify the expected completion for all of the operational works included in the two main operational phases.

The infrastructure availability annual fee equal to €18.92 million can be acceptable, specified that the description of the operation and maintenance costs could have been provided in a more clear way.

We suggest requesting the financial plan at the basis of the Purchena-A7 concession for a more clear comprehension of the functioning of the PPP scheme and to verify the exact allocation of the risks between the concessionary company and the Public Authority.

3.2 Project costs

Although the costs for the implementation of this infrastructure are not clear and should be clarified (see Section 2.2 above), the figures included in the project documentation (available on the *Junta de Andalucía* website) as well as the ones in the application dossier are in line with the “efficiency ratios” ranges published in December 2010 by *Ministerio de Fomento* – pages 106251 to 106253⁸. This is also confirmed by our experience the region which shows a highway cost between €4 and 6 million.

The costs relating to planning, design, supervision and land acquisition as specified at Table H1 of the application form are deemed to be appropriate.

As already said under Section 3.1.4 above, based on the information included in the project dossier, a number of mitigation, compensation and corrective measures are to be implemented. In the application form this is expected to result into expenditures equal to the 10% of the investment costs, which is a considerable amount.

B.3.2. Recommendations and suggestions

Although based on additional project related information we can conclude that the project costs are acceptable, the costs indicated in the application dossier are not clear. The information on the costs of the project should be provided in a more detailed way and in line with the standard practice – see i.e. structure at page 46 of the *Anteproyecto* for the Baza-Purchena Section (as well as other Project Design related documentation as available in the Web Site dedicated to the bid process of the selection of the concessionaire for the construction, maintenance and operation of the Purchena-A7 Section)⁹.

Given that the project is a quite articulated one and that the Baza-Purchena Section is not going to be completed by the end of 2015, also considering that several sections are already in operation while some others are under construction, all this resulting in a unclear understanding of the eligible costs as presented in Table H.1 of the application form, we would also recommend requesting a clarification on the calculation of these costs, specifying the rationale for their identification. We would also suggest the costs for each of the 8 section within the two main operational phases are provided in separate according to the mentioned structure.

Since the environmental mitigation and preventive measures have a relevant weight (10% of total cost), the inclusion of a detailed justification of the budget in addition to the qualitative description of these measures as provided in the project dossier is recommended.

⁸ Orden FOM/3317/2010, de 17 de diciembre, Instrucción sobre las medidas específicas para la mejora de la eficiencia en la ejecución de las obras públicas de infraestructuras ferroviarias, carreteras y aeropuertos del Ministerio de Fomento; <http://www.boe.es/boe/dias/2010/12/23/pdfs/BOE-A-2010-19708.pdf>

⁹ <http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

3.3 Demand analysis

The results of the demand analysis are presented under item C.1.1 of the application form. The overall presentation of the analysis is very poor, and it doesn't even include the results for the entire corridor nor a description of the methodology.

For the Baza-Purchena Section, only the observed traffic volumes in 2005 are included. The future volumes are presented for Purchena – A7 Section; also in this case, no comment or clarification is provided concerning the assumptions adopted to derive the forecasts. Also, even if the growth rates seem overall reasonable, we have no evidence that the traffic decline following the economic crisis in 2008 (see also Section 2.3 above) was taken into due consideration.

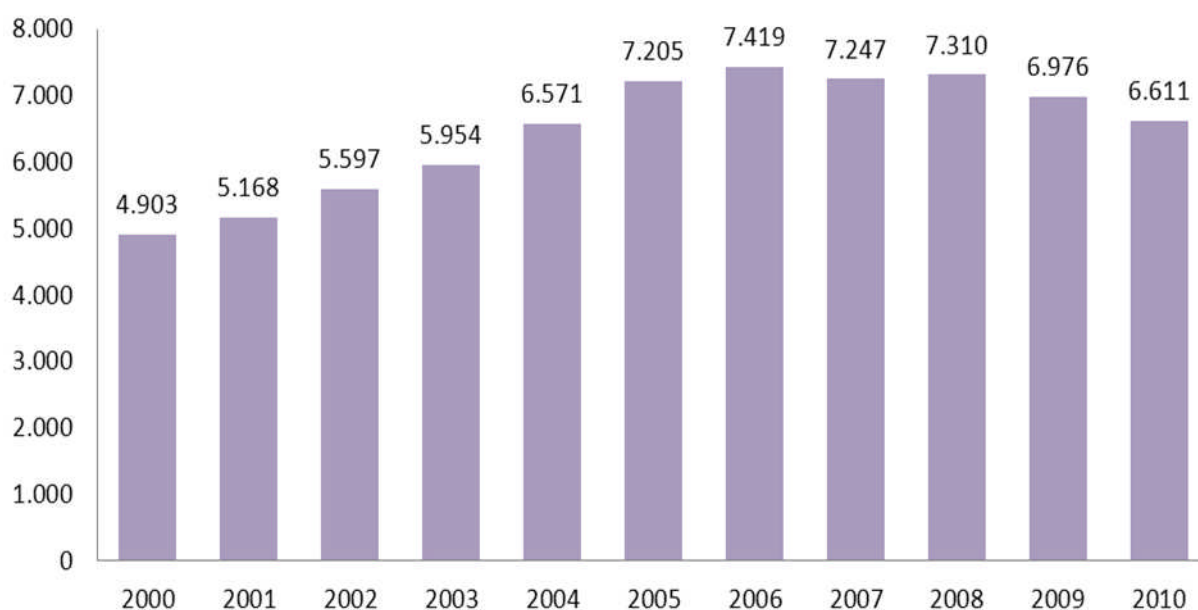
Table 7 A-334 Purchena – A7. Traffic projections and growth rates

Section	From	To	2007	2017		2027	
			AADT	AADT	CAGR	AADT	CAGR
Tramo I	Purchena	Olula del Rio	3,882	4,592	1.7%	5,025	0.9%
	Olula del Rio	Fines	3,882	4,592	1.7%	5,025	0.9%
Tramo II	Fines	Cantoira	10,738	12,053	1.2%	13,181	0.9%
	Cantoira	A-399	11,982	13,446	1.2%	14,710	0.9%
Tramo III	A-399	Inicio variante de Albox	12,875	14,426	1.1%	15,785	0.9%
	Inicio variante de Albox	Albox	5,110	5,952	1.5%	6,512	0.9%
Tramo IV	Albox	Fin de variante de Albox	16,471	18,209	1.0%	19,922	0.9%
	Fin de variante de Albox	Arboleas	16,471	18,209	1.0%	19,922	0.9%
	Arboleas	Zurgena	15,738	17,509	1.1%	19,246	1.0%
	Zurgena	A-7	6,544	7,358	1.2%	8,052	0.9%

Source: Application form, page 16

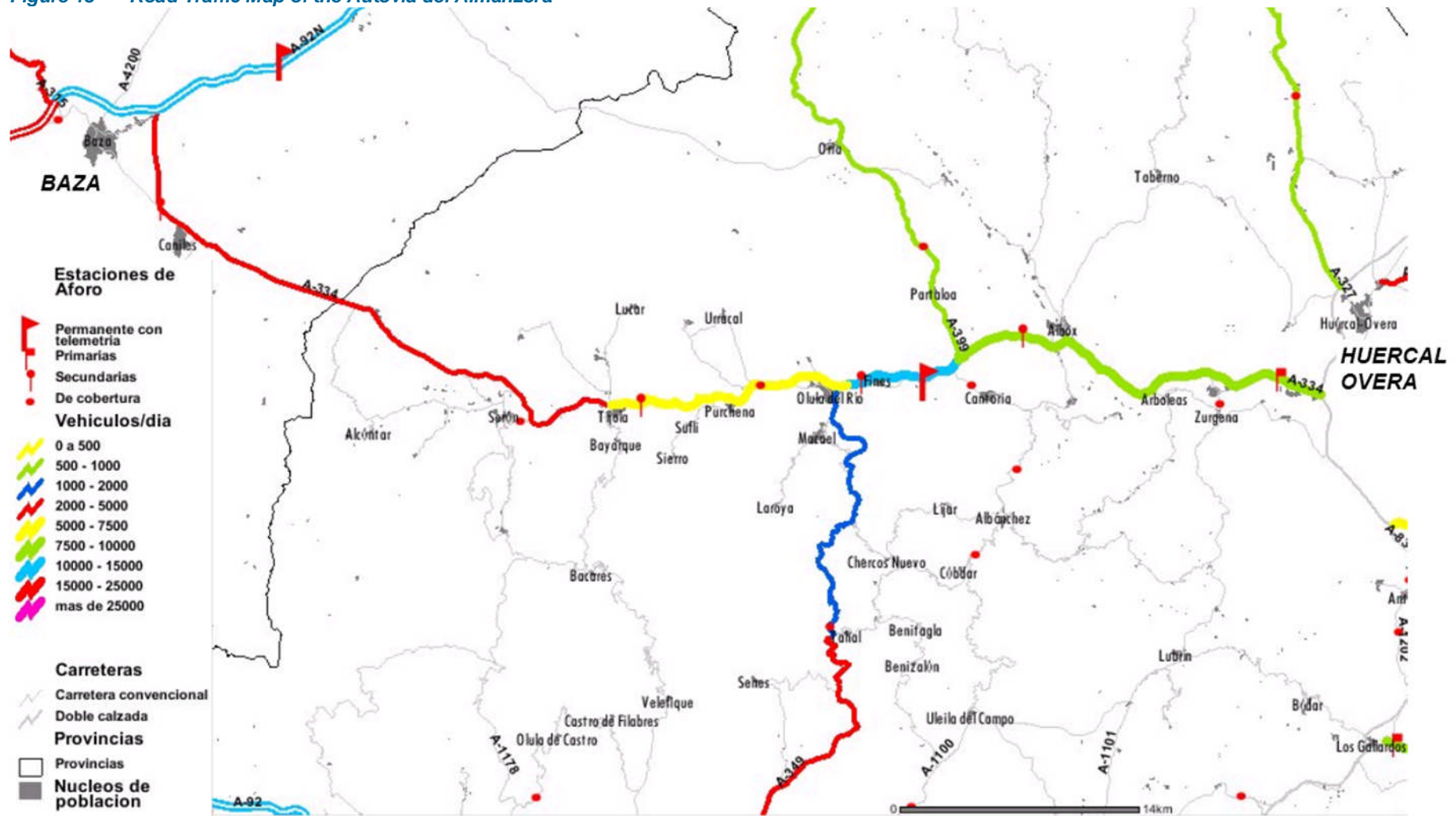
The following graph shows that the traffic has been growing significantly in the period 2000-2006 on the A-344, but subsequently volumes declined by around 11% since then.

Figure 12 A344 Baza – Huercal Overa. Average Annual Daily Traffic (AADT)



Source: Junta da Andalucía

Figure 13 Road Traffic Map of the Autovía del Almanzora'



Source: Junta de Andalucía

Also, we have compared the forecasted volumes on the Purchena- A7 section to volumes recorded by the traffic monitoring system in place at the regional level and we noticed some inconsistencies: for instance, between Purchena and Olula del Rio the 2007 traffic included in the application form is 3,882 veh/day, while the recorded volume in 2010 is 7.034 (see Table 8 below). This difference further highlights the need for a more detailed analysis and presentation of the results, with a direct reference to the most updated traffic counts available in the regional database.

Table 8 A-334. Current traffic volumes (2010)

Count station	Province	Section	Location (km)	AADT	% Heavies
SC-410	GRANADA	CANILES - LIM. ALMERIA	13+250	4.365	10%
SC-135	ALMERIA	TIJOLA-PURCHENA	41+900	5.368	4%
AL-1002	ALMERIA	PURCHENA-OLULA	50+700	7.034	8%
SC-130	ALMERIA	OLULA DEL RIO-FINES	56+600	11.092	4%
pT-01	ALMERIA	FINES - A-1100 (CANTORIA)	61+900	7.783	14%
SC-131	ALMERIA	A-1100 (CANTORIA) - ALBOX	69+400	9.100	6%
PR-208	ALMERIA	ALBOX - A7	86+650	8.006	5%

Source: Junta da Andalucía

Based on the above considerations, the documentation is considered unsatisfactory and doesn't allow a proper assessment of the assumptions adopted in the CBA.

B.3.3. Recommendations and suggestions

The information concerning the demand analysis is incomplete and unsatisfactory, both in terms of results and methodology and doesn't allow a proper assessment of the assumptions adopted in the CBA.

We therefore recommend improving the analysis, including and commenting the results and the assumptions for the do nothing and the do something scenarios; the most updated traffic volumes recorded in the regional traffic database should be provided and contrasted with the future forecasts and the effect of the current economic recession should be explicitly taken into account and commented.

We also notice that the tender documentation for the concession of the Purchena-A7 Section (available under the official website of the *Junta de Andalucía*) as well as the *anteproyecto* for the Baza-Purchena Section include demand and traffic data and estimations whereas the application dossier lack of such details and/differs from these.

The demand analysis information included in the application form is not reliable and should be revised as this represents a key input for the CBA and its results which for this specific infrastructure do not support the case for its investment.

4 COST BENEFIT ANALYSIS

According to the CBA report (*Annexo 2. Estudio Coste / Beneficio*) included in the project dossier, the CBA analysis has been developed according to the following guidelines:

- Ministerio de Obras Pública, Transportes y Medio Ambiente, “*Recomendaciones para la evaluación económica, Coste-Beneficio, de estudios y proyectos de carreteras*”, 1990;
- European Commission Directorate General Policy “*Guide to Cost Benefit Analysis of Investment Project*”, July 2008.

The overall quality of the financial and socioeconomic analysis is very poor. Most of the inputs and assumptions are not provided, not enabling a detailed assessment of the reliability of the approach to the CBA; also, some of the requested results are not included (such as the economic indicators), some others seem inaccurate; also, we have identified a number of inconsistencies between the application form and the *Annexo 2*, which overall suggest that the documentation was not prepared with the due diligence.

The unit of analysis for the CBA is the A-334 (*Baza - Huercal Ovra* section). The *do nothing* scenario is not described in the documentation, even if some results for it are presented in Annex II. We however understand that the *do nothing* scenario simply assumes that the current situation is maintained over time unchanged, ensuring the correct level of ordinary and extraordinary maintenance of the existing road.

The incremental approach is adopted for the analysis. Concerning the *do nothing* scenario, no information is provided about the future asset and use of the stretches of the existing A-334 that will remain in operation in parallel to the new road. In case the existing road is still in operation, the related maintenance costs should be considered in the *do something* scenario, the demand analysis for the new road also taking into account this element.

4.1 Financial analysis

The financial analysis is based on the following general assumptions:

- The accountancy unit is the Public Administration, which is the Beneficiary of the EU funds and the owner of the infrastructure;
- The financial discount rate is assumed 5% net of inflation, which is acceptable;
- The time horizon for the analysis is 29 years including the construction period; considering the 7 years of the construction period, we would suggest to adopt a longer period, covering 25 years of operations for all sections;
- No residual value of the investment is included in the analysis, which we don't consider correct, given that a well-maintained road will still be functional at the end of the period;

Moreover, the following project cash flows have been included in the financial analysis:

- Investments costs, as included in the application form;
- Cash out-flows: operating costs, including only ordinary and extraordinary maintenance, as there are no personnel, technology or admin costs related to tolling operations;
- Cash in-flows: no cash in-flows are included, as the road is not tolled.

The Financial Analysis is developed net of VAT, which is also not included in the eligible costs.

4.1.1 Cash out-flows

Investment costs for the projects are € 415 million (net of VAT⁹; the annual budget time plan is not included in the documentation, so we cannot calculate the present value of this cost. According to the documentation (Item E.1.2 of the application form), the present value is € 393.6 million, but this value seems actually miscalculated, considering a 5% discount rate and a 7 year construction period. For instance, assuming that the budget is evenly allocated to all years, the present value in the 2009 base year would be € 343 million.

The ordinary and extraordinary maintenance costs are included in the cash out-flows. No details are provided concerning the split between work, labour, equipment and services or by technical activities. After project completion, ordinary maintenance in the project scenario is estimated to be between € 500 thousands and 700 thousands, which seems reasonable taking into account the road length (84 km). The extraordinary maintenance costs are €38 million every 10 years, which also seems a reasonable value, taking into account planned road repaving.

4.1.2 Cash in-flows

The project is not generating any annual revenue, given that the road is not tolled. No residual value of the investment is included in the analysis, which we don't consider correct, given that a well-maintained road will still be functional at the end of the period.

4.1.3 Funding Gap and Financial Indicators

The project is not revenue generating, therefore the funding gap method is not applicable. The values of the financial performance indicators (FNPV(C), FRR(C), FNPV(K), FRR(K)) don't seem correct. As commented under section 4.1.1, the present value of the investment cost seems miscalculated, therefore leading to wrong estimation of the financial performance indicators.

4.1.4 Public Contribution Viability

As described in the application form, the project is financed by national funds and the EU financial assistance is considered essential for the realization of the project.

Concerning the determination of the EU contribution, Table H.1 seems correct – eligible costs do not include VAT. However, no clarification is provided concerning the split between eligible and non-eligible costs.

Also Table H.2.1 of the application form is correct and in line with the results of the financial analysis. The co-financing rate is 65% of the eligible costs. Table H.3 is correct with respect of the total value of the EU contribution, but the calendar is not correct, as the construction will be completed in 2015 (2016 actually for the Baza-Purchena Section) and not in 2013.

B.4.1. Recommendations and suggestions

The overall quality of the financial and socioeconomic analysis is very poor. Many inputs and assumptions are not provided, not enabling a detailed assessment of the reliability of the approach to the CBA; also, some of the results, such as the financial indicators, seem inaccurate. We would therefore recommend requesting a complete revision of the financial analysis, including the following main improvements:

- Overall, the detailed input and results of the analysis should be provided, allowing a full understanding of the assumption and methodology adopted in the analysis;
- The *do nothing* scenario should be clearly described in the documentation;
- The assumption underlying the O&M cost estimate should be provided, also clarifying the year by year variation;

- No information is provided concerning the future configuration of the existing A-334 infrastructure where the new road will not replace the existing one. In case the existing road will still be in operation, the related maintenance costs should be considered in the *do something* scenario, the demand analysis for the new road also taking into account this element;
- The present value of the investment cost should be recalculated, as the value included in the documentation seems actually miscalculated, not incorporating a 5% discount rate and a 7 year construction period as assumed in the analysis;
- A sensible residual value of the investment should be included in the analysis, given that a well-maintained road will still be functional at the end of the period;
- Table H.3 is correct with respect to the total value of the EU contribution, but the calendar is not correct, as the construction will be completed in 2015 (2016 actually for the Baza-Purchena Section) and not in 2013.

While these improvements are recommended to ensure the consistency and the quality of the documentation, these remarks do not affect the total amount of the EU grant (€ 32.5 million), given that the project is not revenue generating.

4.2 Socio-economic analysis

The documentation provided for the socioeconomic analysis is very poor and incomplete. The main results of the analysis (expected economic benefits, performance indicators) are not provided and we found inconsistencies between the application form and the *Annexo II. Estudio Coste / Beneficio*.

In order to comment on these inconsistencies, we will refer both to the summary of the socioeconomic analysis included in the application form under item E.2 and to the documentation provided in the *Annexo II*; also, within the *Annexo II*, we would mainly refer to the final tables included in the CBA Report (*Apéndice 1. Resultados*, beginning at page 79 of the file *Anexo XXI - anexo XXI_Almanzora.pdf*), which provide the most complete and detailed information. However, we would recommend requesting the resubmission of the application providing a consistent a more clear information.

The socioeconomic analysis is based on the following main assumptions:

- The social discount rate is 5.5% according to the application form and the *Annexo II*; however, the tables with the detailed results (*Apéndice 1. Resultados*) are based on a 5% discount rate; this inconsistency should be clarified; we also note that both the adopted values are relatively high; based on the DG Regio *Working Document n.4*, we would also consider acceptable a lower discount rate (3.5%);
- The base year considered in the analysis is not clarified; however, we assume it is 2009 according to tables included in the *Annexo II* (see for instance page 6);
- As in the financial analysis, the time horizon for the analysis is 29 years including the construction period; considering the 7 years of the construction period, we would suggest to adopt a longer period, covering 25 years of operations for all sections;
- As in the financial analysis, no residual value of the investment is included in the analysis, which we don't consider correct, given that a well-maintained road will still be functional at the end of the period;
- In association with the project costs based on the financial analysis, the CBA also include the users' transport benefits and costs, based on the methodology depicted in the "*Recomendaciones para la evaluación económica, Coste-Beneficio, de estudios y proyectos de carreteras*", published by the *Ministerio de Obras Pública, Transportes y Medio Ambiente*.

While we will further comment in the following sections on the key element of the CBA, it is worth highlighting that, to the extent we have been able to understand based on the documentation provided, the socioeconomic analysis shows that the economic costs of the project under assessment will by far exceed its expected benefits.

Table 9 Values of Time in the CBA and in the EU guidelines

Item	Discounted Value (€ 2009 thousands)	
	Application Form (Item E.2)	Annexo II. Estudio Coste / Beneficio (Apéndice 1. Resultados)
Benefits		
Value of travel time savings	420,810	359,877
Vehicle operating costs	n.a.	-195,029
Emissions	106	23
Safety	n.a.	-32,873
Costs		
Investment	-393,610	-339,974
O&M	-53,057	-33,435
ENPV (C)	-25,751	-241,409

Source: Application form (Item E.2) and Anexo II. Estudio Coste / Beneficio. (Apéndice 1. Resultados)

As shown in the previous table, the ENPV is negative both according to the application form (Table E.2) and to the Tables annexed to the CBA Report; however, the values are largely different, partly due to discrepancies in the values and partly due to additional benefits included in the CBA report, which have a negative sign (and are therefore costs). It is worth highlighting that the summary table of the application form (item E.2.3) provides an even more negative result (ENPV = € -382.407 thousands), which however is nowhere explained and we were not able to replicate.

Finally, we notice that the assumptions and the results of the socioeconomic analysis are not consistent with the CBA undertaken in the feasibility study for the Purchena – A7 section of the project (available under the official website of the *Junta de Andalucía*), which has been already granted as a DBFO Concession through a public procurement process. The differences between the two analyses and other analysis undertaken for the corridor should be presented and commented in the application submitted to support the request for co-financing.

4.2.1 Conversion of market to accounting prices

According to the 2008 EU CBA guidelines, socio economic prices of inputs and outputs to be considered for CBA should be net of VAT and of other indirect taxes. Also, financial cash flows should be converted from market to accounting prices, in order to reflect the social opportunity cost of inputs and outputs. Generally, prices in highly competitive markets do not need to be corrected – as it is the case of easily traded goods.

Based on the documentation provided, we understand that no conversion factors were applied in the socioeconomic analysis: in fact, the economic value of the investment is the same as the financial value of it. While we understand that no fiscal correction may be appropriate, given that the prices in the financial analysis are already net of VAT, we would expect including a shadow wage taking into account the opportunity cost of labour in Andalucía, which would reduce the economic cost of the investment.

4.2.2 User benefits estimation

The VoT used to convert travel times to monetary values are illustrated in the table below.

Table 10 Values of Time in the CBA and in the EU guidelines

Segment	Annexo II. Estudio Coste / Beneficio (€2009/h)	HEATCO Long distance trips (€2010/h)
Private vehicles	9	10.68(*)
Trucks	15	n.a.

Note: () assuming 20% commuters, 9% business and 71% others (own elaboration based on National Mobility Survey, Movilia 2006/2007)*

The time saving value used in the application for passengers is lower than the values suggested by HEATCO (long distance traffic). However, taking into account the lower GDP pro-capita of the Andalucía region, this difference is reasonable.

The application form doesn't provide any clarification concerning the value of time applied to the freight transport (15 €/h); we consider this value acceptable, provided that it reflects the cost for driving; this should not be therefore included in the vehicle operating costs for trucks in order to avoid double-counting.

No information is provided concerning how the travel time savings were estimated in the different scenario; the methodology and assumptions should be clarified allowing to assess whether the values provided are sensible.

No information is provided concerning the methodology and the unitary operating cost for heavy and light vehicles. We see that the results included in the tables annexed to the CBA report show that the project is expected to increase the Vehicle Operating Costs, which is possible considering that the incremental demand using the corridor might travel longer distance; however, the documentation doesn't provide any justification or comment on this element.

4.2.3 External benefits estimation

The external users' benefits include the reduction of environment pollution (air emission and noise) and the improvement of road safety. The information doesn't provide any clarification concerning the assumptions and methodology adopted to develop the assessment. However, we notice that according to the tables annexed to the CBA report, the project is expected producing a positive environmental benefit, but a negative impact on the road safety. As generally these two parameters depend as a first approximation on the total vehicle travelled distance, we would expect being both either positive or negative; actually, we would expect the same sign of the vehicle operating costs (which is negative), so the reason why the project is generating a positive environmental benefit should be clarified as it doesn't seem consistent with the results concerning the vehicle operating costs and the road safety.

4.2.4 Effects on employment and other non-monetized effects

The CBA includes the evaluation of the impact of the project on the employment, in terms of staff directly employed in the construction and operational phase. No quantification of indirect impact on employment is included in the application dossier.

4.2.5 Economic performance indicators

As discussed earlier (see § 4.1), the documentation present inconsistencies and the economic indicators included in the application form under item E.2.3 do not correspond the detailed tables included in the CBA report (*Apéndice 1. Resultados*).

While we consider appropriate requesting the beneficiary providing a revised and consistent socioeconomic analysis, it is worth highlighting that, based on the documentation provided, the socioeconomic analysis shows that the economic costs of the project under assessment will by far exceed its expected benefits. While the poor quality of the documentation does not allow a clear assessment of this conclusion, this result seems in line with the low traffic on the new road (average AADT on the whole project length in 2010 is less than 7.000 veh/day), which will result in a significant spare capacity on the new road (assuming a standard capacity of 20.000 veh/day/lane, the average spare capacity would be around 90%). In fact, it is not surprising seeing a negative socioeconomic performance indicator for a road that will be significantly underutilized.

4.2.6 Risk assessment and sensitivity analysis

A sensitivity analysis is included in the application form, in line with the Community guidelines (*Guide to Cost Benefit Analysis of Investment Projects, July 2008 European Union*). The sensitivity analysis allows the determination of the 'critical' variables or parameters of the model. The critical variables are those variables or parameters for which an absolute variation of 1% around the best estimate gives rise to a corresponding variation of not less than 1% (one percentage point) in the ERR and not less than 5% in the ENPV.

The sensitivity analysis only covers the investment and O&M costs. No variable was identified as critical and therefore no risk analysis was undertaken. Given the negative results of the socioeconomic analysis, we don't consider critical for the appraisal of this project undertaking a full risk analysis; however, the methodology suggested by the EC would require testing other variables, at least including the traffic demand, the value of time and the travel time savings.

B.4.2. Recommendations and suggestions

The overall quality of the financial and socioeconomic analysis is very poor. Many inputs and assumptions are not provided, not enabling a detailed assessment of the reliability of the approach to the CBA; also, some of the results, such as the economic indicators, seem inaccurate, while we also notice a number of inconsistencies in the documentation provided, especially between the application form and the *Annexo II. Estudio Coste / Beneficio* and its appendix (*Apéndice 1. Resultados*).

We would therefore recommend requesting a complete revision of the socioeconomic analysis, including the following main improvements (some of which confirm the recommendations concerning the financial analysis):

- Overall, the detailed input and results of the analysis should be provided, allowing a full understanding of the assumption and methodology adopted in the analysis; also, the documentation should provide a consistent set of assumptions and results;
- The *do nothing* scenario should be clearly described in the documentation;
- The assumption underlying the O&M cost estimate should be provided, also clarifying the year by year variation;
- No information is provided concerning the future configuration of the existing A-334 infrastructure where the new road will not replace the existing one. In case the existing road will still be in operation, the related maintenance costs should be considered in the *do something* scenario, the demand analysis for the new road also taking into account this element;

- A sensible residual value of the investment should be included in the analysis, given that a well-maintained road will still be functional at the end of the period;
- Appropriate conversion factors should be introduced in the analysis to reflect the social opportunity cost of labour;
- The quantification of all user benefits should be included in the main CBA report and commented; the inputs derived from the demand analysis (total travel time savings, total veh*km) should be presented and commented, in order to allow a full understanding of the expected benefits; the value of time for the heavy vehicle should be explained; the methodology and unitary values for the vehicle operating costs should be provided and explained;
- The methodology and results of the external project impacts should be included in the documentation; actually, we would expect the same sign for the incremental vehicle operating costs (which is negative), the safety impact (which is also negative) and the environmental impact (which is instead positive); the reason why the project is generating a positive environmental benefit should be clarified as it doesn't seem consistent with the results concerning the vehicle operating costs and the road safety;
- The economic performance indicators (ENPV, ERR; B/C) should be correctly calculated and provided;
- Considering the CBA results, we recommend the beneficiary clarifying the reasons supporting the project implementation despite the poor project economic performance; alternative design concepts, based on lower investment costs (such as limiting the section to one lane per direction where traffic volumes are lower) should be tested.

While we consider appropriate requesting the beneficiary providing a revised and consistent socioeconomic analysis, it is worth highlighting that, based on the available documentation, the socioeconomic analysis shows that the economic costs of the project under assessment will by far exceed its expected benefits.

Commenting this result, we notice that the low traffic (average AADT on the whole project length in 2010 is less the 7.000 veh/day) will result in a significant spare capacity on the new road - assuming a standard capacity of 20.000 veh/day/lane, the average spare capacity would be around 90%. We therefore conclude that the negative socioeconomic performance indicator is due to the significant underutilization of the planned infrastructure.

5 KEY FINDINGS AND CONCLUDING REMARKS

5.1 Key questions for project appraisal

(a) Is the application dossier complete?

Although the map mentioned in the Natura 2000 certificate has not been provided, the project dossier is complete and complies with the EC Regulations. The information provided is consistent with Art. 40 Reg. 1083/2006, Annex XXI and Commission Regulation 1828/2006.

(b) Does the project meet the expected strategic and functional objectives?

The description of the project is overall not satisfactory and should be improved. Thanks to additional information available on the Website of the Junta de Andalucía Region¹⁰, it has been possible to be more precise in our requests for clarification. Although thanks to this additional analysis it is possible to conclude that the project is technically sound, most of the information relating to the strategic and functional objectives of the project and representing an input to the CBA analysis are not described and provided in a reliable way, several of them are not updated or even omitted. These include project costs, traffic data, time-schedule of project implementation [See Recommendation and Suggestions box B.2 and § 2.2].

The analysis of the most relevant socio-economic and traffic trends relating to the implementation of the project put into question the investment under appraisal which requires particular attention in the development and presentation of the CBA analysis. This is not the case, the results of the CBA provided in the application dossier actually confirming that the project is not worth co-financing [See Recommendation and Suggestions box B.2 and § 2.3].

(c) Is the project consistent with the EU policies?

The project is consistent with EU policies and in particular with the regional cohesion and economic development policies of the DG Regio.

Feasibility and design related studies were co-financed during the programming period 2000-2006. This is probably the reason why the costs for the design presented in Table H.1. are considered as not eligible. We suggest checking the scope and results of these studies with the ones in the application dossier and additional feasibility and design studies and public available information [See § 2.4 and § 2.2].

(d) Is the project technically sound?

The project is technically sound although the proposed type of road seems slightly over-dimensioned for the existing traffic (lower than 7,000 veh/day) - the future expected demand not being provided in the application dossier [See Recommendation and Suggestions boxes B.3.2. and B.4.2].

Although bypasses at urban centres and links to industrial districts are worth to be constructed with two lines per direction in order to mitigate accident related risks and road traffic pollution, as well as increasing travel time savings, the level of traffic on the roads as declared in the project dossier and public available documentation would more support improving this road (enlargement of the carriageways and re-design of interchanges and curves...) rather upgrading it in its entire length (two lines per direction); this is particularly true for the extra-urban sections of the road, and for the Baza-Purchena Section. To this respect it is also worth considering the recent guidelines by the *Ministerio de Fomento* on the dimensioning of the road infrastructure

¹⁰ <http://www.juntadeandalucia.es/contratacion/ContractNoticeDetail.action?code=2011-0000010537&pkCegr=719997&profileId=COPV021>

related investments – points 6 and 7 page 106253¹¹ [See Recommendation and Suggestions boxes B.3.2. and B.4.2].

Concerning environmental related procedures, given that some of these relate to contracts already under execution and considering that several monitoring and analysis are to be undertaken also following the construction stage, it is relevant that the PPP concession contracts for the implementation and management of the road infrastructure incorporates provisions concerning these aspects [See § 3.4.3].

Given that the Baza-Purchena Section is still at an earlier stage of development and that the implementation of the Purchena-A7 Section is being implemented in slight delay, we suggest requesting an updated time-schedule. This should refer to the preparation and implementation of the PPP scheme for the Baza-Purchena Section and should also specify the expected completion for all of the operational works included in the two main operational phases [See Recommendation and Suggestions box B.3.1.5].

We suggest requesting the financial plan at the basis of the Purchena-A7 concession for a more clear comprehension of the functioning of the PPP scheme and to verify the exact allocation of the risks between the concessionary company and the Public Authority [See Recommendation and Suggestions box B.3.1.5].

(e) Are the project costs reasonable?

Although based on additional project related information we can conclude that the project costs are acceptable, the costs indicated in the application dossier are not clear. The information on the costs of the project should be provided in a more detailed way and in line with the standard practice – see i.e. structure at page 46 of the Anteproyecto for the Baza-Purchena Section(as well as other Project Design related documentation as available in the Web Site dedicated to the bid process of the selection of the concessionaire for the construction, maintenance an operation of the Purchena-A7 Section) [See Recommendation and suggestions box B.3.2].

Given that the project is a quite articulated one and that the Baza-Purchena Section is not going to be completed by the end of 2015, also considering that several sections are already in operation while some others are under construction, all this resulting in a non clear compression of the identification of the eligible costs as presented in Table H.1 of the application form, we would also recommend requesting a clarification on the calculation of these costs, specifying the rationale for their identification. We would also suggest the costs for each of the 8 section within the two main operational phases are provided in separate according to the mentioned structure. [See Recommendation and suggestions box B.3.2]

Since the environmental mitigation and preventive measures have a relevant weight (10% of total cost), the inclusion of a detailed justification of the budget in addition to the qualitative description of these measures as provided in the project dossier is recommended [See Recommendation and suggestions box B.3.2].

¹¹ Orden FOM/3317/2010, de 17 de diciembre, Instrucción sobre las medidas específicas para la mejora de la eficiencia en la ejecución de las obras públicas de infraestructuras ferroviarias, carreteras y aeropuertos del Ministerio de Fomento; <http://www.boe.es/boe/dias/2010/12/23/pdfs/BOE-A-2010-19708.pdf>

(f) Are the results of the demand analysis acceptable?

The documentation concerning the demand analysis is incomplete and unsatisfactory, both in terms of results and methodology and doesn't allow a proper assessment of the traffic projections. Only the results for the section Purchena – A7 are provided; if on one side the growth rates for this section seems acceptable, on the other side the results seems inconsistent compared to the most recent traffic counts; also, we have no evidence that the traffic decline following the current economic crisis was taken into account, despite the volumes decreased by around 11% since 2007. Based on these considerations, we recommend improving the documentation, including a detailed presentation and explanation of the results and the assumptions for the *do nothing* and the *do something* scenarios for all sections in the two main operational phases [See Recommendations and Suggestions box B.3.2].

(g) Are the results of the Financial Analysis acceptable?

The overall quality of the financial and socioeconomic analysis is very poor. Many inputs and assumptions are not provided, not enabling a detailed assessment of the reliability of the approach to the CBA; also, some of the results, such as the financial indicators, seem inaccurate. We would therefore recommend requesting a complete revision of the financial analysis, including detailed outputs, assumptions concerning the *do nothing* scenario (especially concerning the future configuration of the existing A-334), revising the calculation of the FNPV and including a residual value as appropriate. While these improvements are recommended to ensure the consistency and the quality of the documentation, these remarks do not affect the total amount of the EU grant (€ 32.5 million), given that the project is not revenue generating [See Recommendations and Suggestions box B.4.1].

(h) Is the value of EU contribution correctly estimated?

The amount of the EU contribution is correctly estimated, without funding gap analysis. VAT is excluded from the eligible costs. However, the annual distribution of the EU funds in Table H.3 of the application form is not consistent with the project time plan and should therefore be revised [See Recommendations and Suggestions box B.4.1].

(i) Are the foreseen socio-economic benefits likely to be attained?

The documentation provided for the socioeconomic analysis is very poor and incomplete. The main results of the analysis (expected economic benefits, performance indicators) are not provided and we found inconsistencies in the quantification of the benefits between the application form and the *Annexo II. Estudio Coste / Beneficio*.

We recommend that the quantification of all user benefits is included in the main CBA report (and not only in the *Apéndice 1. Resultados*) and commented; the inputs derived from the demand analysis (total travel time savings, total veh*km) should be presented and commented, in order to allow a full understanding of the expected benefits; the methodology and unitary valued for the vehicle operating costs and the value of time for trucks should be provided and explained. Also, the methodology and results concerning the environmental and safety externalities should be included in the documentation. [See Recommendations and Suggestions box B.4.2].

(j) Are the results of the Cost Benefit Analysis acceptable?

While we consider appropriate requesting the beneficiary providing a revised and consistent socioeconomic analysis, it is worth highlighting that, based on the available documentation, the economic costs of the project under assessment will by far exceed its expected benefits.

Values of Time in the CBA and in the EU guidelines

Item	Discounted Value (€ 2009 thousands)	
	Application Form (Item E.2)	Annexo II. Estudio Coste / Beneficio (Apéndice 1. Resultados)
Benefits		
Value of travel time savings	420,810	359,877
Vehicle operating costs	n.a.	-195,029
Emissions	106	23
Safety	n.a.	-32,873
Costs		
Investment	-393,610	-339,974
O&M	-53,057	-33,435
ENPV (C)	-25,751	-241,409

Source: Application form (Item E.2) and Anexo II. Estudio Coste / Beneficio. (Apéndice 1. Resultados)

As shown in the previous table, the ENPV is negative both according to the application form (Table E.2) and to the tables annexed to the CBA Report; however, the values are significantly different, partly due to discrepancies in the values and partly due to additional benefits included in the CBA report (*Apéndice 1. Resultados*), which have a negative sign (and are therefore costs). It is worth highlighting that the summary table of the application form (item E.2.3) provides an even more negative result (ENPV = € -382.407 thousands), which however is nowhere explained and we were not able to reproduce.

Commenting these results, we notice that the low traffic on the A-344 (average AADT on the whole project length in 2010 is less than 7,000 veh/day) will result in a significant spare capacity on the new road - assuming a standard capacity of 20,000 veh/day/lane, the average spare capacity would be around 90%. We therefore conclude that the negative socioeconomic performance indicator is due to the significant underutilization of the planned infrastructure.

Taking into account these results, we recommend the beneficiary clarifying the reasons supporting the project implementation despite the poor project economic performance; alternative design concepts, based on lower investment costs (such as limiting the section to one lane per direction where traffic volumes are lower) should be tested. [See Recommendations and Suggestions box B.4.2].

5.2 Concluding remarks

The description of the project is overall not satisfactory and should be improved. The analysis of the most relevant socio-economic and traffic trends relating to the implementation of the project put into question the investment under appraisal which requires particular attention in the development and presentation of the CBA analysis. This is not the case, the results of the CBA provided in the application dossier actually confirming that the project is not worth co-financing.

Our assessment of the project documentation shows that the future road will be in many sections underutilized, due to the low traffic volumes expected on the most peripheral section of the A-344. The results of the CBA included in the submitted application further confirm that the project investment and operating costs by far exceed the expected socioeconomic benefits.

Therefore, we recommend that alternative design concepts, based on lower investment costs (such as limiting the section to one lane per direction where traffic volumes are lower) should be evaluated in order to identify the level of investment that could be socially worth; in case the investment costs cannot be reduced due to administrative status of the project implementation, we would recommend the Commission rejecting this application for co-financing.