



Project acronym: **CREATE**

Project title: **Congestion Reduction in Europe - Advancing Transport Efficiency**

Deliverable 4.4

CREATE Stage 1 City Reports

**Past, Present and Future mobility challenges and
opportunities in five growing economies**

(December 2017)

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Prepared by: **Clemence Cavoli**

Checked by: **Paul Curtis**

Verified by:

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1 CREATE Stage 1 CITY REPORTS

1.1 Introduction

As part of the CREATE project, research work was undertaken in all five Stage 1 CREATE cities to gain an overview of the conditions linked to mobility and assess data availability in each city. City partners provided relevant qualitative and quantitative information about their city and hosted a Focus Group involving key local stakeholders. This report summarises research findings in the city of Adana, Turkey; Amman, Jordan; Bucharest, Romania; Skopje, Republic of Macedonia; and Tallinn, Estonia. Each City Report has been included as an Annex to this Deliverable. This Deliverable will serve as the basis for the CREATE's cross-city comparison as part of Deliverable D4.5.

1.2 Methods

The CREATE Stage 1 City Reports are based on the combined analysis of the 'city profiles', including quantitative and qualitative data provided by each city partner (see questionnaire in Annex A), and the analysis of the Focus Groups conducted in each city.

Between January 2017 and July 2017, each stage 1 city hosted a Focus Group that aimed to gather key stakeholders to discuss past, current and future issues related to urban transport. Between 12 and 17 participants attended each Focus Group. The participants were carefully chosen as stakeholders representing different key sectors in each city. A range of experts, who all demonstrated a deep understanding of their city's past, present and future transport and urban planning, took part in the Focus Groups.

The focus group was conducted by Dr. Cavoli from UCL. It followed a topic guide which was sent to all participants prior to the session (see Annex B). The topic guide is divided into three parts. The first part focuses on understanding the city's past related to urban transport and planning. The second addresses the present situation, including defining the biggest challenges the city faces. Finally, future challenges and opportunities related to urban mobility and planning in each city were discussed. To analyse data from the Focus Groups and undertake a cross-city comparison, a framework matrix was established following the topic guide. First, key data was transcribed from the recording of the Focus Group. Second, content analysis was applied. The results are summarised in each City Report below.

The City Reports and the cross-city comparison work undertaken in the context of CREATE aim to improve policy-making and planning in partner cities by providing tailored advice for each city.

This Deliverable includes all City Reports: the Adana City Report in Annex C, the Amman City Report in Annex D, the Bucharest City Report in Annex E, the Skopje City Report in Annex F, and the Tallinn City Report in Annex G.

2 Annex A CREATE city profile questionnaire in stage 1 cities

Introduction:

The topic guide below has been compiled to provide the CREATE project basic data about your city. We would like you to complete the questionnaire below by collecting/gathering information about your city. The data should be **official public data** as far as possible. However, we understand that at times it might be difficult to find the relevant data within your organisation. Even though we would recommend that you not provide unofficial data, if you do provide unofficial data (for example online data from Wikipedia) please make an explicit reference in the document.

Your city's administrative structure

- Could you please define the boundary of your city's administration?
 - When we talk about transport in your city, which territory are we talking about? (e.g. city centre, metropolitan area, other?)
 - Could you provide surface of land use area (km²) data, an indicative map, and/or any other useful indicators.

Demography

- How many inhabitants does your city have?
- Do you have historic data about the total number of inhabitants in your city (throughout the past decade or two)?
- Do you have predicted population growth?

Transport institutions

- Which entities are responsible for transport policies and operations in your city? (e.g. which department within your local authority? Any national entities? Any private transport operators?)

Transport Demand and Car Ownership

- What is the modal share/split (% of trips per average workday) in your city?
- Do you have historic data recording the evolution of modal share?
- Could you provide information about the development of the number of private cars (car ownership levels) and the number of driving licences per inhabitants (city-wide)
- Do you have predictions related to future transport demand in your city?

Economy

- Could you provide data about the development of GDP (Gross Domestic Product) per capita in your city (over the years)?
- Could you provide current and historic data about the development of annual average fuel prices (diesel and petrol) distinguished between net values and taxes [€ per litre]

Local transport plan

- Does your city have a local transport plan and/or business plan or any other equivalent policy-making document? If so, do you have an English version?

Additional data

- Do you have additional data which would be relevant to establish an initial city profile?

Thank you very much for your collaboration. We would be grateful if you could complete and complement the questionnaire in the coming weeks. We need as much information as possible before the mid-term review report to be submitted to the EU Commission at the end of the year. Early next year we will ask you to gather further qualitative and quantitative information about urban transport and transport policy in your city.

Understanding the past

1. How has urban transport evolved over the past 10 to 15 years? (for example, linked to societal and cultural changes, mobility demand, demographics...)
 - a. How about land use?
2. How have urban transport policies evolved over the past 10 to 15 years?
 - a. How about land use and planning policies?
 - b. To what extent have those changes been affected by policies or legislation at the national or supranational level (for example changes at the EU level)?

Defining the present

1. What are the biggest challenges for urban transport and mobility in your city?
 - a. What are biggest challenges at a policy level?
 - b. What are the biggest political challenges?
2. What are the current policy priorities for urban transport in the city?
 - a. What are the challenges in delivering those priorities?
3. What influences transport policies in the city? (for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, or competition with other cities...)

Shaping the future

1. What are the future challenges the city is likely to face in the coming years (for example, demographic changes...)
 - a. And the future opportunities?
2. What is the overall strategy for future urban transport policy in the city?
3. To what extent can technological developments help solve urban transport problems in your city?
4. Which innovative policies could accelerate sustainable mobility in your city?

CREATE - City Report

Adana, Turkey

Past, Present and Future mobility challenges and opportunities in Adana

01-11-2017

By Clemence Cavoli, UCL Centre for Transport Studies

Contributions from and Reviewed by Zekiye Beyarslan, Filiz Ünlü

I. Introduction

II. Context & Methods

III. Adana Monograph

Understanding the past

How have urban transport and urban transport policies evolved over the past 10 to 15 years?

How have urban transport policies evolved over the past 10 to 15 years?

Defining the present

What are the biggest challenges for urban transport and mobility in Adana?

What are the current policy priorities for urban transport in the city?

What influences transport policies in the city?

Shaping the future

What are the future challenges Adana is likely to face in the coming years?

Future opportunities in Adana

Which innovative policies could accelerate sustainable mobility in your city?

ANNEX 1 – CREATE Topic guide S1 cities

ANNEX 2 – CREATE city profile questionnaire

I. Introduction

As part of the CREATE project, research work was undertaken in all ten CREATE cities to gain an overview of the conditions linked to mobility and assess data availability in each city. City partners provided relevant qualitative and quantitative information about their city and hosted a Focus Group involving key local stakeholders. This report summarises research findings in the city of Adana, Turkey. A monograph reports on the analysis of the Adana's Focus Group, complemented by relevant data from the City Profile. This report will serve as the basis for the CREATE's cross-city comparison.

II. Context & Methods

Adana's City Report is based on the combined analysis of the 'city profile' quantitative and qualitative data provided by the city of Adana and the analysis of the Focus Group.

On the 14th of March 2017, the city of Adana hosted a Focus Group that aimed to gather key stakeholders to discuss past, current and future issues related to urban transport in Adana. In total 15 participants attended the Focus Group. The participants were carefully chosen as stakeholders representing different key sectors in Adana and in Turkey. A range of experts, who all demonstrated deep understanding of Adana's past, present and future transport and urban planning, took part in the Focus Group. 10 participants represented Adana's local authority, including two local transport policy-makers from the transport and motorways departments, one participant from the 'project development' department, one participant from the Mayor's office, five participants from Strategy Development office and one participant from the planning and reconstruction department. One academic, expert in transport, based at an Engineering Department was present. Two urban planners who work for various districts in Adana, and are members of the Chamber of City Planners, participated. In addition, one participant came from the Chamber of Architects and one participant from Chamber of Civil Engineering.

The focus group was conducted in Turkish (with professional translation in English) by Dr. Cavoli from UCL. It followed a topic guide which was previously sent to all participants (See Annex A). The topic guide is divided into three parts. The first part focuses on understanding Adana's past related to urban transport and planning. The second part addresses the present situation, including defining the biggest challenges the city faces. Finally, future challenges and opportunities related to urban mobility and planning in Adana were discussed. In order to analyse data from the Focus Group and undertake a cross-city comparison, a framework matrix was established following the topic guide. First, key data were transcribed from the recording of the focus group. Second, content analysis was applied. The results are summarised in the monograph below.

The City Reports and the cross-city comparison work undertaken in the context of CREATE aim to improve policy-making and planning in Adana and other CREATE cities by providing tailored advice for each city.

Where opinions are expressed about the causes of change or the significance of specific aspects, these are with the sole intention of guiding further analysis under the CREATE programme and to act as a starting point for that further qualitative analysis.

III. Adana Monograph

Understanding the past

The first question discussed during the focus group was ‘*How has urban transport and land-use evolved over the past 10 to 15 years in Adana?*’ Participants were asked to think about any significant societal, demographic or cultural changes, or changes related to mobility demand. Participants were also asked to describe *how public authorities responded to those changes. How have urban transport and land use policies evolved over the past 10 to 15 years?*

How have urban transport and urban transport policies evolved over the past 10 to 15 years?

Rapid unmanaged urban growth

The city of Adana has been experiencing high urbanization rates over the past two decades. This is partly due to continuous rural-urban migrations flux but also to the sudden influx of refugees coming from Syria since the 2012 Civil War broke. Adana is “*an attraction point*” for people in the region, according to a participant.

Public authorities have had difficulties responding to the demand for housing and transportation; “*Naturally the government could not provide for all these people*”, describes a participant. This led to unmanaged urban growth, as numerous “*informal settlements started to mushroom around the city*”.

As the city started to expand vertically, urban sprawl increased. This led to increasing issues relating to transport; this when “*transport problems started*”, recalls a participant.

Changes in Land Use in Adana

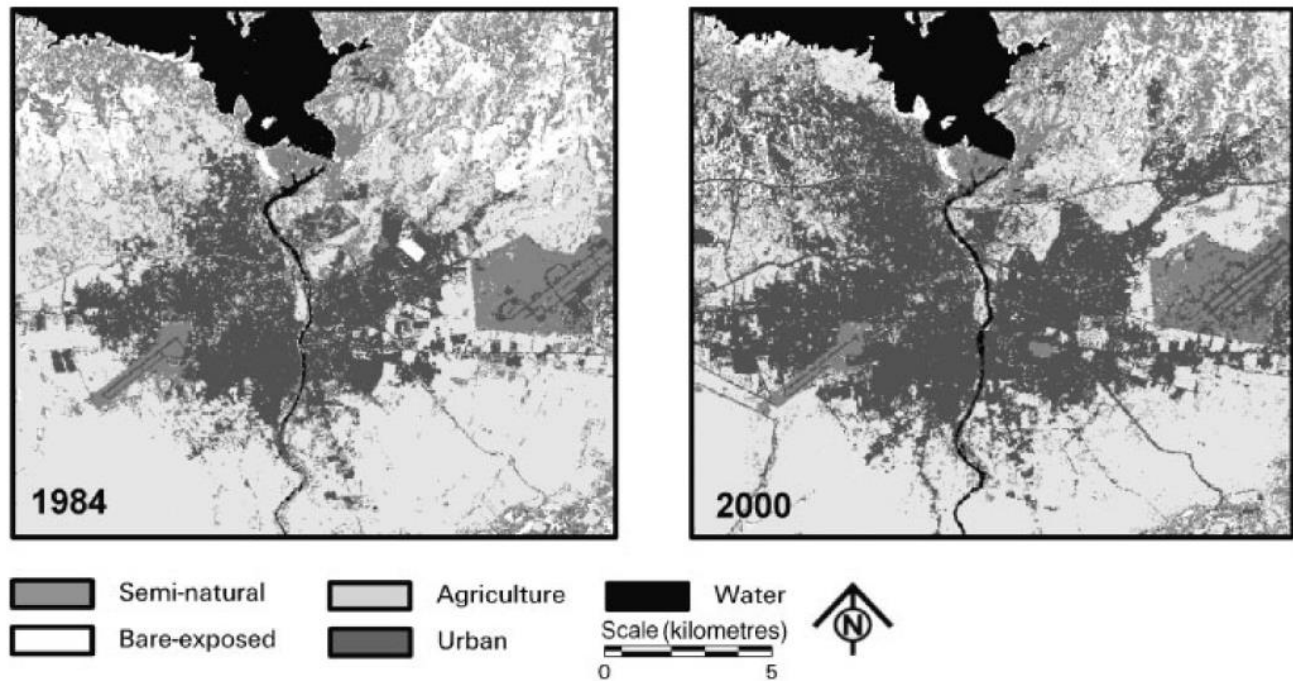


Figure 1 Land Use Changes in Adana. Classified images showing Land-use Land-cover categories of the study area in 1984 and 2000.
Source: Alphan, H. (2003) Land-use change and urbanisation of Adana, Turkey. *Land Degradation & Development*.

Population in Adana since 1935

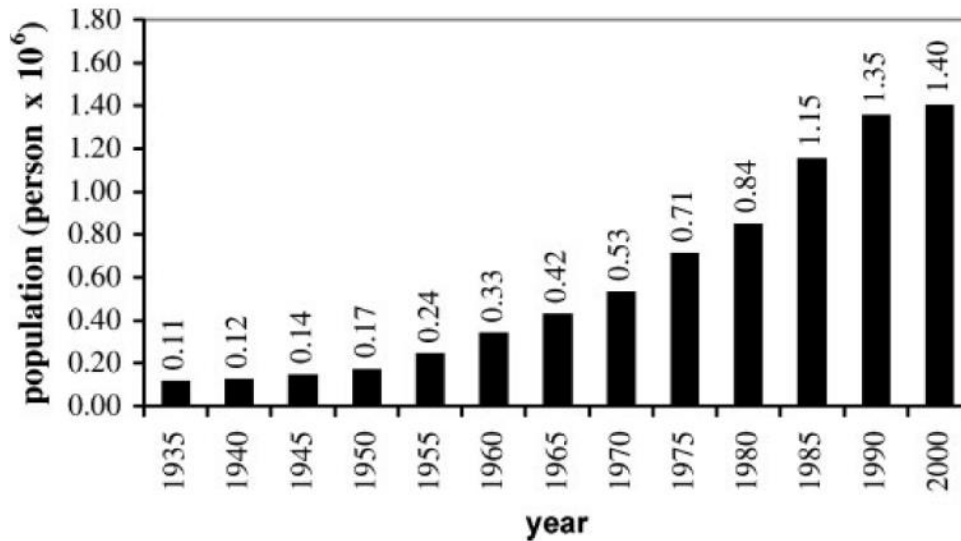


Figure 2 Population increase in Adana. Source: Alphan, H. (2003) *Land-use change and urbanisation of Adana, Turkey. Land Degradation & Development*.

Rise in motorization rates

From the 2000s owning and using a private motorised vehicle became increasingly popular, and, in some cases, essential. The number of registered private motorised vehicles (cars and motorbikes) has been rapidly increasing since the 2000s (as illustrated in figure 3 below) - despite the increase in crude oil prices and fuel taxes imposed by the national government.

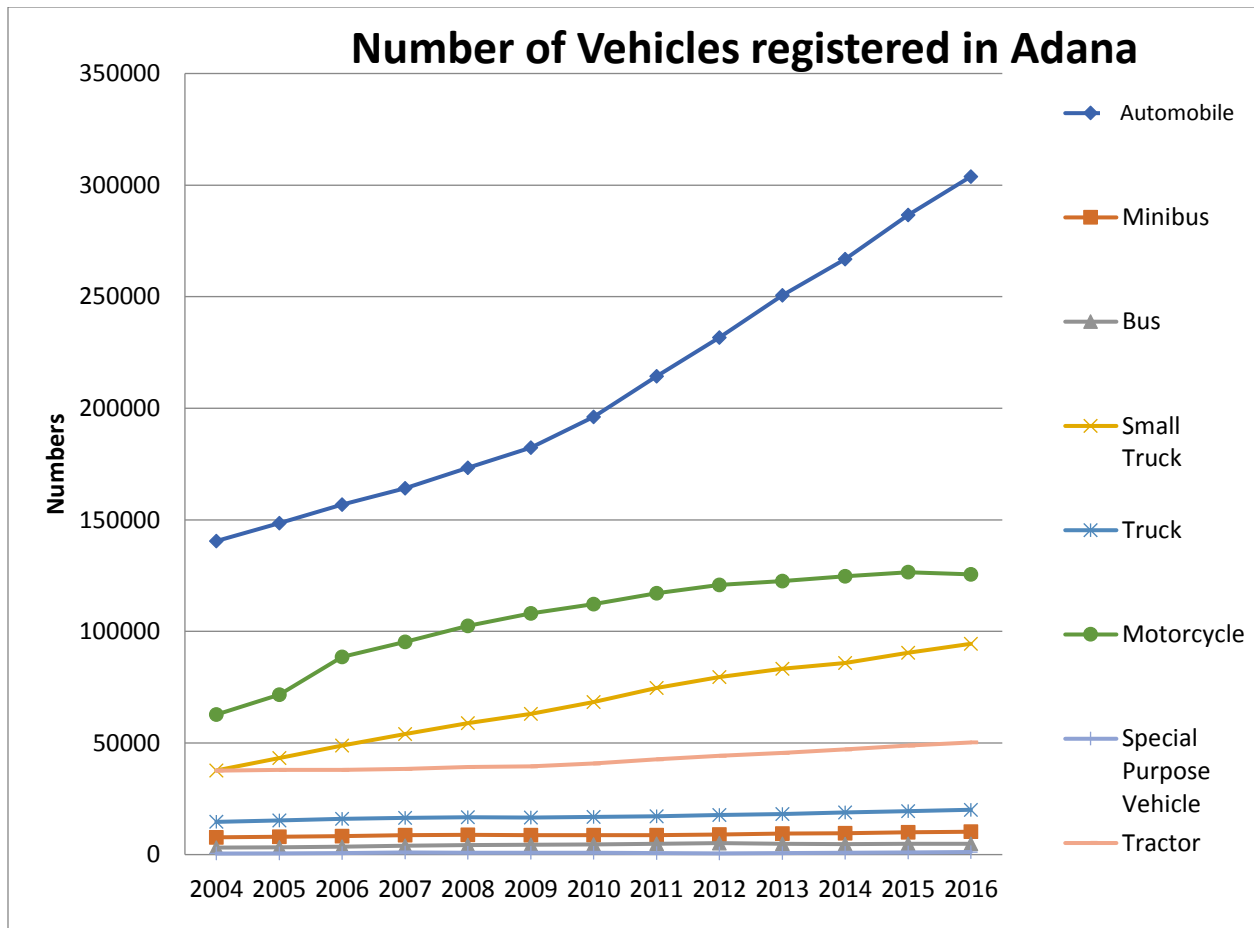


Figure 3 Number of vehicles registered in Adana. Source: Turkish institute of Statistics

Number of Vehicles in Adana								
	Automobile	Minibus	Bus	Small Truck	Truck	Motorcycle	Special Purpose Vehicle	Tractor
2004	140505	7743	3140	37711	14665	62733	478	37614
2005	148480	8015	3267	43247	15291	71689	587	37968
2006	156865	8348	3592	48826	15995	88527	746	37997
2007	164178	8704	3923	54049	16413	95364	915	38380
2008	173316	8906	4324	58889	16759	102540	872	39206
2009	182393	8751	4347	63000	16555	108074	831	39545
2010	196083	8673	4577	68304	16905	112221	805	40785
2011	214384	8693	4819	74667	17129	117132	733	42764
2012	231737	8965	5147	79588	17682	120813	602	44217
2013	250670	9457	4844	83238	18107	122568	683	45582
2014	266880	9572	4752	85915	18896	124758	808	47165
2015	286626	9945	4833	90414	19496	126514	992	48812
2016	303841	10247	4889	94462	20092	125533	1167	50250

Figure 3.1 Number of vehicles registered in Adana. Source: Turkish institute of Statistics

In parallel, Gross Domestic Product (GDP) per capita has been gradually increasing in Adana (see figure 4 below). As a result, a growing number of residents have been able to purchase a private motorised vehicle.

Evolution of GDP per capita in Adana (in \$)

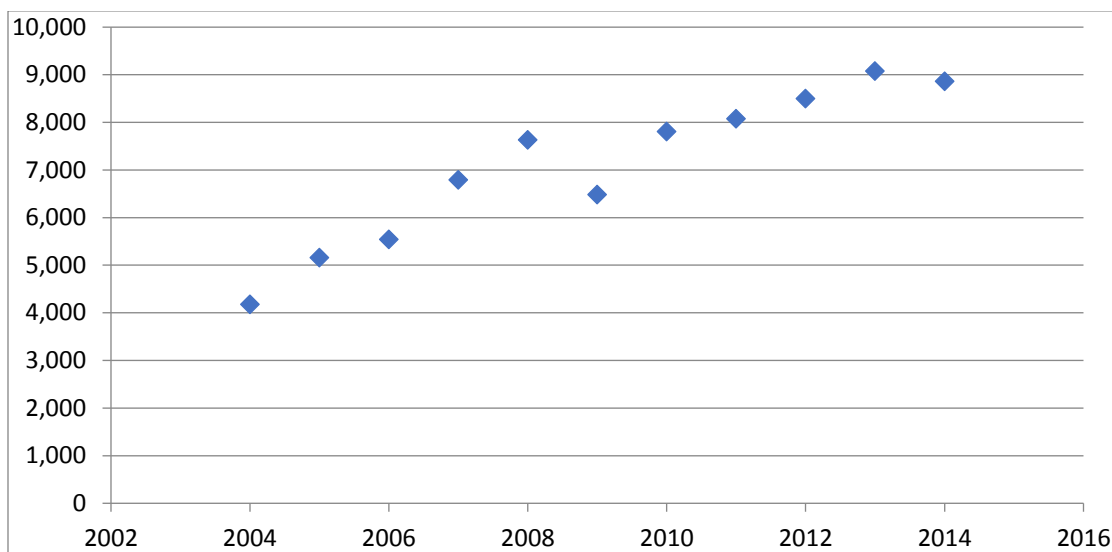


Figure 3 GDP Growth in Adana since 2002 (in dollar). Source: Turkish institute of Statistics

Urban sprawl contributed to increased car dependency in Adana. Many areas are not fully served by public transport and are too far from the city centre for residents to walk or cycle. In addition, according to a participant, car manufacturers have been “*very successful in promoting cars*” in Adana.



Figure 5 Traffic Jam in Adana. Source: Cavoli Clemence

Concentric Zone Model

Several participants argued that part of the problem is that activities are concentrated in the city centre of Adana. *“The main problem is having one centre which generates pendulum commuting”* states a participant. Over the past decade, shopping malls have been built in the centre of Adana. Most businesses and government offices are also located in the city centre (the Central Business District). *“All of that requires people to come to the city centre”* either to shop or to work and *“People want to be there [city centre]”* describes a participant. It is estimated that in 1980 circa 70000 inhabitants lived in Adana. *“Today we have circa 2 million inhabitants, we have more roads, but the Central Business District is still in the same area”* explains a participant. Public authorities have not created additional ‘little centres’. According to participants, this partly explains why Adana experiences congestion issues.

A participant mentioned that Shopping Malls, schools and official buildings should be built or relocated in the outskirts of the city. Another participant mentions that if certain offices located in the city centre were moved to different areas it would alleviate congestion in the city centre by redirecting the traffic. *“If we move that building there, we will solve the congestion there”*, highlights a participant. However, Turkey’s central government does not support this plan.

How have urban transport policies evolved over the past 10 to 15 years?

Increased density without transport provision

Turkey’s national government put in place regulations to foster high density developments in cities. It was part of an *“urban transformation”* policy initiated in the 2000s by the government. It was formally regulated by the New Metropolitan Law of 2004 and the Urban Transformation law of 2012. The act established a set of urban planning rules to be applied in a homogeneous way across urban areas in Turkey.

Policies to increase density in Adana were initiated in the mid-1990s to prevent urban sprawl. “*Old houses were converted into big apartments to increase density*”, recalls a participant. New buildings typically had 12 to 15 storeys replacing the old four storeys buildings. These are strict planning rules which local authorities in Turkey must apply. Consequently, density is relatively high in Adana, 155 inhabitants per km² on average, in particular in the city centre.

However, transport plans were not put in place to cope with the increased density. “*Local governments were not prepared for this growth*”, highlights a participant. The local authority did not fully plan for high density developments. Limited transport infrastructures were put in place. These were “*No car park in the centre, and nobody wants to park far away*” recalls a participant. This resulted in increased traffic and parking management issues in the city centre.



Figure 4 High density urban developments in the North of the city. Source: Alphan, H. (2003) *Land-use change and urbanisation of Adana, Turkey. Land Degradation & Development*.

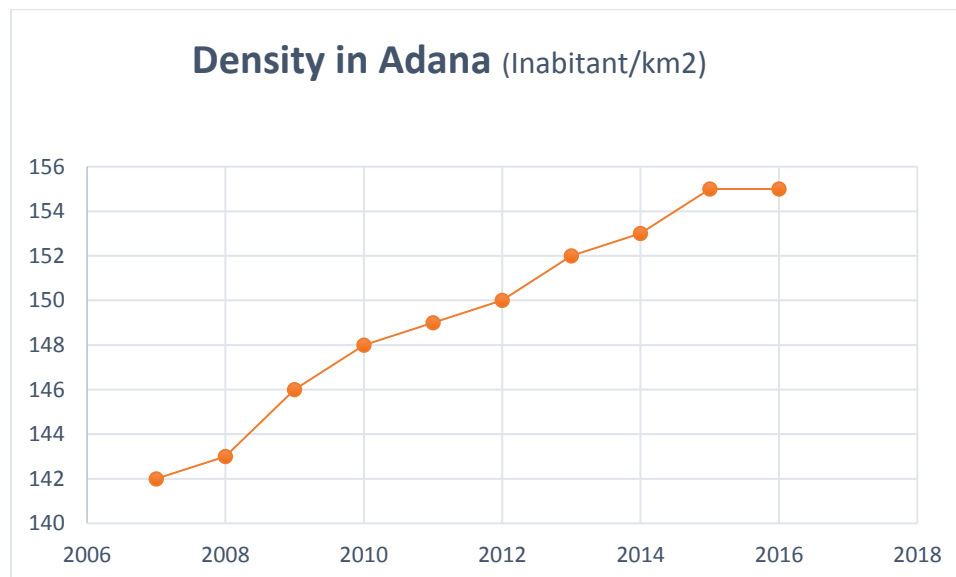


Figure 5 Density in Adana since 2006. Source: Turkish institute of Statistic

Lack of decentralisation

Urban policies are centralised in Turkey. “*Until 1984 the national government established local plans in Turkey*” without consulting local authorities. A new act was adopted in 1984 allowing the national government to gradually delegate urban planning responsibilities to local authorities. However, the system remains highly centralised. Several participants highlight the fact that “*the Local authority has little power of decision*”, “*The decision maker is the national state*”. Numerous planning decisions are made at the national level in Turkey and local authorities have limited involvement in the decision process. Recently, local authorities have been given more power to plan transport at the local level, but their power remains limited, states a participant.

Limited institutional capacity

Until 2014, the local authority in Adana did not have a dedicated transport department. Transport policies were dealt with by the urban planning department and by the national government. Gradually, the local authority established a separate department and hired transport specialists, including “*architects and civil engineers*”. However, participants highlight that there are still institutional issues and insufficient qualified staff. The transport department is still “*young*” stresses a participant, it only has approximately 20 policy-makers and only a few of them are responsible for collective transport.

Defining the present

The second part of the focus group raised questions related to the present situation in Adana. Participants were first asked ‘*What are the biggest challenges for urban transport and mobility in Adana?*’ Then they were requested to describe *current policy priorities for urban transport in Adana*. Finally, participants were asked ‘*What influences transport policies in Adana?*’ for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, etc.

Adana’s population

Adana has a population of over 2 million inhabitants, making it Turkey’s 6th largest city. Adana’s metropolitan area (Adana-Mersin) is estimated to have over 3 million inhabitants and covers 33.740 hectares. The estimated annual population growth rate is projected to be around 1% in Adana.

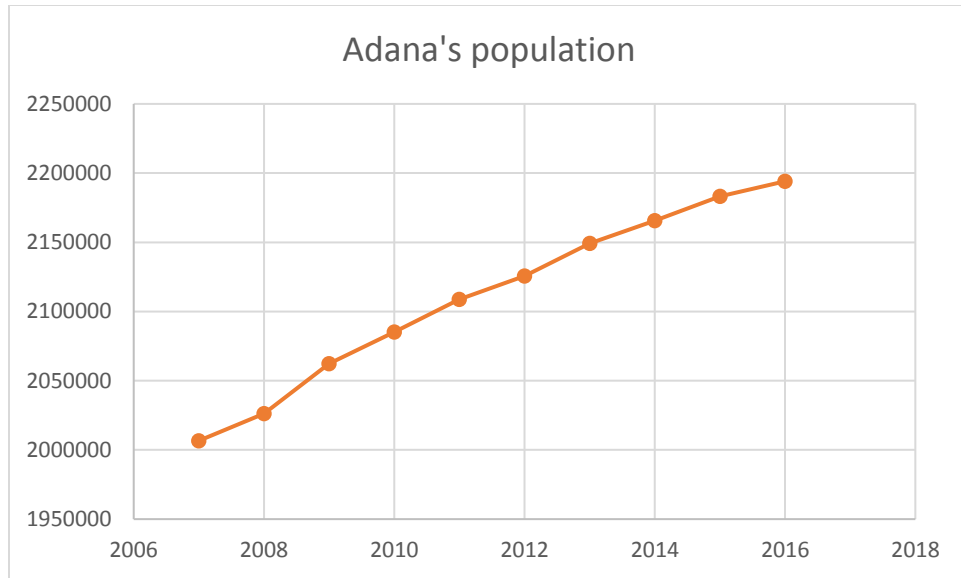


Figure 6 Population growth in Adana since 2006. Source: Turkish institute of Statistic

Adana's geography

Adana is located on the Seyhan River, in south-central Anatolia, close to Syria's border (as shown in figure 9 below).



Figure 7 Maps of Turkey and Adana's region. Source: [TUBS](#)

Adana is divided into five municipal districts located in the city centre; Seyhan, Yüreğir, Çukurova, Sarıçam and Karaisali; and ten smaller districts at the outskirts of the city (as illustrated in figure 10 below). The Seyhan district, located to the west of the Seyhan river, is the cultural and business centre of the city. The Çukurova district is a modern residential district that lies north of the Seyhan river. The Yüreğir district, located to the east of the river, consists of low income residential areas and large-scale industries.



Figure 8 Adana's municipal districts. Source: [Rarelibra](#)

Adana's transport institutions

Public institutions responsible for transport in Adana include:

- Adana Metropolitan Municipality (Local Level)
- Ministry of Transport Maritime Affairs and Communications (National Level)
- General Directorate of Highways (National Level)

Adana's municipality has responsibility for establishing and implementing Adana's metropolitan plan for transport and planning and coordinating transportation and public transport services.

Adana's city council established, and leads, a Transport Coordination Committee involving a range of key stakeholders in Adana. It involves the traffic control department in Adana's municipality, the Governorship of Adana, the General Directorate of Highways and the Regional Directorate of Railways. However, this council has limited authority. *“There are only certain decisions that the Committee can*

make”, mentions a participant, as ultimately decisions related to transport policies must be approved at the national level.

Collective transport in Adana

Collective transport in Adana relies on four main modes:

1. Privately owned minibuses (Dolmuş)
2. Privately operated buses
3. Municipal buses
4. Municipal light rail system

Municipal data from 2015 indicate that Adana has 293 municipal buses servicing 84 routes, 412 special public buses servicing 52 routes, 1085 minibuses and minivans servicing 85 routes and 1600 taxis (see table 1 below).

In order to function in Adana, Minibuses and private buses must be granted licences to operate on certain routes by the Ministry of Transport and the Municipality.

Vehicle type	Number of registered vehicles	Ratio to the total number of vehicles registered in the province centre (%)
Minibuses (M) license plate	1.085	0,21
Public buses (J) licence plate	419	0,08
Service vehicles (S) – e.g. School buses licence plate	2.429	0,48
Commercial taxis (T) licence taxis	3.060	0,60
Town and village minibuses (U) licence plate	190	0,04
Municipal bus	293	0,05
TOTAL	7.476	1,46

Table 1 Collective Transport Data 2015. Source: Adana's municipality

Local transport plan

Adana’s latest local transport plan (Master Plan) dates from 1992. City officials acknowledge that the plan is outdated and that public authorities need to establish a new plan ‘as soon as possible’. In 2014, the local authority held an event focusing on transport in the city gathering key stakeholders; including relevant

municipalities, academic and public institutions, and Associations with an interest in transport (including Professional Chambers, Transportation Co-operatives and Unions).

Key conclusions from the ‘Adana City Transportation’ workshop informed the five-year strategic plan for the Metropolitan area of Adana (adopted in 2015). The plan’s main aim is to “Provide economic, safe and comfortable transportation service to all in Adana.” It includes objectives to:

- Establish and implement a metropolitan transport plan
- Support environmentally friendly transport systems
- Create resilient transport infrastructures
- Strengthen a transition to rail and public transport systems
- Build connections between highways
- Identify logistics centres
- Create transfer hubs and parking lots
- Ensure seamless transport
- Promote non-motorized transport vehicles
- Use marine transportation as public transport

The Turkish government’s Transport and Communication Strategy adopted in 2014 highlights the need to establish a transport system that is not exclusively car-centred to minimise the side effects related to car-dependency (i.e. energy consumption, pollution, efficiency, costs, etc.). Public transport and active travel modes are mentioned as efficient alternative modes.

What are the biggest challenges for urban transport and mobility in Adana?

Lack of local urban plan and transport plan

The lack of integrated urban planning has affected transport and land-use developments in Adana. On the one hand, urban plans in Adana have not been updated to reflect the increase in population and the new housing demand. On the other hand, transport and land-use policies are not integrated; they are “*not unified*”; “*there is no connection between plans*” explain participants. Transport plans are not required when new developments are built in Adana. Consequently, developments are built without provisions for transport, there are “*no car parks, no infrastructures because there wasn’t really a plan*”, stresses a participant.

Part of the problem, argues a participant, is that Adana’s local authority has limited experience in general urban planning as, until recently, urban plans were made by the central government. “*The plans are more academic than practical*”, “*they not always applicable*” comment participants.

Another issue is the fact that the local authority has limited control over the use of the land, and limited decision-making power over urban planning. A participant gives the example of recent plans agreed at the national level to build a hospital and new Court buildings in Adana. These plans do not include provisions for transport facilities. According to participants, the local authority was not included in the decision-making process, and, as a result “*we are left to solve the [transport] problem, as a local government, by*

ourselves.” In addition, the local authority might not always receive permission from the national government to use certain lands. The lack of decentralization, consultation and co-ordination between the national and local level makes it difficult for the local authority to plan.

Collective transport is not integrated

One of the key transport issues in Adana is the fact that the different modes of collective transport are not integrated. The four main collective transportation modes, Adana’s light rail, train, public bus network and private bus and minibus networks are not connected. They operate on a different payment system and their routes and scheduled are not coordinated. *“We cannot coordinate our different modes of transport”* stresses a participant. Adana’s municipality aims to *“gather all the actors of public transport under one umbrella”*. Private operators prefer to use a cash system to charge users whereas public buses and light rail rely on an electronic payment system. The local authority plans to include *“all the public transportation actors on the city card [electronic payment system]”*. This, highlights the local authority: *“will make it easier for us to count the number of passengers, analyse the current situation and make feasible forecasts about future demands”*.



Figure 9 Old Town Adana. Source: [Todd Radenbaugh](#)

Lack of public transport

The service provided by private bus operators is insufficient. Participants stress the need to increase public transport capacity and operations. To cope with the population increase, *“We need a stable plan and we need to act accordingly”* states a participant. The local authority plans to increase the city light rail system.

Insufficient road network

Several participants mentioned that congestion in Adana is caused by the lack of highway infrastructure. “We lack connecting or secondary roads to connect to the city centre” mentioned a participant. The city does not have “circular roads, like in Vienna” highlights a participant. Another participant mentions that to anticipate traffic problems related to the construction of a new hospital near Adana’s main university, the road should be enlarged, and junctions should be built.

However, other participants highlight the limitations of road building policies. One participant states, “Instead of having more bridges perhaps we need to reorganize the traffic.”

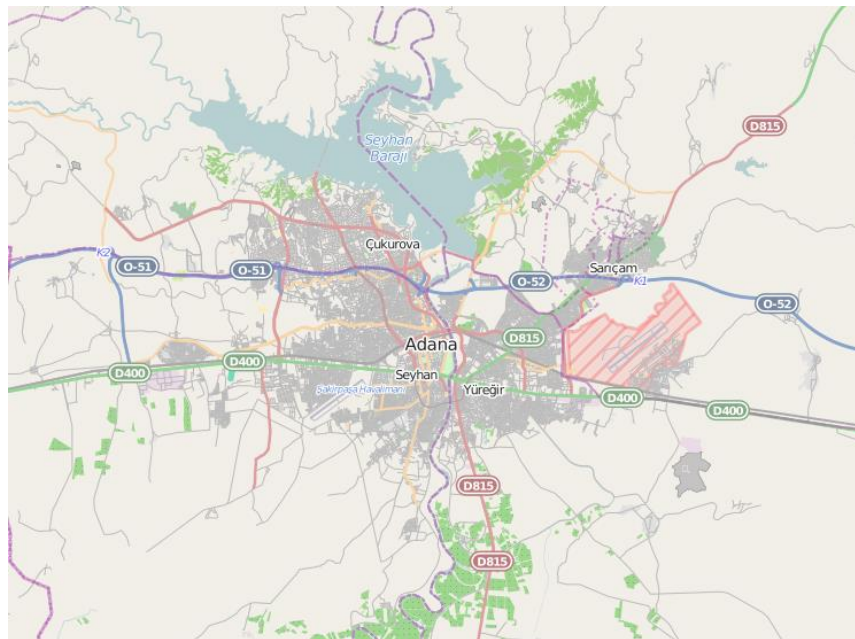


Figure 10 Map of the road network of Adana from Openstreetmap (2014). Source: OpenStreetMap contributors

Parking management issues

Parking issues are common in Adana. “Nobody wants to park far away, people want to park in front of their house and in front of their work place”, summarises a participant. As a result, car drivers park illegally. The local authority plans to build a ‘multi storey car park’ in the city centre to address parking problems. Parking issues were also mentioned in relation to bus lanes. “Almost all the lanes on the roads are full of car parks”, highlights a participant, “making it difficult to allocate space to a bus lane”.



Figure 11 Cars parked on side walk in Adana. Source: Cavoli, Clemence

Enforcement issues

The local authority has limited control over the enforcement of traffic rules or parking management. Adana's municipality has no legal rights to fine drivers. Enforcement is the responsibility of the police department, or "traffic police" which operates under the authority of the national government. A participant states that *"If authority over enforcement was under the control of the local government things might change positively."*



Figure 12 Illegal Parking in common in Adana. Source: Cavoli Clemence

Reliance on private motorised vehicles

One of the mobility issues mentioned by participants is the reliance on private motorised vehicles in Adana. “*People do not walk*” mention participants, they “*rely on door-to-door vehicle use*” in Adana, including for short trips.

A 17-km long bicycle path has recently been completed in Adana and 80 km of pedestrian and bicycle facilities are planned by Adana’s local authority to foster walking and cycling.

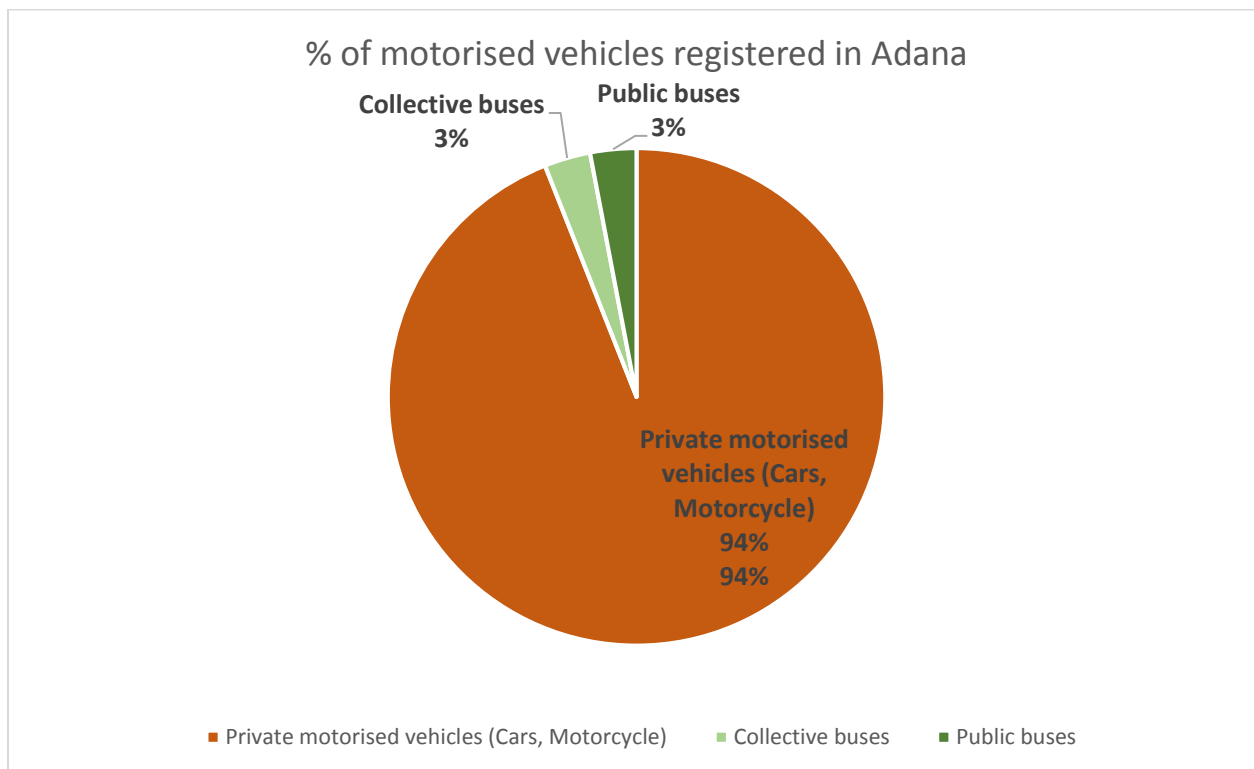


Figure 13 % of private motorised vehicles compared to collective vehicles in Adana in 2016. Source:

What are the current policy priorities for urban transport in the city?

Revising current urban plans

Adana’s local authority aims to update urban plans for the city. The municipality has been working on the establishment of structural transport plans for the city of Adana.

Highway construction & dispersing traffic

The local authority in Adana is planning to build additional highways and bridges. The municipality is planning to build an additional road to connect the North of Adana to the city centre. As described by a participant the additional road: *“would allow the traffic to flow from the outskirts of the city straight to the centre”*. In addition, plans are underway to build three highway bridges over the river to connect the East to the West, and seven bridges over the railway to connect the North of the city to the South. As stated by a participant *“The aim is to improve traffic flow and provide connections in the city”*. The municipality will be using its own budget to fund these infrastructure projects. A participant highlights that subways are also necessary to improve traffic flow.

Other on-going projects include relocating Adana’s main farmers’ market to the outskirts of the city. The market is currently located in the city centre. The plan would involve relocating the market to the North East, close to the highway. This would disperse the traffic and *“move the congestion to the outskirts of the city”* explains a participant.

Increasing public transport coverage

Adana’s municipality plans to expand the light rail system (called the metro), which currently has 13 stations and covers over 13 kilometers – part of it is underground. The metro opened for service across the entire line in 2010. The “second stage” of the metro’s expansion would connect the existing metro line to one of Adana’s main universities, adding 10 kilometers to the line. However, a participant highlights that the local authority *“does not have the budget for the second stage”* and that it will need funding from the national government. Adana still has *“major loans from the banks”* linked to the construction of the first phase of the metro and the fares from the metro only cover the operating costs of the metro in Adana. The current line, notes a participant, is currently *“underutilised”* as it was not sufficiently *“well chosen”*. The capacity is close to 600,000 passengers but there is an average of 35,000 passengers per day.



Figure 14 Adana's metro (2011), Adana metrosu at Huzurevi district. Source: Worldisblack

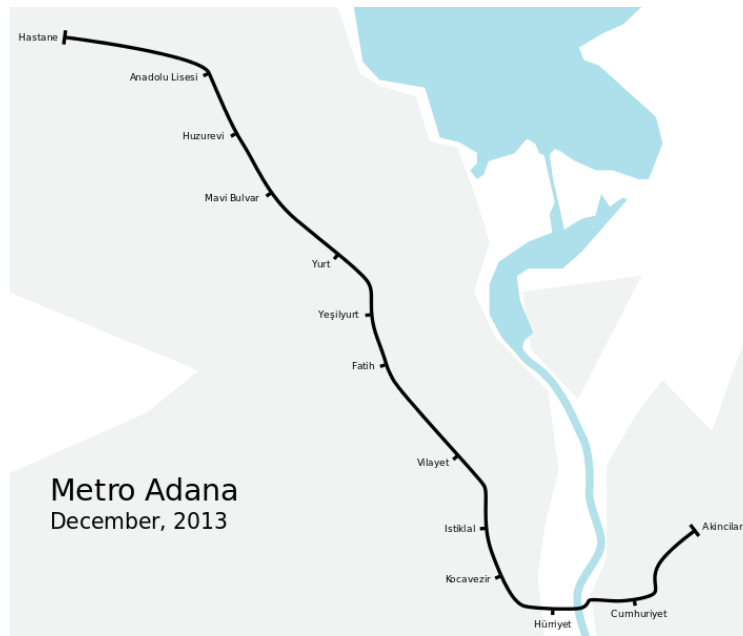


Figure 15 Map of Adana's metro. 'Map of the Adana subway system in December, 2013'. Source: [Laura Sun](#)

In addition, the municipality purchased 93 large buses to complement its bus fleet (2016-2017) with the local authority's budget. The local authority has ordered an extra 100 vehicles.

Decreasing the minibus fleet

Circa 1500 privately-run minibuses (approximately 20 seaters) operate in Adana's metropolitan area. Participants acknowledge that these buses *"are full during rush hour"* but they tend to congregate in the city centre causing traffic and pollution issues. They also tend to *"stop anywhere to make more money"*, affecting traffic flow. The Municipality aims to replace minibuses with large buses to increase the system's efficiency and attractiveness. *"Commuting in minibuses is difficult, the large buses are more comfortable"* mentions a participant; *"instead of having 1500 minibuses we will have 600 large vehicles"* adds another participant. The local authority's objective is to halve the number of minibuses operating in Adana – not all of them will be replaced by large buses. Despite numerous engagements with the minibus sector, minibus owners are reluctant to give up their current privileges and rights, as minibus operators have legal rights over their license. *"It is not easy to solve this problem"* admits a participant.

Adana's city council also aims to harmonise minibus operations by pushing them to *"operate under one roof"*. As a result, co-operatives are being formed. The municipality plans to ask minibus drivers and owners to get-together to buy and operate large buses. In the longer term, the objective would be to *"gather all the transportation actors under the same umbrella"* stresses a participant.



Figure 16 Minibus in Adana at night. Source: Cavoli Clemence

What influences transport policies in the city?

Central government

The strongest influence comes from the central government in Turkey. As highlighted by participants, many decisions related to transport and land-use in Adana are made at the national level without consultation of the local government.

Shaping the future

During the last part of the focus group participants discussed the future of mobility in Adana. Participants were first asked ‘*What are the future challenges the city is likely to face in the coming years*’ for example, demographic changes. Finally, the discussion focused on potential innovative policies that could accelerate sustainable mobility in Adana.

What are the future challenges Adana is likely to face in the coming years?

Behaviour Change

Issues related to behaviour change and people’s travel habits are an issue in Adana. People are overly reliant on private cars even for short distance commuting. Parking habits are also problematic in Adana, “*people park anywhere*”. “*Research should look at this problem*”, suggests a participant. “*We need to find ways to encourage people to use public transport in Adana*” highlights a participant.

Structural issues prevent underground parking

Ideally all buildings should have underground car parks but because aquifers levels are high in Adana it is structurally impossible. It would also make it very difficult to have an underground metro system.

Future opportunities in Adana

Improved signalling

A participant mentioned that there is an opportunity for Adana to update its signalling system to effectively manage traffic flow. *“At the moment what we have are independent signalling systems”, “we need an integrated system”* explains a participant. Asked whether this new system could be programmed to give priority to buses participants replied: *“Maybe but if there is a good traffic flow there is no need for that [giving priority to buses]”*.

Another participant adds *“rather than expanding roads, we should optimize our current traffic”*. *“Technology could help us solve our traffic problem, we might not need bridges after that”* summarises another participant.



Figure 19 An Example of smart traffic lights in Adana. Source: Cavoli Clemence

Increased capacity and efficiency of public transport

A comprehensive light rail system or an underground system could prevent a rise in the number of private motorised vehicles in Adana. “*We cannot solve transport problems by just using private vehicles*” stresses a participant.

Real-time information is needed to improve public transport in Adana. It would help people to “*better plan their travel*” and would encourage them to use public buses.

Traffic-free areas

One participant mentioned that “*In Adana all streets and roads are expected to have a traffic flow*” but “*Perhaps we can start closing some roads to traffic.*” “*We need to find ways not to use our own cars*”, adds another participant.

Park and Ride

A participant suggests that park and rides could be a good solution in Adana.

Encourage people to walk or cycle

Local residents should be encouraged to walk, either to their destination or to the nearest public transport service, “*at least 10 minutes*” stresses a participant; “*It is good for our health as well*”.

A participant mentioned that Adana is “*very suitable for cycling*” and that school pupils and students “*should be trained to cycle from a very young age*”, “*we should use more bike in the city*”.

Liveable city

Adana is a relatively small city, mentions a participant, “*We should use the space well to make a liveable city*”.

River Transport

In Adana, the river Seyhan is not used to transport passengers. A participant highlights the potential for maritime transportation via the river or even the reservoir; “*It could be very enjoyable, especially with the heat and humidity in Adana*”.



Figure 17 A view of the banks of Seyhan River in Dilberler Sekisi Park in Yenibaraj Mah. in Seyhan, Adana - Turkey. Source: [Zeynel Cebeci](#)

Which innovative policies could accelerate sustainable mobility in your city?

Increased autonomy

Institutional decentralisation is needed in Adana, including increased financial autonomy, according to participants. *“We cannot use the taxes that we collect here”* explains a participant *“it all goes to the national government and the national government decides how to allocate the money”*. Increased autonomy is required in Adana to make better transport decisions, *“A strong local government would be able to achieve more efficient results”*, according to one participant.

Master planning

Public authorities in Adana should put in place long-term master plans combined with short-term action plans. The long-term plans should not be altered, despite political changes.

ANNEX 1 – CREATE Topic guide S1 cities

Topic Guide Focus Group

Understanding the past

1. How has urban transport evolved over the past 10 to 15 years? (for example, linked to societal and cultural changes, mobility demand, demographics...)
 - a. How about land use?
2. How have urban transport policies evolved over the past 10 to 15 years?
 - a. How about land use and planning policies?
 - b. To what extent have those changes been affected by policies or legislation at the national or supranational level (for example changes at the EU level)?

Defining the present

1. What are the biggest challenges for urban transport and mobility in your city?
 - a. What are biggest challenges at a policy level?
 - b. What are the biggest political challenges?
2. What are the current policy priorities for urban transport in the city?
 - a. What are the challenges in delivering those priorities?
3. What influences transport policies in the city? (for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, or competition with other cities...)

Shaping the future

1. What are the future challenges the city is likely to face in the coming years (for example, demographic changes...)
 - a. And the future opportunities?
2. What is the overall strategy for future urban transport policy in the city?
3. To what extent can technological developments help solve urban transport problems in your city?
4. Which innovative policies could accelerate sustainable mobility in your city?

ANNEX 2 – CREATE city profile questionnaire

Introduction:

The topic guide below has been compiled to provide the CREATE project basic data about your city. We would like you to complete the questionnaire below by collecting/gathering information about your city. The data should be **official public data** as far as possible. However, we understand that at times it might be difficult to find the relevant data within your organisation. Even though we would recommend that you not provide unofficial data, if you do provide unofficial data (for example online data from Wikipedia) please make an explicit reference in the document.

Your city's administrative structure

- Could you please define the boundary of your city's administration?
 - When we talk about transport in your city, which territory are we talking about? (e.g. city centre, metropolitan area, other?)
 - Could you provide surface of land use area (km²) data, an indicative map, and/or any other useful indicators.

Demography

- How many inhabitants does your city have?
- Do you have historic data about the total number of inhabitants in your city (throughout the past decade or two)?
- Do you have predicted population growth?

Transport institutions

- Which entities are responsible for transport policies and operations in your city? (e.g. which department within your local authority? Any national entities? Any private transport operators?)

Transport Demand and Car Ownership

- What is the modal share/split (% of trips per average workday) in your city?
- Do you have historic data recording the evolution of modal share?
- Could you provide information about the development of the number of private cars (car ownership levels) and the number of driving licences per inhabitants (city-wide)
- Do you have predictions related to future transport demand in your city?

Economy

- Could you provide data about the development of GDP (Gross Domestic Product) per capita in your city (over the years)?

- Could you provide current and historic data about the development of annual average fuel prices (diesel and petrol) distinguished between net values and taxes [€ per litre]

Local transport plan

- Does your city have a local transport plan and/or business plan or any other equivalent policy-making document? If so, do you have an English version?

Additional data

- Do you have additional data which would be relevant to establish an initial city profile?

Thank you very much for your collaboration. We would be grateful if you could complete and complement the questionnaire in the coming weeks. We need as much information as possible before the mid-term review report to be submitted to the EU Commission at the end of the year. Early next year we will ask you to gather further qualitative and quantitative information about urban transport and transport policy in your city.