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Road Safety Performance Review

Dominican Republic



UNITED NATIONS

United Nations Economic Commission for Europe
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NOTES

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Introduction

Road safety is an important sustainable development goal, but there is little awareness of this issue, and road safety works are seriously underfunded. Every year, some 1.3 million people die in vehicle collisions around the world, and another 20 million to 50 million sustain non-fatal injuries. Approximately 90% of all the people killed in road crashes are in low- and middle-income countries, although they own only around 54% of the world's motor vehicles. More than half of global road traffic deaths occur among pedestrians or drivers of motorized two-wheeled vehicles (WHO, 2015).

In 2010, the United Nations General Assembly proclaimed 2011-2020 to be the United Nations Decade of Action for Road Safety. General Assembly resolution A/70/L.44, adopted in April 2016, reaffirms the road-safety-related Sustainable Development Goal and targets outlined in the 2030 Agenda for Sustainable Development, such as target 3.6, which aims to reduce global road traffic deaths and injuries by 50% by 2020, and target 11.2, which aims to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030.

Regrettably, there has been little improvement in global road safety (measured in terms of the number of deaths, injuries and crashes) since the launch of the Decade of Action for Road Safety, and this is particularly true for the Latin American and Caribbean region (Pérez-Salas and Nazif-Muñoz, 2015). Therefore, much remains to be done to meet the goal set for the Decade, especially in this region.

In 2010, the Economic Commission for Europe (ECE) and the Economic Commission for Latin America and the Caribbean (ECLAC) completed the fifth-tranche United Nations Development Account project entitled Improving Global Road Safety: Setting Regional and National Road Traffic Casualty Reduction Targets, which successfully supported governments in low- and middle-income countries in developing national road safety targets and exchanging best practices for achieving those targets by 2015. In Latin America and the Caribbean, this project has had a positive impact in helping countries of this region to improve various aspects of their institutional framework for the promotion of road safety (Nazif-Muñoz and Pérez-Salas, 2013).

The ninth-tranche United Nations Development Account project entitled Strengthening the National Road Safety Management Capacities of Selected Developing Countries and Countries with Economies in Transition focuses on assisting four such countries to strengthen their road safety management system capacities and to effectively address and improve national road safety. The project partners are three of the United Nations regional commissions: the Economic Commission for Europe (ECE), the Economic Commission for Latin America and the Caribbean (ECLAC) and the Economic and Social Commission for Asia and the Pacific (ESCAP). The ECE Sustainable Transport Division is leading and coordinating the project.

The Dominican Republic is one of the four countries, along with Viet Nam, Georgia and Albania, that are participating in this project. As will be seen throughout this assessment, the Dominican Republic has one of the highest traffic mortality rates not only in the region, but in the entire world. A radical realignment of the practices and goals of its road safety management system is therefore required if a significant reduction is to be made in the country's traffic mortality and morbidity indicators.

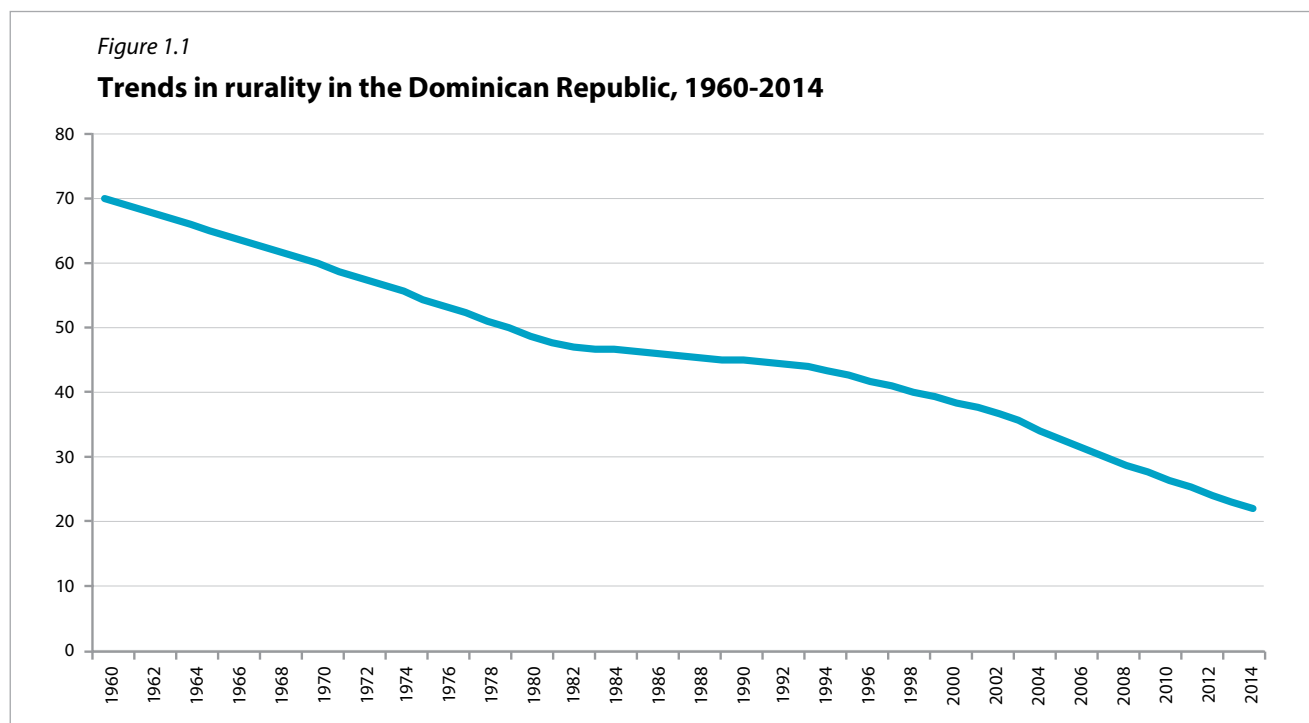
This report is divided into five parts. The first section provides a brief overview of the country's population, economy and climate. The second offers a brief discussion of the legal and political framework for road safety policies. The third section looks at the main trends in traffic fatalities and injuries, infrastructure investment, vehicle fleets and information system operations. The fourth, focuses on the public institutions whose objectives and mission statements address road safety issues and assesses the past and present approaches taken to road safety in the country. It also includes an exploration of the unique opportunity for tackling the road safety challenge offered by the institutional paradigm shift currently taking place in the country. The fifth and final section offers concluding remarks and some preliminary insights into ways of improving the road safety management system, which is currently under review, and of reducing traffic-related mortality and morbidity. Specific recommendations are also made

regarding three institutional measures that could enhance the country's institutional framework for road safety and seven substantive measures associated with policies and projects that can directly impact roadway infrastructure, vehicle safety, roadway users' behaviour and post-crash response capacity. These recommendations take into account the new institutional climate in the Dominican Republic and are aimed at strengthening the institutions recently created under the newly adopted Mobility, Ground Transportation, Transit and Road Safety Act.

1. Country snapshot

1.1 Demographics

The Dominican Republic has an estimated population of 10.65 million, up from 9.44 million at the time of the 2010 census (World Bank, 2017). The demographic transition in this country has exhibited three different trends during three different periods. In 1950-1955, the transition was in an incipient phase during which population growth was relatively slow owing to a combination of high mortality and fertility rates. Then, in 1985-1990, it shifted into a moderate phase characterized by a decline in mortality while the fertility rate remained high, causing the population growth rate to rise. Finally, in 2005-2010, a full-fledged transition was observed, with a more marked downturn in fertility leading to a reduction in the growth rate (ECLAC, 2007). Two significant changes in composition are to be noted. First, while, in 1950, 51.7% of the population was between the ages of 15 and 64, the proportion of the population in this age group had risen to 62.8% by 2010. Second, between 1960 and 2015, the Dominican Republic witnessed a considerable increase in its urbanization. In 1960, 70% of the population lived in rural areas but by 2014, this figure had fallen to 20% (see figure 1.1).

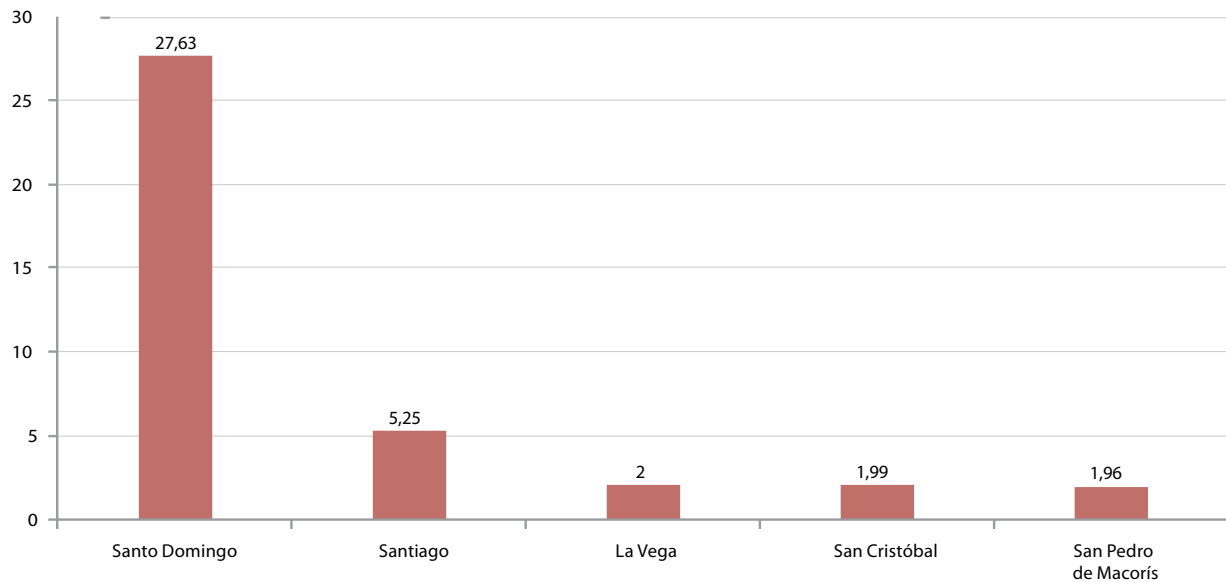


Source: World Bank, "World Development Indicators", 2017 [online] <http://data.worldbank.org/indicator>.

Currently the largest cities are Santo Domingo, Santiago, La Vega, San Cristobal and San Pedro de Macorís (see figure 1.2).

Figure 1.2

Percentage of the population in the most populous cities of the Dominican Republic, 2015



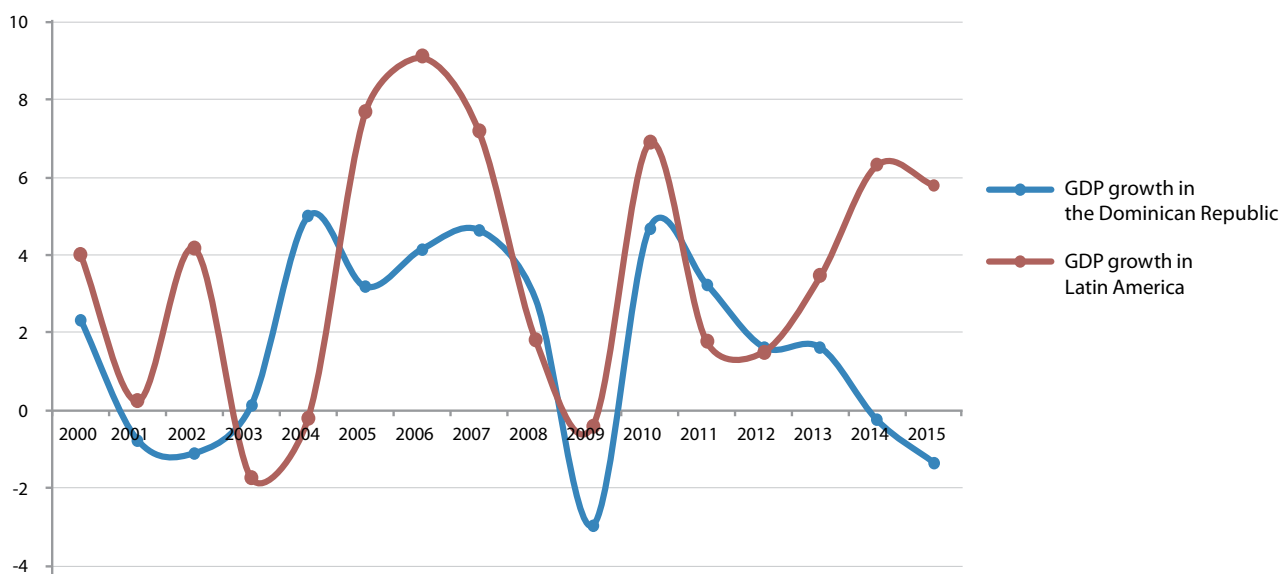
Source: National Statistical Office, "Provinciales y municipales", 2015 [online] <https://www.one.gob.do/provinciales-y-municipales>.

1.2 The economy

The Dominican Republic is the Caribbean's largest economy, with a gross domestic product (GDP) in 2015 estimated at \$ 67.103 billion (three times the size of Guatemala's). Its growth has been robust over the past decade, with declines being seen only in 2009, 2011 and 2012.¹ The only three years in which its economic growth rate was lower than the Latin American average during this period were 2008, 2011 and 2012.

Figure 1.3

GDP growth: Dominican Republic and Latin America, 2000 and 2007-2015



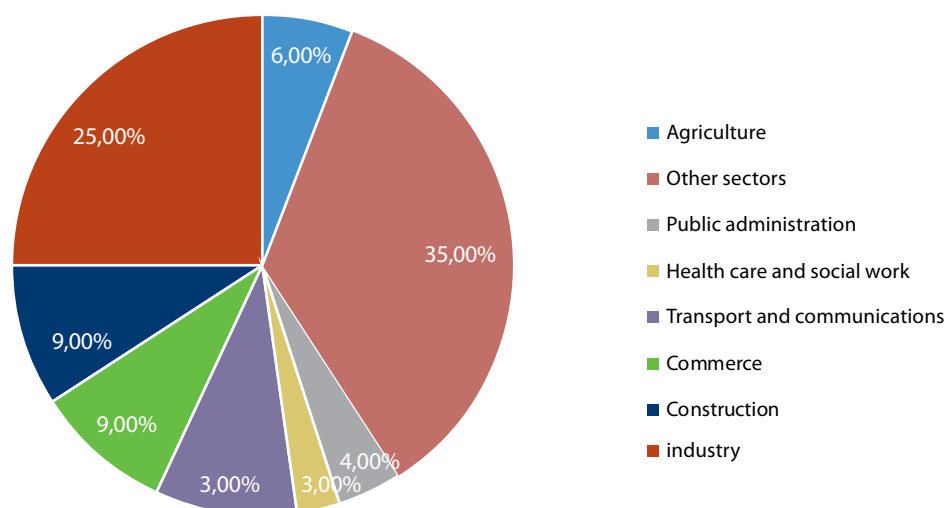
Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Updated Economic Overview of Latin America and the Caribbean*, Santiago, 2016 and national sources.

¹ See ECLAC (2016a).

The largest share of GDP, by activity, corresponds to industry (25%), followed by commerce (9%), transport and communications (9%), construction (9%), agriculture (6%), public administration (4%), and health and social work (3%).

Figure 1.4

**Composition of GDP in 2016
(Percentages)**



Source: National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

The Dominican Republic is fairly well-positioned in terms of its integration into international markets when compared to many other Latin American and Caribbean countries. Table 1.1 shows how it compared with Haiti, Jamaica and Uruguay in 2006-2014. As may be seen from the table, the Dominican Republic received more foreign investment than either Haiti or Jamaica, with an average inflow during this period of US\$ 2.16 billion. In comparison with Uruguay, a country with 3.7 million habitants, however, the Dominican Republic lagged behind. This result can, in large part, be attributed to Uruguay's proximity to Argentina and Brazil.

Table 1.1

Foreign investment income: Dominican Republic and selected countries, 2006-2014

(Millions of dollars)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dominican Republic	1 085	1 667	2 870	2 165	2 024	2 277	3 142	1 991	2 209
Haiti	161	75	29	55	178	119	156	186	99
Jamaica	882	866	1 437	541	228	218	413	654	699
Uruguay	1 493	1 329	2 106	1 529	2 289	2 504	2 536	3 032	2 755

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Foreign Direct Investment in Latin America and the Caribbean, 2015 (LC/G.2641-P), Santiago, 2015.

As may be seen from table 1.2, the services sector receives the largest share of foreign investment, followed by manufactures. This has important implications in terms of infrastructure, since much of this type of investment is associated with transportation infrastructure projects. Nevertheless, specific plans need to be designed in order to attract more foreign investment to support roadway and other transportation infrastructure projects.

Table 1.2

Foreign investment inflows to the Dominican Republic, by sector, 2006-2014

(Millions of dollars)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Natural resources	107	30	357	758	240	1 060	1 169	93	-39
Manufactures	-168	184	574	280	566	355	1 257	404	607
Services	1 146	1 453	1 938	1 128	1 218	862	716	1 494	1 640

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Foreign Direct Investment in Latin America and the Caribbean, 2015* (LC/G.2641-P), Santiago, 2015.

The breakdown of foreign investment inflows by country of origin (see table 1.3) reflects the influence exerted by the member countries of the North American Free Trade Agreement (NAFTA). As in the case of Uruguay, proximity is an important consideration in understanding the distribution of this type of investment. Agreements concerning motor vehicle imports are another influential factor in this case, since Canada, Mexico and the United States all have large motor vehicle production and export industries.

Table 1.3

Foreign investment inflows to the Dominican Republic, by country of origin, 2006-2014

(Millions of dollars)

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Canada	142	113	383	773	696	1 126	851	143	158
Mexico	84	-124	055	273	433	73	-32	6	244
Netherlands	41	54	-73	96	50	28	10	83	70
United States	662	536	360	455	1 055	499	252	374	321
Venezuela (Bolivarian Republic of)	17	53	11	31	208	70	55	47	44

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Foreign Direct Investment in Latin America and the Caribbean, 2015* (LC/G.2641-P), Santiago, 2015.

1.3 Topography, climate and geography

The Dominican Republic is located on the eastern two thirds of the island of Hispaniola, which it shares with Haiti, in the Caribbean Sea along the boundary with the North Atlantic Ocean and has a territory of 48,670 square kilometres. It is a unitary presidential republic whose government is democratically elected. The country is divided into 10 regions: North-east Cibao, North-west Cibao, North Cibao, South Cibao, El Valle, Enriquillo, Higuamo, Ozama, Valdesia and Yuma. The capital and largest city is Santo Domingo. It has a tropical maritime climate, with little seasonal temperature variation but with seasonal variations in rainfall.

Figure 1.5

Map of the Dominican Republic



Source: Google Maps, "Dominican Republic", 2017 [online] <http://bit.ly/2GxMhdl>.

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2. Review of the legal and administrative framework for the promotion of road safety

2.1 The national legal framework for the promotion of road safety

The development of national road safety legislation has been an ongoing process in the Dominican Republic. One of the first laws of this type –Act No. 16, which deals with the regulation of traffic flows– was introduced in 1963. In 1966, under Act No. 165, the General Directorate of Ground Transportation (DGTT) was created to serve as the lead regulatory agency in this field. One of the most important pieces of legislation in this area, Act No. 241-67, which governs the actions of all road users, was passed in 1967. Changing circumstances within the country, along with the steps taken to address new political and economic challenges, account for the large number of amendments and supplements to this law that have been introduced. In 2017, the government initiated several effective measures for the promotion of transport policy development, and work was undertaken in the road transport sector to frame the necessary legislative foundation and to further develop the system's institutional structure. Two specific measures of significance in this connection were the establishment of the Presidential Commission on Road Safety and the passage of the Mobility, Ground Transportation, Transit and Road Safety Act (Act No. 63-17).

The Constitution of the Dominican Republic contains a number of provisions that have a direct bearing on the regulation of transportation and transit: article 37 states that everyone has an inviolable right to life and that under no circumstance will capital punishment be imposed; article 46 states that everyone who is in the country legally has the right to freedom of movement; and article 42 states that everyone has the right to have their physical, psychological and mental well-being respected and to live without violence.

Transport management and regulation are now governed by the Mobility, Ground Transportation, Transit and Road Safety Act, which directs that transport policy is to be formulated and implemented by the National Ground Transportation and Traffic Institute (INTRANT).

Road transport, in general, and the rights and responsibilities of all participants in transport activities are also regulated by the Mobility, Ground Transportation, Transit and Road Safety Act, as are traffic flows and traffic safety. This law sets out the main lines of traffic safety policy, government duties and obligations in this connection, traffic rules and conditions, the design and placement of traffic signs and traffic marks, the rights and obligations of road users and the general requirements for driving permit issuance and vehicle registration. The law covers all Dominicans and foreign nationals who use the country's roads and all national and international vehicles in the country. Violations of traffic regulations are defined in the Mobility Act, which refers to other Dominican laws for the determination of which types of actions incur civil, criminal or administrative penalties. This law also covers the rules governing the use and protection of roads by road owners and users, engineering, construction and owner organizations, and road use fees and payments.

Passenger transportation is mainly overseen by the National Ground Transportation and Traffic Institute (INTRANT). Before that organization's establishment, however, this work was done by the Ground Transportation Technical Office (GTTO), which had been established under Presidential Decree No. 489 of 1987. The role of GTTO had involved redesigning bus routes and reallocating them to different operators, with bus operations being subsidized in order to hold down passenger fares. The mission of GTTO was to manage the public transportation system in such a way as to meet the mobility needs of the population. Its vision statement focused on ensuring that it would serve as a model of public service that upheld ethical standards, worked to achieve excellence in its field, kept operations flowing smoothly and used leading-edge technology in order to have a positive impact on the quality of life of all Dominicans. Its legal framework was composed of 17 national laws and 19 decrees governing various aspects of the work of government offices. These statutes included the 20 different laws amending Act No. 241-67; some of the most important of those amendments have been promulgated in Act No. 12 (on traffic fines), Act No. 114, Act No. 61-92, Act No. 56-89, Act No. 56-86-15, Decrees Nos. 284-914, Act No. 160, Act No. 593 (on load inspection), Act No. 146 (on insurance), Act No. 143 (prohibition of the use of mobile phones while driving), Act No. 585, Act No. 513 (regulations applying to public transport drivers), Act No. 176-07, Act No. 76-00 (regulations applying to taxis), Act No. 547-70 (on pension funds for public transportation drivers). GTTO was also governed by Decrees Nos. 178-94, 37-98, 448-97 (establishment of GTTO), 393-97 (establishment of the Metropolitan Inland Transport Authority (AMET)), 447-05 (establishment of the Transit Reorganization Office), 250-07 (establishment of the Ground Transportation Development Fund), Regulation No. 723-06 and Resolution No. 3 of 2006, which prohibits alcohol consumption in motor vehicles.

Cargo transport is also covered by the Mobility Act. This law sets out the provisions governing the safety and property maintenance requirements for roadway cargo transport operations, including those applying to dangerous cargo, as well as operators' rights, obligations and responsibilities. Previously, cargo transport was governed by Act No. 241-92. There are also local regulations that place further restrictions on these activities. For instance, the municipal government of Santo Domingo has specific regulations of its own, such as the Cargo and Commercial Vehicles Regulation of Santo Domingo of 2013 (Government of Santo Domingo, 2013).

Labour regulations applying to commercial drivers are set out in Decree No. 25893 of 1 October 1993, which establishes that drivers must not drive for more than 10 hours per day or 70 hours per week. They also must not drive for more than 5 consecutive hours, and resting times between driving hours must not be less than 1 hour and 30 minutes. These regulations are fully applicable to international transport as well but do not cover the monitoring systems (tachographs) to be used or their installation, verification, technical servicing or maintenance.

Periodic technical inspection of vehicles in the Dominican Republic is covered by Act No. 241-07. This regulation defines the timeline for obligatory tests of road transport vehicles based on their category and function. GTTO used to be responsible for ensuring mechanical and physical vehicle inspections, but those duties have now been taken over by INTRANT. By law, the inspections must cover the tyres, brakes, seats, the vehicle body condition, lights, horn and a number of other elements. Under the new Mobility, Ground Transportation, Transit and Road Safety Act, improved technical vehicle inspection procedures are being introduced. The types of servicing and technical service lists, along with the corresponding timelines, conditions, procedures and requirements pertaining to service companies registered in the Dominican

Republic, are defined in Act No. 241-07 and the new Mobility Act. The regulations are designed to ensure that the technical features of all transport vehicles are in accordance with Dominican laws and standards.

The Dominican Republic is not a contracting party to the United Nations Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections of 1997 or of the United Nations Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of These Prescriptions of 1958.

2.2 Transposition of international regulations and agreements

The Dominican Republic signed the Convention on Road Traffic in 1949 and ratified it in 1957. It also signed the Protocol on Road Signs and Signals that same year.

2.3 The institutional framework for the promotion of road safety

The legal and institutional framework for the promotion of road safety in the Dominican Republic is composed of numerous overlapping laws and centralized and local public agencies. These laws and agencies address all the pillars of activities listed in the Global Plan for the Decade of Action for Road Safety, and the country has also recently introduced a target of a 20%-30% reduction in the two most commonly used road safety indicators: fatalities and injuries. Figure 2.1 maps out the institutions which had contributed directly and/or indirectly to road safety policies, programmes and projects prior to the introduction of the Mobility Act.

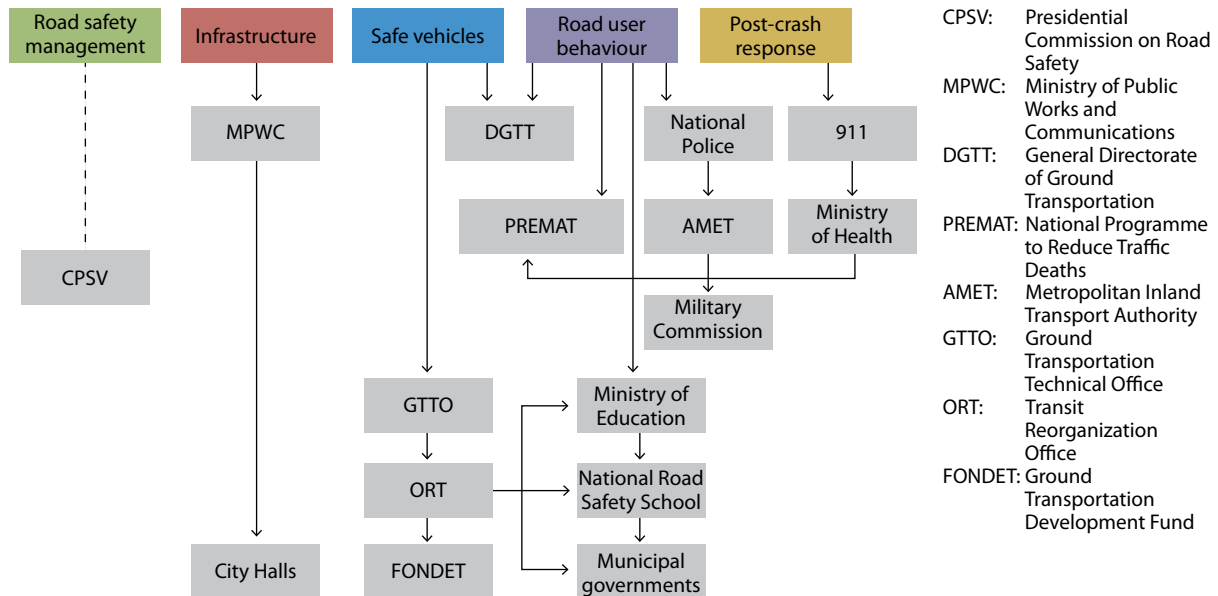
Most of these agencies focus on one of the five pillars set out in the Global Plan, but some, for instance the Ministry of Public Works and Communications and the General Directorate of Ground Transportation (DGTT), have functions that involve areas included in two or more pillars. There are also a considerable number of cross-cutting components that are depicted by the overlapping institutional identifiers shown in the figure. For example, there are eight institutions that target different aspects of issues associated with the “road user behaviour” pillar. Some agencies also create ad hoc sub-units to reach out to institutions dealing with other pillars. Examples include the National Programme to Reduce Traffic Deaths of the Ministry of Public Health and the National Road Education School of the Ground Transportation Development Fund (FONDET). Municipal governments have primarily focused on the infrastructure and road user behaviour pillars. The fact that the country’s municipal governments have differing levels of resources and priorities has important implications, since these differences can have an impact on road safety indicators at the local level, as well as at the aggregate or national level. The number of agencies dealing with the infrastructure and post-crash response pillars is much smaller than the number that are focusing on safer vehicles and road user behaviour. This suggests that these two pillars are the ones in which there are more coordination problems and in which resources may not necessarily be allocated appropriately.

Lastly, the dotted line pointing to the Presidential Commission on Road Safety reflects the fact that, formally, this institution is expected to coordinate the work of most of the other institutions appearing in this map. However, in reality, in order to fulfil its mandate, it has to work with three other agencies: (i) the Ministry of Internal Affairs and the Police Force; (ii) the Attorney General’s Office; and (iii) the Inland Revenue Agency.

The Presidential Commission on Road Safety has initiated a public review and redesign of the national road safety plan, and many of the topics and sub-topics to be included in the new plan match up with one or more of the five pillars of the Global Plan. It is therefore quite likely that the new plan will include traditional types of measures that have proven to be effective in the past.

Figure 2.1

Institutional map of public road safety organizations



Source: Prepared by the authors.

3. Road safety trends over the last decade

3.1 Road safety data collection and compilation

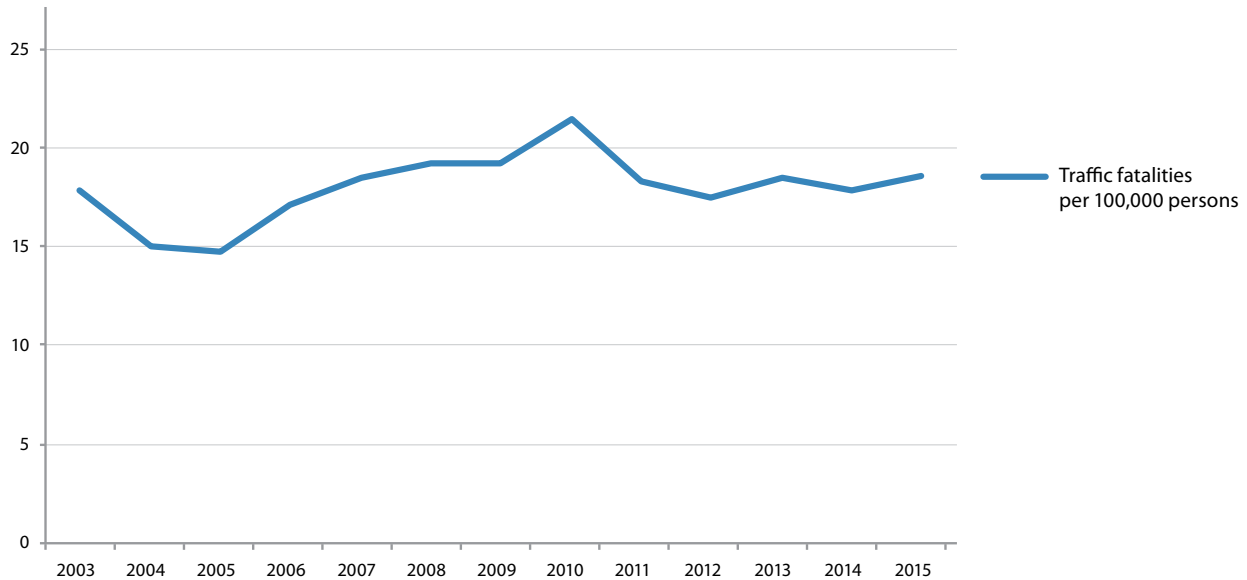
Statistics on road accidents are compiled by the National Statistical Office, which publishes this information on its website (<http://www.one.gov.do>) every year. Additional data can be obtained in an Excel format by submitting a Freedom of Public Information Request. By law, that information must be made available within 15 working days. Data on road crashes are collected for international/intra-urban roads and for local/secondary roads by different police units.

The General Office of Epidemiology (DIGEPI) of the Ministry of Public Health and Social Assistance collects data on all mortalities and categorizes each case on the basis of mortality codes. It has an extensive technological network, and health professionals can take the required information from hospital records and enter it directly into the system. In the case of traffic crashes, in accordance with Decision No. 4-13 of the Ministry of Public Health and Social Assistance, health professionals must notify DIGEPI within a week of the occurrence of each such event.

The official statistics on road safety for 2015 indicate that there were approximately 20 fatalities per 100,000 inhabitants. Although the change may partly be attributable to the effects of the economic crisis in 2015, this is a slight improvement over the figure for 2010 (an average of 23 fatalities per 100,000 inhabitants). In comparison to the Latin American and Caribbean average of 15.9 deaths per 100,000, the Dominican Republic's road fatality index is 21% higher.

Figure 3.1

Number of traffic fatalities per 100,000 persons per year, 2003-2015



Source: National Statistical Office, "República Dominicana: número de muertes ocurridas y registradas en accidentes de tránsito por año y sexo según año, 2003-2016", 2016 [online] <https://www.one.gob.do/Multimedia/Download?ObjId=41963>.

3.2 Road infrastructure

Figure 3.2

Types of roads in the Dominican Republic



Source: Dominican Republic, "Dominican Republic Recommended Roads Map", 2017 [online] <http://www.godominicanrepublic.com/wp-content/uploads/2014/02/national-map-english-spanish-roads-02.pdf>.

Disclaimer: The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

The Ministry of Public Works and Communications is responsible for building, expanding, repairing and maintaining transport infrastructure works, as well as for organizing, overseeing, coordinating and planning ground transportation systems throughout the Dominican Republic. The prime objectives of this institution are to provide the safest possible roads in order to reduce the number and consequences of traffic crashes and to help expedite and smooth out traffic flows throughout the Dominican Republic and to ensure that the road and highway networks support the mobility of goods, services and people in the safest, fastest and most efficient way possible.

Table 3.1
Overview of the road network

Type	Km	% network	% network vehicles
Main (primary)	1 081.1	7.8%	54.9%
Regional (secondary)	1 830.9	13.2%	22.0%
Local (tertiary)	2 010.0	14.5%	18.8%
Subtotal: roads	4 921.9	35.6%	95.8%
Asphalt roads	872.8	6.3%	1.3%
Gravel roads	3 221.1	23.3%	2.5%
Dirt roads	4 813.3	34.8%	1.0%
Subtotal: other routes	8 912.2	64.4	4.2%
Total: network	13 834.1	100%	100%

Source: Ministry of Public Works and Communications, "Oficina de Acceso a la Información Pública Ética y Transparencia Sistema de Asistencia y Seguridad Vial", 2016 [online] http://www.mopc.gob.do/media/2450/presentaci_n_sistema_de_asistencia_vial__actualizado_.pptx

There is a plan in place for the improvement of more than 2,000 kilometres of public roads, with the Ministry of Public Works and Communications serving as the lead agency for this initiative. Table 3.1 shows the distribution of the road network by road type and vehicle capacity.

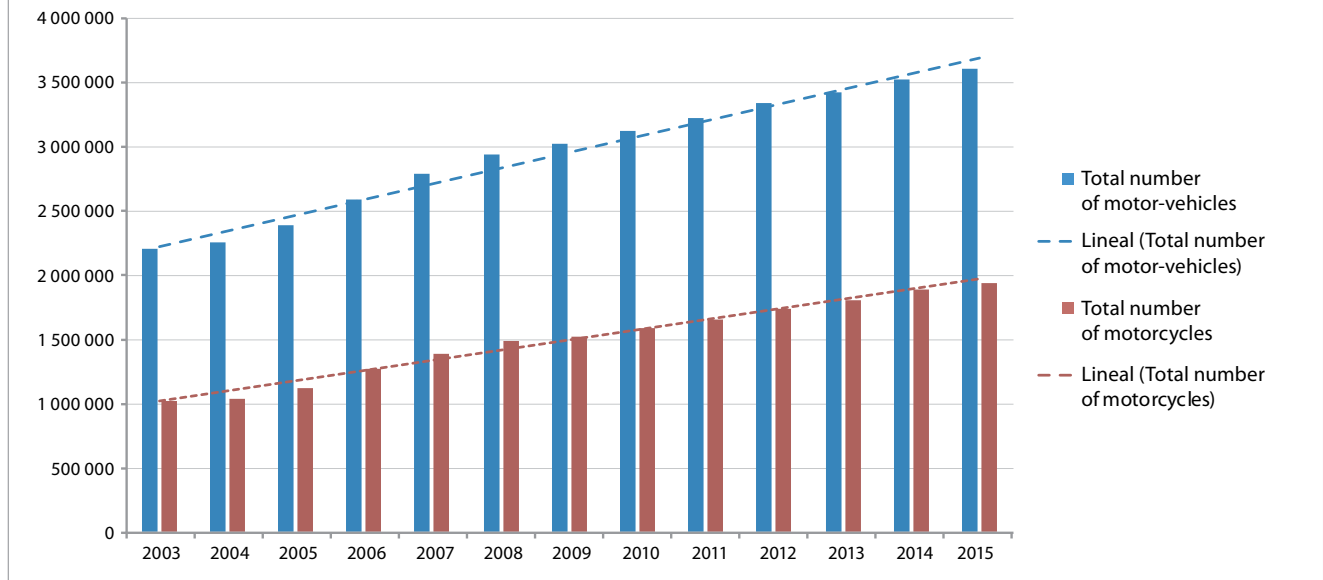
There has been a considerable amount of investment in road signage and in the maintenance of both highways and secondary roads. In 2014, for example, road infrastructure projects for a total of RD\$ 17.161 billion (approximately US\$ 36.8 million) were being executed. According to the Dominican Republic Export and Investment Centre, Dominican roadway infrastructure is among the largest and most modern of the entire Caribbean region. The country currently has 8 international airports and 12 seaports, in addition to having one of the largest highway systems in the region in proportion to its size. Foreign direct investment in infrastructure projects (including telecommunications, electricity, real estate and transportation) amounted to some US\$ 8,835,800,000 in 2004-2013.

3.3 Road vehicle fleet

The prosperity enjoyed by the Dominican Republic has had an impact on its vehicle fleet. Figure 3.3 shows that, while there were approximately 2,200,000 registered motor vehicles in 2003, by 2015 the fleet had expanded by 63% to approximately 3,600,000 motor vehicles. A large share of this fleet is made up of motorcycles, which are the type of vehicle with the fastest growth rate of all. In 2003, there were 1,020,000 registered motorcycles, but by 2015 the number of motorcycle had jumped by 90%. In fact, as shown in figure 3.4, the percentage of the vehicle fleet accounted for by motorcycles has been climbing steadily, rising from 46.5% in 2004 to 53.9% in 2015. The need for specific measures to tackle all the challenges associated with this means of transportation is therefore clear.

Figure 3.3

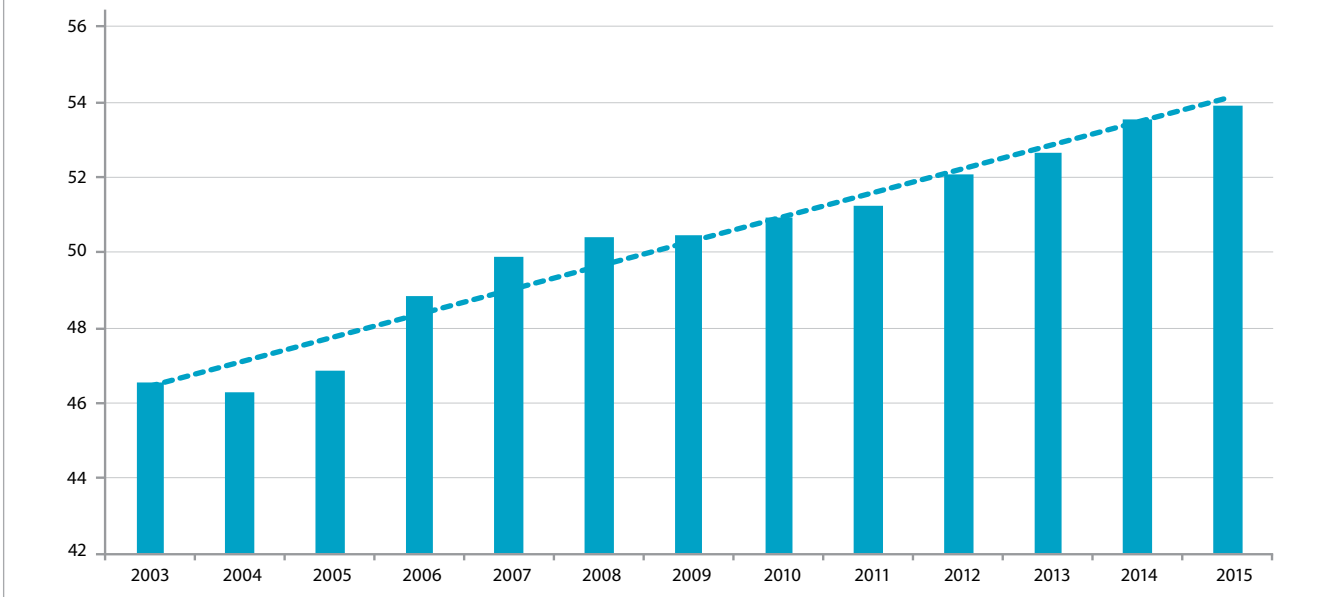
Total number of motor vehicles, by year, 2004-2015



Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

Figure 3.4

Percentage of motorcycles in the total motor vehicle fleet



Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

The government of the Dominican Republic now collects close to US\$ 216 million per year for vehicle registration and sales recording services, with the bulk of that amount corresponding to the fees charged for the issuance of a first-time licence plate (DGII, 2016). As a result of the explosive growth of the country's vehicle fleet, these revenues shot up from US\$ 132 million in 2011 to US\$ 216 million in 2015, for an increase of 63%.

Table 3.2

Public revenue from motor vehicle registration and transfers

Type of transaction	Dominican pesos (Millions)	US dollars (Millions)*	Percentage
Issuance of first licence plate	6 990.0	150.3	69.5%
Renewal of documents	1 503.0	32.32	14.9%
Transfers	949.0	24.40	9.4%
Change or renewal of (actual) vehicle licence plates	54.8	1.17	0.5%
Copy of documents	45.1	0.96	0.4%
Co ₂ emissions	515.3	11.07	5.1%
Total	10 057.2	216.282	100%

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

*Rate calculated as of 5 December 2016 by the Central Bank of the Dominican Republic: http://www.bancentral.gov.do/estadisticas_economicas/mercado_cambiario/.

The gender-based distribution of vehicle ownership is a traditional one, with a majority of the owners of each type of vehicle being male. The gender gap is narrower in the case of light vehicles and jeeps, however, with the percentage of such vehicles owned by women standing at 31.2% and 35.9%, respectively. The widest gender gaps are seen in the ownership of transport vehicles such as buses, heavy trucks and dump trucks. While ownership records indicate who registered the vehicle, this does not necessarily indicate who drives the vehicle, but it nonetheless serves as a good proxy variable for gauging which people are more likely to be exposed to transportation-related hazards.

Table 3.3

Vehicle ownership, by gender, 2015

(Percentages)

Type of vehicle	Women	Men	Total
Light vehicles	31.2%	68.8%	100%
Buses	19.9%	80.1%	100%
Jeeps	35.9%	64.1%	100%
Heavy trucks	11.9%	88.1%	100%
Motorcycles	16.0%	84.0%	100%
Dump trucks	11.7%	89.3%	100%
Other	10.9%	89.1%	100%

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

According to the Inland Revenue Agency, this gender distribution is relatively stable across provinces. However, there are provinces, such as Bahoruco, Elías Piña and San José de Ocoa, in which male vehicle ownership surpasses 85% of the total. The National District is the only one in which this figure is close to 70%.

There is no single institution that is fully in charge of implementing road safety policies. There are, however, a number of different pieces of legislation that deal with the subject. Articles 170 and 212 of Act No. 2441 cover various aspects of road safety, but consideration should be given to framing a single, overarching technical regulation that consolidates and systematizes the currently scattered statutes dealing with motor vehicle safety requirements.

All the vehicles in the Dominican Republic are imported, but a considerable number of the motorcycles do not enter as assembled vehicles; instead, the motorcycle parts are imported and then are assembled in the country. This practice, which seems to be quite widespread, makes the proper registration of these vehicles quite difficult. According to the Inter-American Development Bank (IDB), there is a lack of coordination between DGTT and the Border Security Agency, which focuses entirely on restricting the entry of vehicles that have their steering wheel on the right-hand side (IDB, 2015).

Since 2007, a decrease in vehicle imports has been seen, with the number of vehicles entering the Dominican Republic in that year (30,000) falling to 21,000 by 2012. One factor that may help to account for this trend is the high taxes levied on retail vehicle sales. Another factor that has shaped the configuration of the vehicle fleet has been the importation of second-hand motor vehicles. By law, only vehicles that are less than five years old can be brought into the country. Nevertheless, according to IDB figures, the number of second-hand vehicle imports is twice as high as imports of new vehicles.

According to information provided by the Inland Revenue Agency of the Dominican Republic, the majority of imported vehicles come from Japan; the quantities of vehicle imports coming from Europe, the United States and the Republic of Korea are also considerable (see tables 3.4-3.7). Vehicles from the Republic of Korea, however, have to have the position of their steering wheels changed, which has certain safety implications, since this also entails repositioning the airbags and rear-view mirrors, among other things.

The installation of airbags and of seat belts in the rear seats is not mandatory, and the country therefore relies on the regulations in place in countries that export motor vehicles to the Dominican Republic. This is an important failing, because, although European and North American countries have high safety standards, those standards are not necessarily replicated in some Asian and Latin American countries. This is especially a problem in the case of trucks, since, as shown in table 3.7, more than 10% of the Dominican Republic's imports of this type of vehicle come from countries other than the United States, Japan, European countries and the Republic of Korea.

Table 3.4

Distribution of light-vehicle imports, by region or country of origin, 2011-2016

Origin	Number	Percentage
Europe	87 362	11.3
Japan	565 761	73.2
Republic of Korea	49 629	6.4
United States	57 169	7.4
Other	13 458	1.7
Total	773 019	100

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

Table 3.5

Distribution of bus imports, by region or country of origin, 2011-2016

Origin	Frequency	Percentage
European countries	3 949	4.5
Japan	51 338	58.3
Republic of Korea	11 699	13.3
United States	12 039	13.7
Other	9 084	10.3
Total	88 109	100

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

Regulations on the use and circulation of motorcycles are quite limited in scope. For instance, the installation and functionality of motorcycles' brake systems are not covered by vehicle safety standards. In addition, as mentioned earlier, tracing the origin of these vehicles is extremely difficult. As shown in tables 3.4-3.7, the Inland Revenue Agency compiles information regarding the country of origin of light motor vehicles, trucks, buses and jeeps, but not motorcycles. This poses a challenge for policymakers seeking to determine what types of safety regulations actually apply to these vehicles. An assessment of how vulnerable these vehicles and their drivers and passengers is thus a necessary step towards identifying what types of regulations and monitoring systems should be introduced.

Table 3.6

Distribution of jeep imports, by region or country of origin, 2011-2016

Origin	Number	Percentage
European countries	15 580	4.4
Japan	233 099	65.3
Republic of Korea	42 206	11.8
United States	60 362	16.9
Other	5 871	1.6
Total	357 028	100

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

Table 3.7

Distribution of truck imports, by region or country of origin, 2011-2016

Origin	Frequency	Percentage
European countries	16 605	4.2
Japan	288 715	73.6
Republic of Korea	11 531	2.9
United States	33 455	8.5
Other	42 089	10.7
Total	392 395	100

Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>.

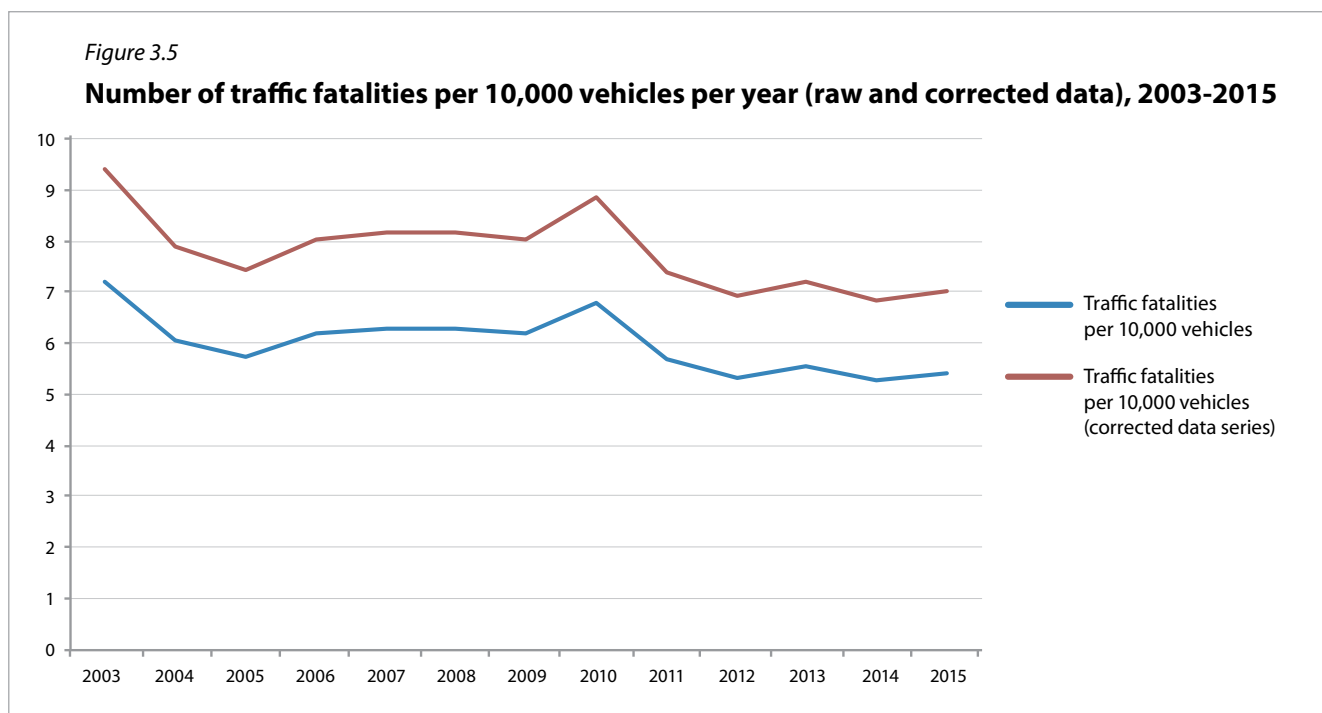
There is no regulation that establishes standards for the use of gasoline or diesel fuels. Furthermore, the technicians who install vehicle fuel systems are not formally trained. For the most part, the installation of these systems is carried out in workshops in which safety standards are poor.

3.4 Road safety indicators

3.4.1 Traffic fatality, injury and accident rates

The following section is based on information drawn from the Metropolitan Inland Transport Authority's crash data set, which is processed, without the use of corrective factors, by the National Office of Statistics. This data set was chosen because it provides information compiled on a monthly basis and specifies the types of road users involved, including their sex and age. A corrective factor of 1.3 has been applied in order to derive an alternative to the official figures.

Rates are also given by vehicle fleet and population. While the first of these denominators is usually preferred because it may capture mobility patterns, the second one is a useful option for inter-country comparisons (Nazif, Quesnel-Vallée and Van den Berg, 2015). Caution should also be exercised when using vehicle fleets as the denominator because a rapid expansion of a vehicle fleet may bring fatality and injury rates down artificially.

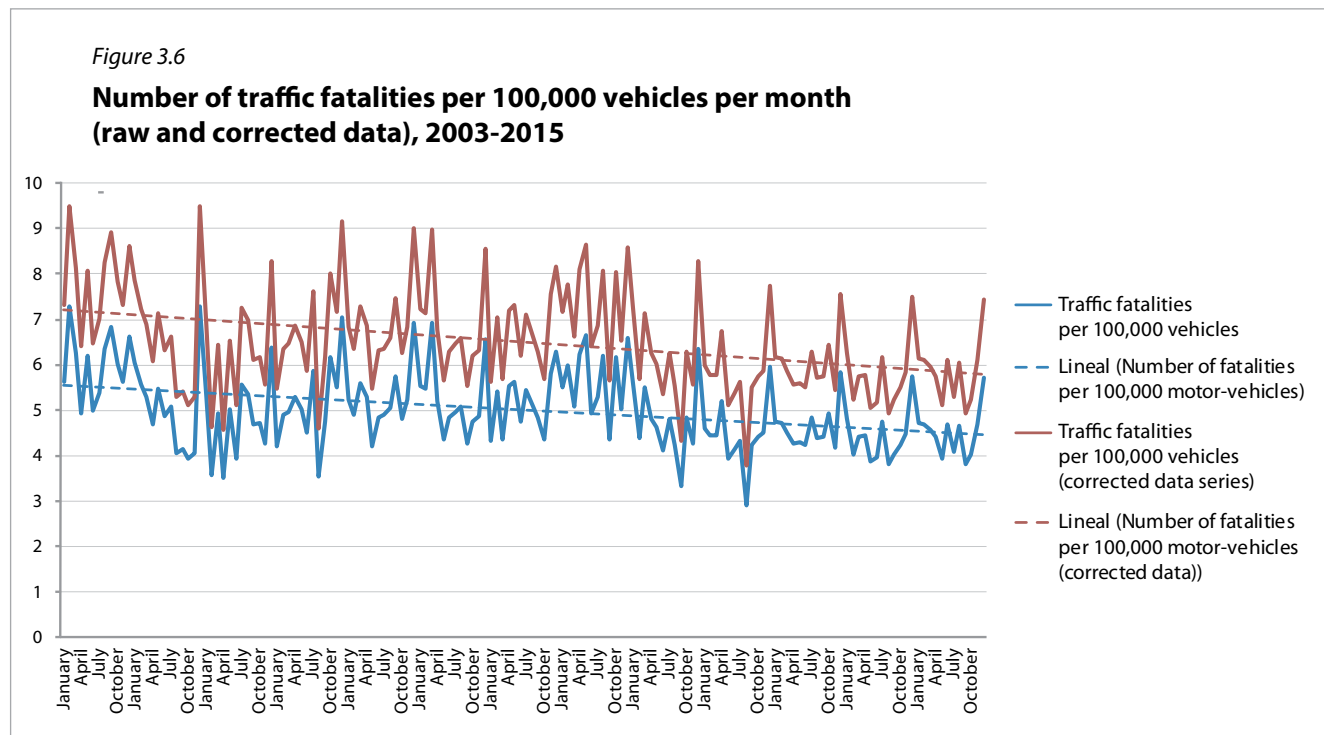


Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>; and National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Note: A corrective factor of 1.3 was used.

Figure 3.5 depicts a downward trend, even when the corrected data series is used, with a 22.6% decrease in the corrected traffic fatality rate (from 9.3 traffic fatalities per 10,000 vehicles per year in 2003 to 7.2 traffic fatalities per 10,000 vehicles per year in 2015). The drop in fatality rates seen in 2011 and 2012 coincided with a downturn in productivity in the Dominican Republic, which suggests that the decreases seen during that period are more likely to have been an effect of a change in mobility patterns associated with the deceleration of the Dominican economy rather than being the result of improved road safety policies.

This downward trend can also be observed in the monthly data shown in figure 3.6. Even though these figures reflect a positive situation, they should be interpreted with care. The monthly data also provide various types of valuable information. For instance, it can be seen that over this 12-year period, the rate of fatalities peaked during the month of December.



Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>; and National Statistical Office, “Cuentas nacionales”, 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

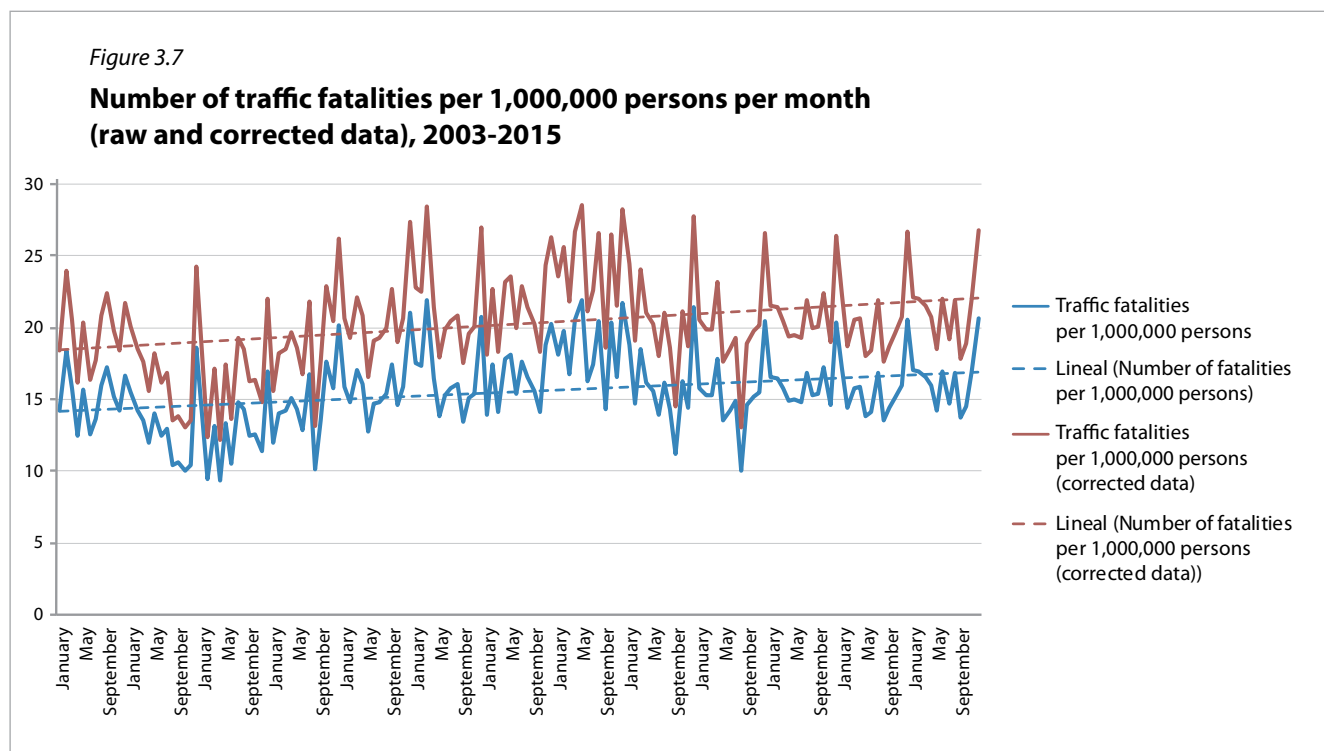
Note: A corrective factor of 1.3 was used.

While the figures tabulated using the vehicle fleet as the denominator trace a downward trend over the past 12 years, the figures computed using the population as the denominator show just the reverse, since the rate for 2003 was 23.6 per 100,000 persons whereas, in 2015, the rate was 25.3, for an increase of 7%. What is more, in 2010 the rate was 29.2. This backs up the observation that measurements of traffic fatality rates that use the size of the vehicle fleet as a denominator should be viewed with caution. More specifically, the trends do not correlate as they would be expected to do if a set of road safety measures were being implemented. As in the case of figure 3.5, a drop in the rate for 2011 and 2012 is to be observed, which adds weight to the hypothesis that the decrease is associated with the economic slowdown that occurred during that time in the Dominican Republic.

The monthly figures also show that the rate peaks in December. Further study of the mobility and behaviour patterns associated with this month is required in order to determine what factors are behind these peaks. One possible factor may be that alcohol consumption levels are higher in December because of the holidays; another could be that more vehicles are purchased during this month in response to year-end specials. From an institutional perspective, another factor could be that government resources are reallocated to other pressing areas at this time of year; for instance, police officers may devote more of their time to combating crime in December as the lure of holiday purchases may cause the incidence of various types of theft to climb.

Gender is another factor that influences variations in traffic fatalities. The fact that, on average, men engage in riskier behaviour than women is well documented. Generally accepted theories about risk-

taking lead to the expectation that there are observable differences between people who regularly take risks and people who regularly avoid risks. The possibilities include: “(a) a naturally lower level of arousal in men or (b) a socially instilled belief that risk-taking is a highly valued masculine tendency [that] motivates high levels of risk-taking across contexts in men.” (Byrnes, Miller and Schafer, 1999, p. 368). In other words, it is expected that gender differences will not vary by context (i.e., men will always take more risks than women and the gap will remain relatively the same across contexts). There is, of course, a range of theories that seek to explain gender gaps in risk-taking behaviour in specific contexts and others that attribute risk-taking to other characteristics, such as age. Given the type of information that is available, however, it would be of interest to undertake further research to determine whether gender differences are prominent among the Dominican population and whether these trends are stable, divergent or convergent over time.



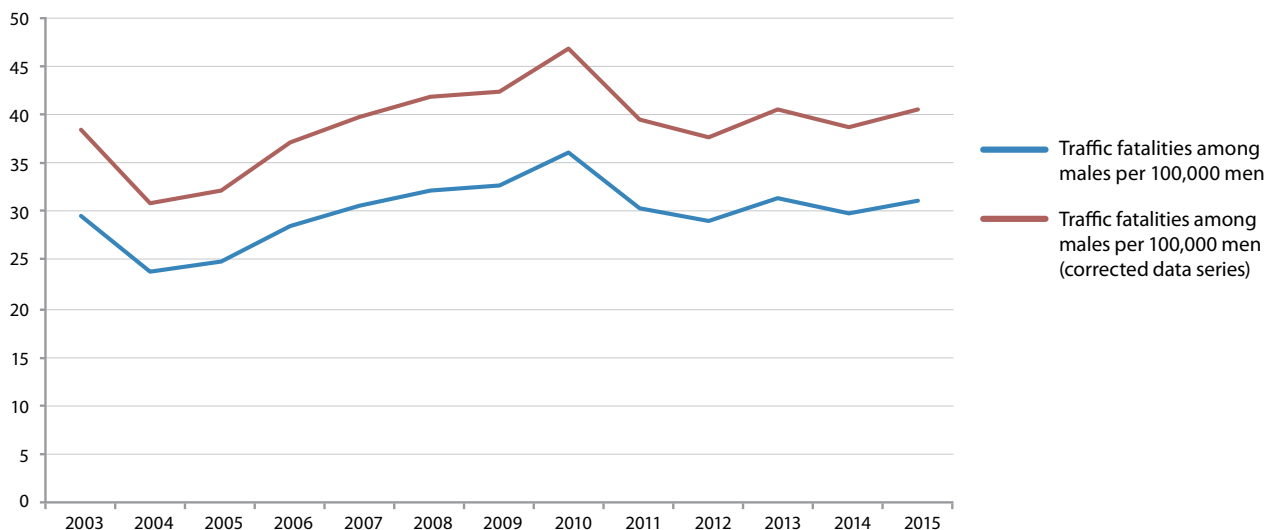
Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>; and National Statistical Office, “Cuentas nacionales”, 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Note: A corrective factor of 1.3 was used.

Figures 3.8 and 3.9 reflect a clear gender-based pattern that fits in with prevailing theories about the link between gender and risk-taking behaviour. More men than women died in traffic accidents in 2003-2015. While there was a slight narrowing of the gender gap in 2004 and 2005, the overall trend is in the opposite direction. Not only did more men die in traffic crashes during the study period, but a comparison of the trends for each sub-population shows that the female traffic fatality rate per 1,000,000 women has been relatively stable. In 2003, the rate was 6.32 and, in 2015, the rate was almost identical (6.33). The highest rate –7.52— was recorded in 2010. For men, on the other hand, the situation is more problematic. In 2003, the rate was 40.88 and, in 2015, it was 44.35, for an increase of 10%. As in the case of women, the highest traffic fatality rate for men was registered in 2010 (50.71). A comparison of the differentials between the annual male and female traffic fatality rates indicates that the point of greatest convergence was in 2004, but after that, the two trends began to diverge again.

Figure 3.8

Number of male traffic fatalities per 100,000 men per year (raw and corrected data), 2003-2015

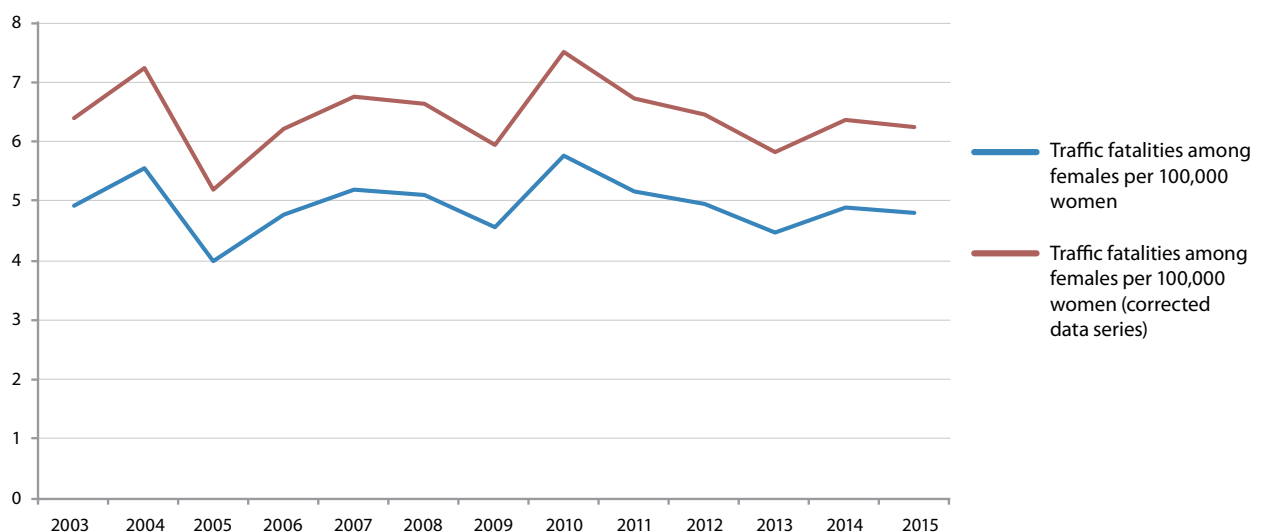


Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>; and National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Note: A corrective factor of 1.3 was used.

Figure 3.9

Number of female traffic fatalities per 100,000 women per year (raw and corrected data series), 2003-2015



Source: Inland Revenue Agency (DGII), *Parque vehicular 2015*, Santo Domingo, 2016 [online] <http://www.dgii.gov.do/informacionTributaria/estadisticas/parqueVehicular/Documents/ParqueVehicular2015.pdf>; and National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Note: A corrective factor of 1.3 was used.

As in the case of the observation that rates peak in December, further research will be necessary in order to unpack the mechanisms behind this divergent trend. It could be that men are travelling more than women. Another possible explanation is that men tend to use vehicles that are less safe than the ones generally used by women. This hypothesis is backed up to some degree by the distribution of motor vehicle ownership described earlier, given that men own more than 80% of all the registered motorcycles and women own close to 36% of all jeeps. Another aspect that could be influencing the rate differential is alcohol consumption. In order to determine if that is the case, however, research would have to be conducted to establish whether or not men are consuming more alcohol than women over time and, if so, why.

An analysis of the types of vehicles involved in road crashes that result in fatalities also provides valuable information regarding the types of road safety measures that can be designed and implemented to reduce traffic fatalities and injuries. An analysis of this sort must take into account elements associated with the severity of the crashes. That is, the nature of certain types of safety devices and the weight of the vehicles concerned can have a significant influence on how severe a road crash may be. As noted earlier, this may have important implications for the Dominican Republic, since such a large proportion of its vehicle fleet is composed of motorcycles.

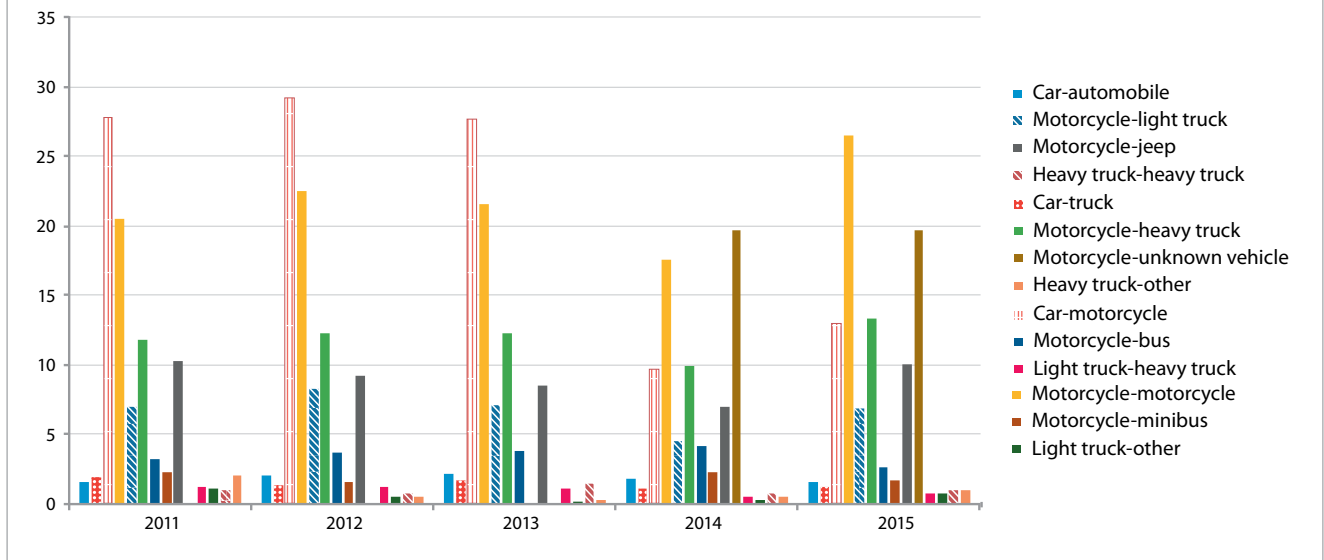
Figures 3.10 and 3.11 show the percentages of road crashes resulting in fatalities per type of collision; 14 different combinations are used: automobile-automobile; automobile-truck; automobile-motorcycle; motorcycle-motorcycle; motorcycle-light truck; motorcycle-heavy truck; motorcycle-bus; motorcycle-minibus; motorcycle-jeep; motorcycle-unknown vehicle; light truck-heavy truck; light truck-other; heavy truck-heavy truck; and heavy truck-other. This list is not exhaustive, but it covers the cases in which at least 1% of road crashes led to at least one fatality.

First, road crashes in which motorcycles are involved have the highest percentage of fatalities. The combinations with the highest rates vary from year to year, but the two types of road crashes that have the most fatal outcomes are automobile-motorcycle and motorcycle-motorcycle. Together, these two combinations correspond to an annual average of 20% of the fatalities. In other words, between 2007 and 2015, one collision out of five in which there were fatalities involved a collision between an automobile and a motorcycle or between two motorcycles. Another significant percentage of road crashes were those in which a motorcycle crashed with an unknown type of vehicle. For 2014 and 2015, this type of collision produced close to 20% of the fatalities. This figure is important because it is, in all likelihood, correlated with hit-and-run collisions. These crashes are of particular concern because the individuals responsible for them are often not obliged to pay damages to the affected families even if legal compensation is awarded by the courts. In addition, these persons are less likely to change their risky behaviour, since they have not been subjected to punitive institutional responses.

The figures also indicate that very few road crashes involved heavy vehicles, except for collisions between motorcycles and heavy trucks, with none of the rates being higher than 2.5%. One considerable limitation of these data is the lack of variation in terms of outcomes. In other words, only road crashes with fatal outcomes are being considered, so the data do not provide information about road crashes that result in non-fatal injuries. This type of information would be extremely useful because it would add a new dimension to the authorities' consideration of the types of measures that should be developed. Traffic injuries are also extremely burdensome both for the health sector and for the households concerned, since in many cases they involve high health-care and other types of costs for both health services and the families of persons injured in traffic collisions.

Figure 3.10

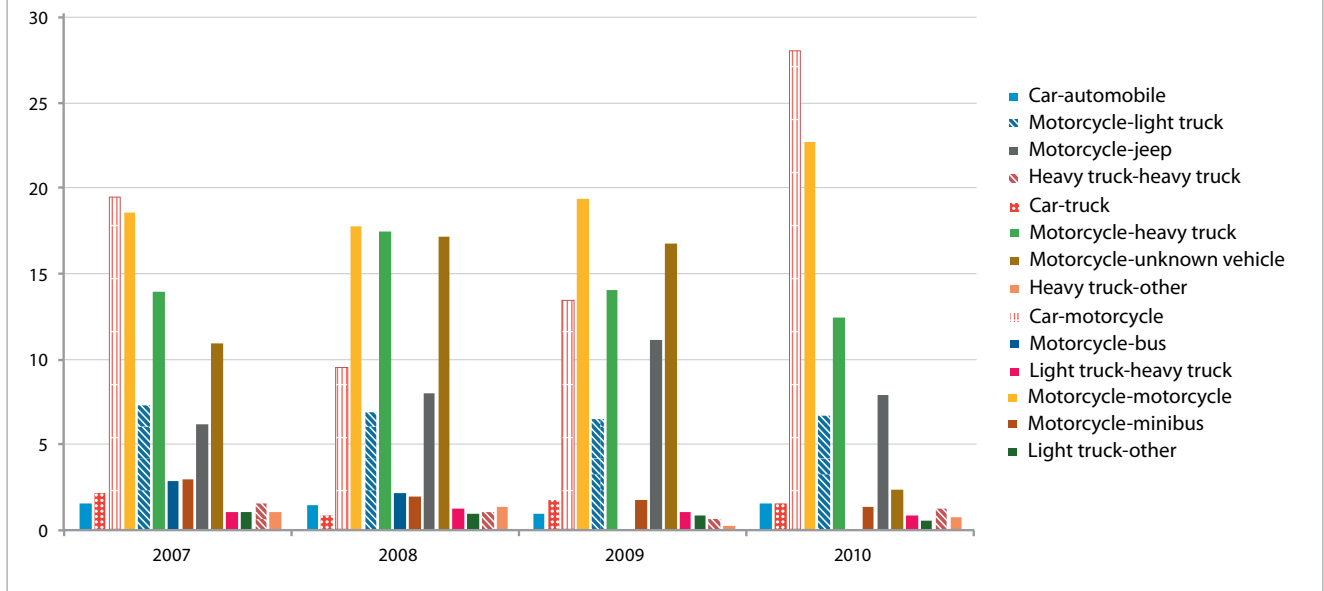
Percentage of road crashes resulting in fatalities, by type of collision, 2007-2010



Source: National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Figure 3.11

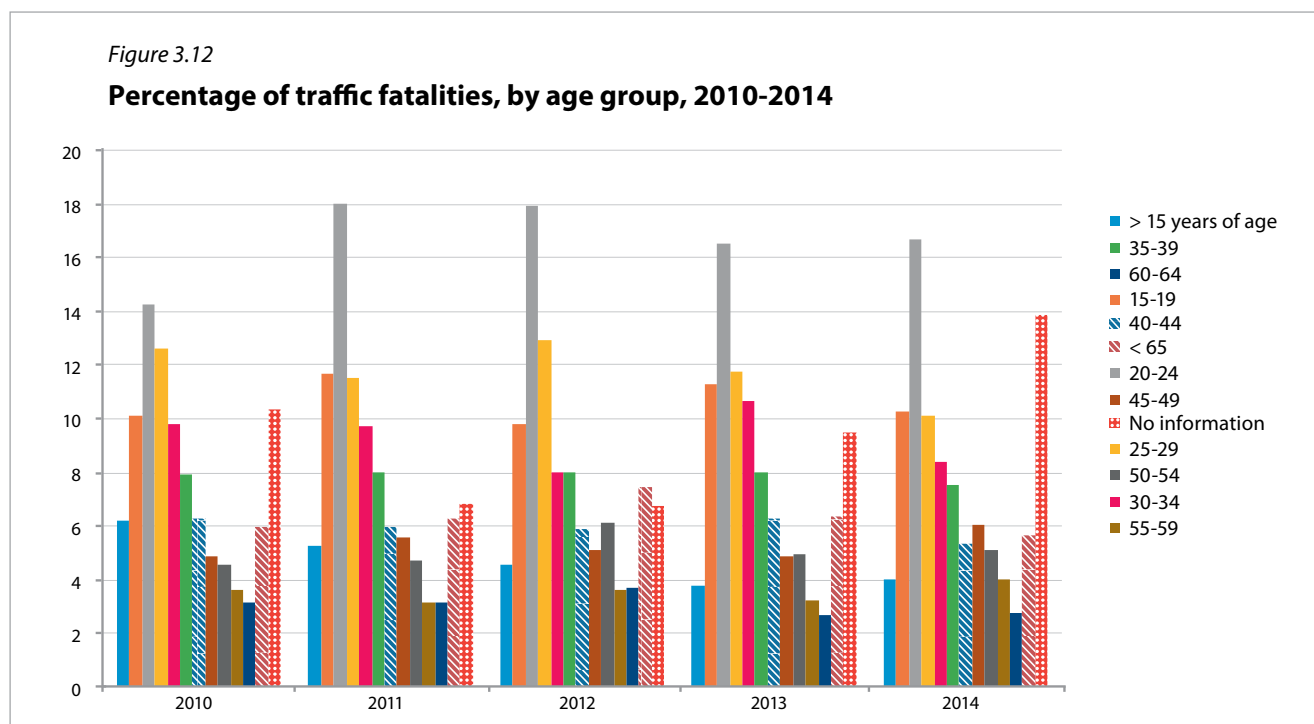
Percentage of road crashes resulting in fatalities, by type of collision, 2011-2015



Source: National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Another basis for the analysis of traffic fatalities is the age of the persons involved. Figure 3.12 gives the distribution of road fatalities by age group for 2010-2014. In all, 12 age groups are considered. The figures indicate that three consecutive age groups (15-19; 20-24; and 25-29) correspond to more than 35% of the fatalities during the study period. This trend is present in most countries (WHO, 2013) and is usually associated with a learning curve in which persons in these age groups are acquiring skills, such as driving, that are new to them. What is more, at these ages, people (particularly men) are more likely to engage in risky behaviours. Another worrisome element is the high percentage of collisions involving unknown types of vehicles. For the year 2014, this was the case in 14% of total fatalities. This may point to problems in how road crash information is collected.

The above analysis suggests that more research is needed in order to gain an understanding of why the 15-29 age group is the most vulnerable in the Dominican Republic. It may be the case that the learning curve mentioned earlier is part of the explanation, but part of the explanation may also be that more high-risk behaviour is accepted and tolerated among persons in this age group, with that behaviour taking such forms as high levels of alcohol consumption, speeding, driving while using mobile phones or any other technological device that can distract the driver and a failure to wear helmets or seat belts.

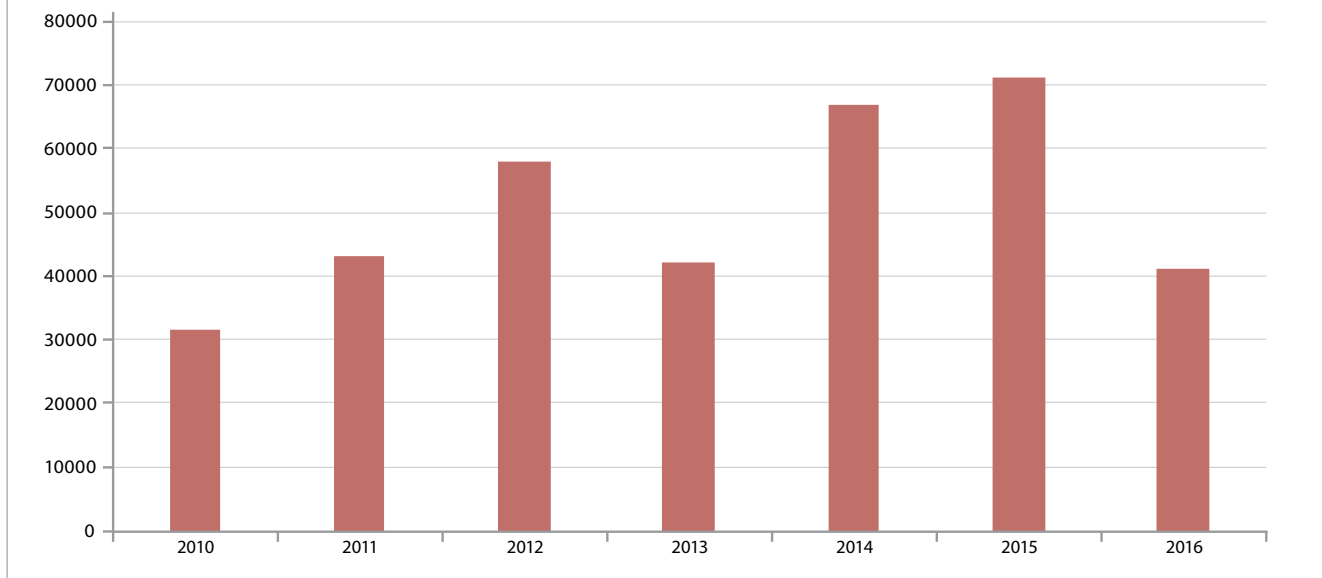


Source: National Statistical Office, "Cuentas nacionales", 2016 [online] <https://www.one.gob.do/economicas/cuentas-nacionales>.

Persons classified as 65 years or older are another vulnerable group. In this case, an analysis of the types of road users involved should be undertaken in order to determine if this group is mostly composed of pedestrians, since, if it is, a very different set of measures would be called for as compared to the measures targeting the members of younger age groups.

3.4.2 Seat belt use

According to the Global Status Report on Road Safety of 2009, the Dominican Republic had a seat-belt use rate of between 55% and 60% for front-seat passengers. (In the global reports for 2013 and 2015, no information on this subject was provided.) Figure 3.13 shows the number of traffic tickets issued for a failure to use a seat belt.

*Figure 3.13***Number of traffic tickets issued for a failure to wear a seat belt**

Source: Metropolitan Inland Transport Authority (AMET), “Tarifario de multas”, 2016 [online] <http://www.amet.gob.do/index.php/destacados/item/369-tarifario-de-multas>.

The overall trend during this period was towards an increase in the number of tickets issued for this offence, with the number more than doubling between 2010 and 2015. In 2016, however, the number of tickets was considerably lower. This suggests that police checks may not be as consistent as they should be.

3.4.3 Driving under the influence: fines, accidents and fatalities

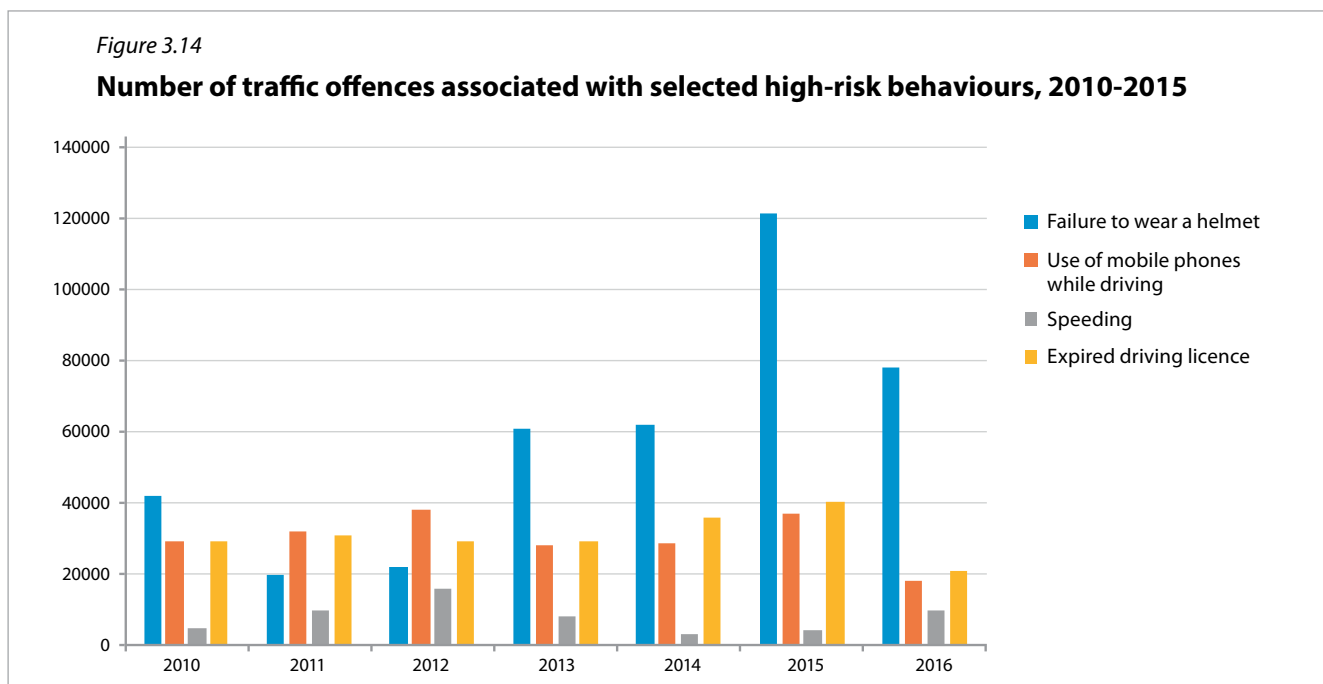
Before the enactment of the Mobility, Ground Transportation, Transit and Road Safety Act, the Dominican Republic did not have any formally established limit on drivers’ allowable blood alcohol concentration levels. Since that law is so recent, no reliable information is yet available regarding the role of alcohol consumption in traffic crashes or police citations or fines for driving under the influence of alcohol or drugs.

Nevertheless, alcohol consumption has played an important role in traffic-related events in the Dominican Republic, as it is estimated that 43.9% of traffic injuries in the period 1985-2011 were associated with alcohol consumption. This is a higher rate than in nine other countries of the Americas (United States, Canada, Mexico, Argentina, Brazil, Guatemala, Guyana, Nicaragua and Panama) (Cherpitel and others, 2013). While the study that arrived at this finding has contributed to an understanding of this phenomenon, it has also been noted that hospitals do not collect drunk-driving crash data systematically. Suspected drunk drivers who arrive with injuries at trauma hospitals after crashes are identified by doctors and nurses by the alcohol on their breaths, but their alcohol blood concentration levels are not measured. Health professionals have reported that there is no protocol for the detection of alcohol consumption when road-crash victims arrive in hospital emergency rooms. (IARD, 2017, page 4)

According to this same study, the problem of driving under the influence of drugs or alcohol is exacerbated by the existence of drive-through alcoholic beverage outlets that allow drivers to make purchases from their vehicles. Along some of the major streets in Santo Domingo, it is reportedly typical to see automobile races, loud music coming from vehicles and drivers openly drinking. (IARD, 2017 page 4) This study also points out that Dominicans are largely unaware of the dangers and effects of drunk driving and do not consider it a form of wrongdoing. It reported that people of all ages regularly drink and drive, although most do know of the transit law prohibiting this practice. It also states that there is no police monitoring of patrons or specific regulations for businesses which sell alcohol (IARD 2017, page 4).

3.4.4 Failure to wear a helmet, use of mobile phones while driving, speeding and driving without a licence

Figure 3.14 shows the number of fines issued for four different high-risk forms of behaviour on the part of drivers. The most common reason for the issuance of fines is the failure to use a helmet, which is associated with the large number of motorcyclists that there has been in this country for the past 10 years. In second place, more than 200,000 fines were issued in 2010-2016 to drivers for using a mobile phone while driving. In third place, more than 130,000 persons were fined during that same period for driving with an expired licence. Considerably fewer fines were issued for speeding, which is worrisome since this is one of the main aspects of road safety that need to be addressed. The number of fines issued per year for these offences has tended to rise, except in the case of speeding, but a downturn was observed in 2016.



Source: Metropolitan Inland Transport Authority (AMET), "Tarifario de multas", 2016 [online] <http://www.amet.gob.do/index.php/destacados/item/369-tarifario-de-multas>.

3.4.5 Total annual expenditure on the promotion of road safety

The relevant stakeholders have no system for tracking budgetary expenditures on road safety at the national level, and it is therefore not possible to provide a reliable estimate of the level of funding allocated exclusively for improving road safety.

3.5 Assessment of the availability and reliability of road safety data

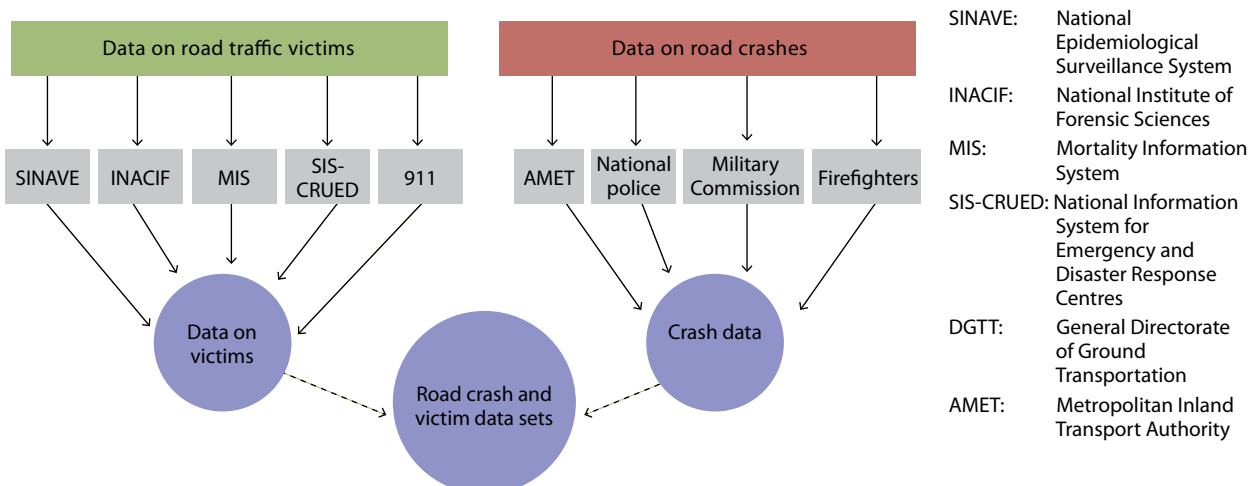
Underreporting of traffic fatalities and injuries is a common problem in many Latin America countries (Puello, Bhatti and Salmi, 2013), including the Dominican Republic, and this problem therefore needs to be addressed by the institutions which collect and analyse information on road crashes and fatalities. According to one study on the situation in the Dominican Republic, it may be the case that underreporting primarily occurs in areas inhabited by rural and poor populations, since the police and health institutions may not have enough resources to reach these locations on a regular basis (Puello, Bhatti and Salmi, 2013). Another institutional aspect of road safety in the Dominican Republic is how information on road crashes is collected, processed and analysed. The coordination of this system is another issue that merits further consideration since, as shown in figure 3.15, there are currently nine institutions involved in the production of road crash data. The relevant information is divided into two types in this figure: (i) information on road traffic victims, which

covers individual characteristics such as age, sex and type of injury; and (ii) information on road crashes, which includes information on various aspects of the actual crashes, such as location, number and types of vehicles involved, safety devices in place, road infrastructure condition, time of day, etc. The nine institutions are:

1. The National Epidemiological Surveillance System (SINAVE) encompasses standards, procedures and the resources used by operators to gather, process, analyse, interpret and systematically disseminate timely information concerning public health concerns. Its terms of reference are set out in Presidential Decree No. 309-07.
2. The National Institute of Forensic Sciences (INACIF) is responsible for providing forensic information to the nation's courts. It collects all the available information on fatalities and assigns codes denoting the cause of death.
3. The National Information System for Emergency and Disaster Response Centres (SIS-CRUED) works under the Ministry of Public Health and, like the Mortality Information System (MIS), has a network for taking down information provided by callers and then forwarding that information on to hospitals and clinics.
4. The 911 network also collects information from individuals involved in road crashes.
5. AMET is the police unit which oversees road users' behaviour, but it also has a system for the collection of road crash information. It has the capability to monitor most reported motor vehicle crashes and enters real-time information into the system.
6. Like AMET, the national police force collects information on road crashes. It has a more extensive network of officers and is therefore able to arrive on the scene of more road traffic events than other agencies.
7. The Military Commission collects information on crashes occurring in the highway network that it oversees. The data it collects include more information on road infrastructure because this institution is part of the Ministry of Public Works and Communications.
8. Firefighters not only are part of post-crash response teams, but also collect information on crash events. They usually work in coordination with the corresponding municipal government.
9. The Mortality Information System (MIS) gathers information on all deaths in the Dominican Republic and assigns mortality codes to each event. This system comes under the Ministry of Public Health and has an extensive technological platform that is used by health professionals to enter the requisite information from hospital records.

Figure 3.15

Institutional map of road crash data systems



Source: Prepared by the authors.

4. Road safety assessment

4.1 Road safety management

4.1.1 Background

Since 1967, various public agencies in the Dominican Republic have made a determined effort to improve road safety in the country. Their actions have been taken in an isolated, piecemeal manner, however, and have therefore failed to make a significant contribution to the appropriate development of road safety mechanisms. Using the framework provided by the Decade of Action for Road Safety, these institutions and their policies can be grouped under the headings of infrastructure, safe vehicles, road-user behaviour and post-crash response; the institutional aspect of road safety management will be described in the first part of this section.

4.1.2 Transition to a new strategic framework

(a) The Presidential Commission on Road Safety

In 2016, road safety was designated as a national priority, and the Presidential Commission on Road Safety was founded. The persons named to sit on the Commission are high-level representatives of the government agencies and departments that have core responsibilities for the promotion of road safety. The Commission has been mandated to design, implement and monitor the fulfilment of the National Road Safety Action Plan for 2017-2020. Representatives of other government agencies, non-governmental organizations, international organizations and the private sector can be invited to the meetings of the Commission or its working group. The 2017-2020 Action Plan is an exemplary policy development initiative; it includes activities in areas such as roads, vehicles, enforcement, education and first aid and represents the country's first attempt to address road safety in a more comprehensive manner.

Presidential Decree No. 263-16 establishes that the Presidential Commission is responsible for coordinating road safety policies at the national level. The Commission is composed of representatives of the following stakeholders:

- Ministry of Public Works and Communications
- Ministry of Public Health and Social Assistance
- Ministry of Internal Affairs and the Police Force
- Ministry of Education
- Attorney General's Office
- Ground Transportation Technical Office
- National police force
- Inland Revenue Agency
- Dominican Municipal League and Dominican Federation of Municipalities

The Commission is responsible for designing, implementing and assessing road safety policies and for executing a national road safety plan involving short-term and mid-term objectives designed to reduce traffic injuries and fatalities. The Commission's two overarching goals are to:

1. Define the protocol that will govern the actions undertaken by the various stakeholders by 16 October 2016;

2. Design a national road safety plan by November 2016. The plan must set out actions to be undertaken in the short, medium and long terms and must include a budget estimate for each of those actions. At the time of writing, the plan was still under review.

In order to begin designing a comprehensive road safety plan, the Presidential Commission convened a national workshop to which it invited representatives of the stakeholders named in Decree No. 263-16 as well as other bodies working on road safety issues. The workshop was held on 30 November and 1 December 2016. It was stipulated that every action to be introduced as part of the new plan needed to be aligned with the existing legal framework and that every new recommendation should be in conformity with the draft Mobility, Ground Transportation, Transit and Road Safety Act, which was then under consideration in the legislature.

The plan sets a goal of reducing traffic fatalities and injuries by between 20% and 30% based on the achievement of 20 objectives by 2020. To advance the design and implementation of this plan, the workshop organized a series of round tables focusing on the following topics and sub-topics:

1. The institutional framework
 - i. An integrated system based on information and communications technologies (ICTs)
 - ii. Requests for the development of road safety plans by private companies
2. The legal framework and standards
 - i. Limits on allowable alcohol blood concentrations
 - ii. Promotion of the draft Mobility, Ground Transportation, Transit and Road Safety Act
 - iii. Promotion of safe and modern public transportation systems
 - iv. Revision of the legal framework and regulations governing medical responses to road crashes under subsidized and contributory regimes
 - v. The presence of crossing guards at crucial locations in road networks
 - vi. The imposition of the most severe penalties on drivers responsible for road crashes resulting in fatalities
3. Road infrastructure
 - i. The construction of rest areas to help to prevent drivers' fatigue across the road network
4. Vehicles
 - i. Limitation of the importation and use of second-hand tyres
 - ii. Inclusion of a record of the number of kilometres driven when selling second-hand motor vehicles
 - iii. Vehicle inspections
 - iv. Helmets and reflective jackets
 - v. Sales of vehicles only to individuals who hold current driving licences
 - vi. Imposition of penalties on pedestrians who do not obey traffic laws
5. Drivers
 - i. Certification of driving schools
 - ii. Compilation of statistics on the test results of driving licence applicants

- iii. Introduction of new examinations for applicants for school-transportation and heavy-truck driving licences
 - iv. Drug testing for drivers of public transportation vehicles and heavy trucks
6. Traffic and transit
- i. Strengthening of regulations on the use of devices that distract drivers (GPS, mobile phones, television displays).
 - ii. Construction of parking facilities close to metropolitan transit stations and other locations at which large numbers of public transportation users converge
 - iii. Promotion of the use of Uber and other collective forms of transportation
 - iv. Prohibition of the direct drive-by sale of alcohol
 - v. Introduction of photo radar traffic offence notices at toll booths
7. Education
- i. Launch of road safety campaigns targeting illiterate persons
8. Enforcement
- i. Regulation and improvement of the motorcycle registration process
 - ii. Development of a licence plate identification system that specifies the drivers' province or region of residence
9. Pre- and post-crash response capabilities
- i. Certification of all pre-crash health professional responders
 - ii. Increase in the availability of extraction devices for use in rescuing persons trapped in their vehicles
 - iii. Introduction of a triple-response protocol for health professionals, police officers and firefighters
 - iv. Creation of a pre-hospital network of public and private providers
10. Road crash statistics and their dissemination
- i. Introduction of a unique crash identification number on the corresponding questionnaire
 - ii. Implementation of a road safety observatory
 - iii. Completion of the health statistics operations inventory

(b) The National Ground Transportation and Traffic Institute (INTRANT)

The Mobility, Ground Transportation, Transit and Road Safety Act authorized the establishment of the National Ground Transportation and Traffic Institute (INTRANT). INTRANT is responsible for overseeing the ground transportation and traffic, mobility and road safety system. Some of its main functions are to:

- 1. Design and execute the national mobility, international and national ground transportation and road safety policy based on the principles of urban accessibility and mobility, human development, urban planning and development, fair competition, road safety, sustainability and social justice.

2. Prepare and submit to government representatives standards and guidelines in support of transport management and its monitoring and develop technical, technological, performance and quality standards.
3. Plan and design an integrated public transportation system, including inter- and intra-municipal routes, services and operations in coordination with municipal governments based on transportation supply and demand studies.
4. Establish mandatory standards for cargo transport, including cargo composed of dangerous and/or special goods.
5. Establish public transportation regimes, their infrastructure and associated services, along with a system for the issuance of drivers' licences for this specific service.
6. Develop and implement a driving licence system that facilitates competitiveness, control, organization and operations associated with mobility, ground transportation, traffic and road safety services.
7. Monitor every traffic- or mobility-related provider in order to protect road users, avoid practices which lead to the formation of monopolies and protect the environment.
8. Coordinate with the Ministry of Internal Affairs and the Police Force and with the National Police Department in conducting all the activities relating to the supervision, monitoring and enforcement of the use of public roads and transport activities.
9. Set the transport, mobility and road safety tax rates and passenger fares to be charged by public transportation services.
10. Coordinate and conduct training certification and passenger and freight driver accreditation programmes and programmes to inform and educate transport providers and operators, drivers, pedestrians and passengers about the available transportation services and the rights and obligations of road users and providers.
11. Carry out road safety campaigns.
12. Carry out and monitor national driver programmes, road crash and road victim services, the administration of traffic fines, vehicle inspection workshops, driving schools, services at health centres to certify drivers' physical and mental condition, the establishment of bus stops and the administration of the parking registry in order to improve the implementation of the above-mentioned functions.
13. Issue driving licences.
14. Carry out and certify vehicle inspections;
15. Supervise resource planning and execution.
16. In conjunction with the Ministry of Public Works and Communications, monitor compliance with traffic rules and road safety standards in the national road infrastructure network.
17. Design road signage and supervise road signalling installation and maintenance.
18. Plan, police, inspect and supervise the operations of bus and cargo terminals.

19. Coordinate and manage the Road Safety Observatory, which will have as its main functions the design and implementation of methodologies for collecting, processing, analysing and interpreting statistics and other data on road safety.
20. Assess the effectiveness of traffic-related legislation and standards and their bearing on road safety on an ongoing basis and propose initiatives for upgrading and updating the transport sector to the government.
21. In conjunction with the Ministry of Public Works and Communications and municipal governments, determine the nature of recommended protective devices and arrangements based on technical criteria.
22. Prepare reports on driver non-compliance with established rules and standards as a basis for the introduction of a demerit point system.
23. Develop monitoring and enforcement plans and programmes in coordination with the Ministry of Public Works and Communications and other related institutions.
24. Develop, implement and promote the use of technological devices and information resources to model and assess the causes and consequences of traffic crashes in order to provide effective and competitive solutions and plan, develop, execute and evaluate road safety policies using the resources of the Road Safety Observatory.
25. Supervise the correct installation of vertical and horizontal traffic signals and traffic control devices in accordance with both national and international guidelines.
26. Promote and support road safety knowledge acquisition as part of the training provided to civil engineers, architects and other relevant professionals in order to ensure a linkage between the design and construction of road infrastructure projects.
27. In conjunction with the National Road Education School, design the road safety courses to be taken by traffic offenders, technicians and staff of national, provincial and municipal governments.
28. In conjunction with the National Road Education School, develop public campaigns designed to prevent road crashes and ensure road safety.
29. Define evaluation criteria and means of upgrading and enhancing the road safety training imparted by academic institutions, evaluate and improve the administration of physical examinations and assess and review the theoretical and practical knowledge which driver licence applicants must possess in order to obtain, renew or change their driver's licences.
30. Conclude agreements with universities and other national institutions to carry out road safety research and training programmes.
31. Inform the general public about all road safety measures adopted by the national government and municipal governments.
32. Coordinate and support the work of the different ministries and public agencies in order to ensure the coherence of the Strategic National Road Safety Plan.

33. Promote participatory initiatives in conjunction with road safety stakeholders in the economic, social and academic sectors. INTRANT could consider launching a social participation committee on mobility, ground transportation, traffic and road safety in order to foster communication among stakeholders.
34. Prepare an annual report on the performance of road safety indicators to be published in newspapers and on the INTRANT website.
35. Propose active and passive motor vehicle safety regulations based on international agreements and vehicle inspections and standards.
36. Promote the development of procedures for ongoing assessments by public and private authorities and institutions of road safety devices and facilities, including vehicle equipment and protective road infrastructure.
37. Develop and apply standards for the construction of bus stops and bus and cargo terminals.

4.1.3 Funding for the new strategic framework

Under the Mobility, Ground Transportation, Transit and Road Safety Act, a new funding regime is to be implemented. While funding arrangements must follow the general principle of public sustainability, INTRANT will have permanent access to funding from sources associated with the overall transport sector. This will be in addition to other public investment plans linked to mobility projects and tax reforms, donations from multilateral organizations or other institutions and the reallocation of resources by the Government Budget Office.

More specifically, ongoing sources of funding will include:

1. Fees charged for the provision, authorization and administrative processing of transport services, such as driving licence applications and approvals, driving tests and vehicle inspections.
2. Fees charged for permits for the operation of transport services.
3. Yearly fees for ground transportation checks.

4.1.4 Traffic police

In the Dominican Republic, there are three interrelated police institutions responsible for overseeing driver compliance with Act No. 241-67 and, hence, road safety: the national police force, the Metropolitan Inland Transport Authority and the Military Commission of the Ministry of Public Works and Communications. However, under the new traffic law, a new police corps is to be created.

(a) The national police force

The national police force is an armed technical and professional body under the authority of the President of the Republic. The following table shows how the number of police officers in this institution has changed between 1937 and 2010.

Table 4.1

Number of police officers per 100,000 inhabitants (selected years), 1937-2010

Year	Number of police officers	Number of police officers per 100,000 inhabitants
1937	627	48.8
1949	1 200	50.9
1955	2 219	66.9
1965	9 000	230.8
1994	23 314	297.6
2010	29 627	287.6

Source: National Police, "Historia", 2017 [online] <http://www.policianacional.gob.do/sobre-nosotros/historia/>; National Statistical Office, "Estimaciones y proyecciones de la población total" [online] <https://www.one.gob.do/demograficas/proyecciones-de-poblacion/>; and United Nations Office on Drugs and Crime (UNODC), "Homicide Statistics 2012", 2012. [online] <https://www.unodc.org/unodc/en/data-and-analysis/homicide.html>.

The national police force's mission is to safeguard the public, prevent and control crime, apprehend offenders, investigate criminal offenses and maintain law and order in order to ensure that people can exercise their rights freely and live in peace in accordance with the Constitution and other laws of the Dominican Republic.

The national police force is assigned 16 duties under Act No. 96-04:

1. To safeguard the lives and the physical and mental well-being of all members of the population.
2. To protect and ensure the free exercise of the rights and freedoms of all persons in the nation.
3. To maintain peace, public and social order, and public safety.
4. To ensure the faithful and effective enforcement of laws and other general provisions and to execute orders received from the authorities in their respective areas of responsibility.
5. To prevent and control crime and criminality.
6. To make arrests as prescribed by law.
7. To patrol and protect buildings, public facilities, parks and other centres or establishments.
8. To register and oversee private security services.
9. To monitor vehicular traffic and passenger and freight transport on public roads and to ensure road safety.
10. To patrol all land, sea and air routes, border crossings, seaports and airports in coordination with the corresponding institutions.
11. To ensure, together with institutions established specifically for such purposes, the preservation of the environment and natural resources.
12. To obtain and analyse all information that has a bearing on public order and safety and to study, plan and apply methods and techniques of crime prevention.

13. To assist members of the public in the event of disasters.
14. To participate in social, civic, cultural and educational programmes.
15. To protect and provide special security services to dignitaries, diplomats, legislators and former presidents of the legislative chambers in cooperation with law enforcement agencies and law enforcement organizations in other countries.
16. To provide special protection and appropriate services to tourists, other visitors and parishioners in heavily trafficked areas in order to safeguard the tourism industry and the good reputation of the country.

Strictly speaking, Duty No. 8 addresses road safety issues explicitly, but Duties Nos. 1, 4, 5, 6, 12 and 14 also concern ways in which the national police force helps to promote road safety. For instance, the protection of life is a paramount consideration in efforts to promote road safety. By the same token, arresting drivers who have engaged in high-risk behaviours and obtaining and analysing information relating to security issues and then introducing the necessary corrective measures are all important for ensuring road safety.

In accordance with Act No. 96-04, the national police force is divided into directorates, departments, inspectorships, supervisory offices, divisions, sections, stations and posts. Its 21 directorates are entrusted with differing substantive and administrative functions in their assigned geographic areas. One of the substantive directorates is the Road Safety Office. In accordance with article 19 of Act No. 96-04, this office is responsible for monitoring ground transportation of passengers and cargo and road safety throughout the country in continuing coordination with the Ministry of Public Works and Communications and the corresponding municipal governments.

Paragraph I of article 19 establishes that AMET will be under the functional authority of the national police force. The Police Board (Consejo Superior Policial) is the organization within the national police force entrusted with the mission of professionalizing the police force and of coordinating the transfer and incorporation of road safety duties and responsibilities.

(b) The Metropolitan Inland Transport Authority

The Metropolitan Inland Transport Authority (AMET) was created in 1997 under Presidential Decree No. 393-97. While it was initially an autonomous organization that reported directly to the Office of the President, in 2004 it was transferred to the national police force under Act No. 96-04. Its specific assignment is to regulate transport supply and demand in the Metropolitan Region. This agency's legal framework is composed of various articles of the Constitution, laws and presidential decrees:

- Act No. 241-67 governs all aspects of motor vehicle operation and other road use standards
- Act No. 513-69 governs public transportation drivers
- Decree No. 393-97 authorized the establishment of AMET
- Decree No. 448-97 authorized the establishment of the Metropolitan Bus Service Office (OMSA) for the City of Santo Domingo
- Act No. 76-00 authorized the establishment of the Taxicab Regulatory and Administrative Board (CART)
- Decree No. 238-01 transferred the functions of the National Police Traffic Department to AMET
- Act No. 96-04 stipulated that AMET was to be placed under the authority of the National Police Force
- Decree No. 477-05 authorized the establishment of the Transit Reorganization Office

- Act No. 176-07 empowers municipal governments to assume responsibility for the organization and regulation of public transport
- Decree No. 250-07 authorized the establishment of the Ground Transportation Development Fund (FONDET).

AMET has a general directorate and seven substantive and administrative bureaux. Three bureaux (the Transit Regulation Bureau, the Enforcement Bureau and the Road Crash Procedures Bureau) are directly responsible for promoting road safety. There are also specific departments to oversee road safety in the Metropolitan Region. These are the Road Safety Education Department, the Motorcycle Regulation Department, the Registration and Supervision of Ground Transportation Department, the Roadways Supervisory Department, the Road Crash Research Department' and the Road Crash Procedures Department.

Under the corresponding presidential decree, AMET has the following duties:

1. Serve as the lead agency in addressing urban transport issues and coordinate the work of the relevant institutions in order to develop an integrated urban transport system.
2. Measure and assess the social, economic and environmental externalities generated by the transport system.
3. Oversee and enforce transport regulations and standards.
4. Establish and regulate economically viable public transportation routes.
5. Promote road crash prevention programmes.
6. Facilitate mobility through the design and implementation of traffic light systems and vertical and horizontal signage.

To carry out these tasks, AMET currently has 2,289 officers who oversee 234 different transport routes in Santo Domingo. A total of 19,432 registered vehicles offer public transportation services along these routes. The following table shows the distribution of those services by vehicle type.

Table 4.2

Distribution of public transportation services, by type of AMET-registered vehicle

Type of vehicle	Frequency	Percentage
Light vehicles	16 414	84.8
Buses	1 695	8.7
Minibuses	1 157	6.0
Other buses	74	0.3
Total	19 432	100

Source: Metropolitan Inland Transport Authority (AMET), "Tarifario de multas", 2015 [online] <http://www.amet.gob.do/index.php/destacados/item/369-tarifario-de-multas>.

AMET has developed a series of road safety projects. In 2009, it began to introduce various technologies to support police enforcement of traffic laws. This project had RD\$ 1.3 billion (approximately US\$ 2.9 million) in funding and was implemented over the period 2009-2012. During this same period, AMET designed a road

safety education programme with RD\$ 42 million (approximately US\$ 0.9 million) in funding that included road safety courses for public transportation drivers. It also applied for the procurement of 40 speed radars and 6,000 alcohol breathalysers. In addition, AMET undertook a project to renovate or refurbish road traffic signals for public transportation vehicles with RD\$ 29 million (approximately US\$ 0.62 million) in funding.

In 2013-2016, some road safety projects overlapped with those launched during the previous budgetary cycle, since budget requests for technological devices and equipment were also had to be submitted. One notable change from the preceding budgetary cycle was the submission of a proposal to increase the number of police officers from 2,289 to 4,289. The total cost of the road safety projects for this period is assessed at RD\$ 270 million (US\$ 5.3 million), which is one quarter of what had been requested for 2009-2012.

(c) The Military Commission

The Military Commission reports to the Ministry of Public Works and Communications and oversees public road operations, including monitoring, protection services, road safety and surveillance of public goods.

It has two main functions:

1. Ensuring road safety on public highways.
2. Safeguarding the public works overseen by the Ministry of Public Works and Communications, such as:
 - a. Physical facilities;
 - b. Toll collection;
 - c. Working areas of the Ministry of Public Works and Communications;
 - d. Connecting routes.

In 2012, the Military Commission and AMET signed an inter-agency agreement to coordinate road safety efforts relating to all the main roads and highways of the Dominican Republic. In terms of the specific logistics involved, this agreement established that patrols would be under the responsibility of the Military Commission. A total of 24 patrols were assigned to critical segments of five highways (the 6 de Noviembre, Duarte, Las Américas, La Romana and El Coral routes).

The Military Commission has a helpline to provide drivers with technical support regarding various matters, including road crashes, and maintains a call centre staffed by 15 military personnel who monitor the highway network 24 hours a day. and who register emergencies and relay the relevant information to 180 police units distributed throughout the Dominican Republic. Each emergency request is processed using a standardized procedure for the collection of the pertinent information from the beginning of the call up until the emergency is resolved. This information includes vehicle characteristics (plate number, type of vehicle, year, etc.), location of the event (exact kilometre marker, province and municipality), characteristics of the persons involved (number of passengers, age, sex, identification number, phone numbers) and information on the police unit that arrived at the scene. This process is supported by a georeferencing system that allows the call centre to determine the location of police units in order to coordinate emergency response efforts.

The following table shows the distribution of the various emergency responses delivered by the Military Commission's police units.

Table 4.3

Distribution of types of emergency responses

	Frequency	Percentage
Mechanical problems	60 874	48.8
Tyres	43 288	34.8
Safety	3 813	3.1
Crashes	910	0.7
Animals	21	0.02
Tow trucks	8	0.01
Overheating	1 002	0.8
Gasoline	14 441	11.6
Electrical problems	95	0.08
Deaths	11	0.01
Injuries	51	0.04

Source: Ministry of Public Works and Communications, "Oficina de Acceso a la Información Pública Ética y Transparencia Sistema de Asistencia y Seguridad Vial", 2016 [online] http://www.mopc.gob.do/media/2450/presentación_sistema_de_asistencia_vial__actualizado_.pptx.

This information can also be broken down by geographic location. Table 4.4 gives the distribution across 18 different locations, with Las Americas having the highest number of emergency response events (15,411) and South-West Segment 2 the lowest (741).

Table 4.4

Distribution of emergency responses by geographical location

	Frequency	Percentage
1. Punta Cana	9 584	7.7
2. Miches	2 452	1.9
3. Coral	7 252	5.8
4. Beltway 1	692	0.8
5. Beltway 2	3 229	2.5
6. North Beltway	6 028	4.8
7. Cibao - South Segment 2	7 252	5.8
8. Cibao - South Segment 1	10 930	8.8
9. Cibao -North Segment	12 307	9.9
10. Atlantic	10 701	8.6
11. Samana	8 670	7.0
12. San Juan	3 596	2.9
13. South-east Segment 1	15 388	12.3
14. South-east Segment 2	4 437	3.6
15. South-west Segment 1	4 441	3.6
16. South-west Segment 2	741	0.6
17. Central zone	1 133	0.9
18. Las Américas	15 441	12.4

Source: Ministry of Public Works and Communications, "Oficina de Acceso a la Información Pública Ética y Transparencia Sistema de Asistencia y Seguridad Vial", 2016 [online] http://www.mopc.gob.do/media/2450/presentación_sistema_de_asistencia_vial__actualizado_.pptx.

As can be seen from both these tables, road safety can be greatly enhanced by the information gathered by this system, which can be used to inform the design of road safety countermeasures.

In order to strengthen this system, 25 patrols will be added, along with mobile workshops and ambulances, emergency specialists, tow trucks and 20 motorcycle operators. Patrols will be backed up by an additional 40 officers at specific locations (Cristo Rey, Hoyo de Chulín, El Higüero Airport, La Parroquia and the United States Embassy). According to the authorities of the Military Commission, coordination with the 911 system is considered to be of paramount importance. The Military Commission is also developing a mobile phone application to facilitate the provision of assistance.

(d) The General Directorate of Ground Transportation Safety: a new police corps

The General Directorate of Ground Transportation Safety was established under the terms of the Mobility, Ground Transportation, Transit and Road Safety Act. This institution will replace both AMET and the Metropolitan Transport Authority of Santiago and will report to the national police force. Its officers will be responsible for supervising, and patrolling traffic on public roads and enforcing traffic laws. Some of the duties of this institution are:

1. To prepare reports on traffic fines and traffic crashes.
2. To supervise the movement of people and goods and passenger and cargo ground transportation and to enforce road safety regulations.
3. To police traffic management in coordination with municipal governments.
4. To regulate traffic.
5. To stop and inspect motor vehicles and verify driver documentation. Officers will have the authority to impound motor vehicles.
6. To carry out research on traffic collisions under the guidance of the public prosecution service.
7. To use technological devices and equipment to track the speed of motor vehicles and to detect alcohol and/or drug consumption by drivers.

4.1.5 The Road Safety Observatory

The creation of the Road Safety Observatory was authorized by the Mobility, Ground Transportation, Transit and Road Safety Act. This institution will have the following duties:

1. To provide advisory services to national and municipal governments to assist them in applying road safety policies, measures and tools successfully within the frameworks of the Strategic National Road Safety Plan, local road safety plans and any other plan for the prevention of road crashes that is developed by public or private institutions.
2. To collect, process, analyse and interpret all the information regarding road safety needed in order to engage in cutting-edge research on the causes and circumstances associated with road crashes as a basis for planning, executing and assessing national road safety policy.

4.2 Safer roads and networks

The Ministry of Public Works and Communications was established in 1854 under the name of the Ministry of War, Sea and Public Works. In 1959, its name was changed to the State Secretariat of Public Works and Communications, and in 2010 it became the Ministry of Public Works and Communications. The Ministry has two substantive directorates: the General Buildings Directorate and the General Directorate of Ground Transportation. Two of its six main duties are directly related to road safety:

1. Building, expanding, repairing and maintaining transport infrastructure.
2. Organizing, monitoring, coordinating and planning ground transportation systems throughout the Dominican Republic.

The very first objective of this institution is to provide the safest roads possible in order to reduce the number and consequences of traffic crashes and to help expedite and smooth out traffic flows throughout the Dominican Republic. Another of its objectives is to ensure that the road and highway networks support the mobility of goods, services and people in the safest, fastest and most efficient way possible.

The construction of road infrastructure is regulated by Act No. 1474-38, but road safety is not explicitly taken into consideration in its provisions. Issues that should be addressed by means of infrastructure-related road safety projects include the following:

- Mandatory road safety audits for new construction projects.
- Regular inspections of existing road infrastructure are not carried out.
- Black spot analyses and projects are at a very early stage of development.
- There are no systematic policies to encourage people to walk or cycle instead of using motor vehicles.
- Road design capacities and knowledge need to be strengthened.
- Further consideration should be given to providing academic training and certification to auditors.

The Dominican Republic's road infrastructure framework is explicitly aligned with safety criteria, but many of the elements involved in the introduction of safety guidelines are not systematized. As noted earlier in the section on foreign direct investment in the Dominican Republic over the past four years, it is of paramount importance for the country to ensure that these inflows are more closely aligned with safety criteria.

While the Ministry of Public Works and Communications is the lead agency for road infrastructure development, municipal governments and the government of the National District also have a role to play in this connection, since Act No. 176-07 entrusts local governments with ensuring the well-being and safety of their communities and providing a variety of services, including safe infrastructure and education.

The construction of road infrastructure and urban facilities, including the paving of urban roads and the construction and maintenance of rural and secondary roads and sidewalks, is the responsibility of the corresponding municipal government, each of which must allocate at least 40% of its budget to infrastructure projects in order to support the development of the municipality and its inhabitants. Municipal governments are empowered to penalize persons or organizations that destroy or misuse road infrastructure. These governments coordinate the design, construction and maintenance of road infrastructure with the help of their economic and social boards and programming and planning offices. Municipal governments can also hold referendums to decide on matters relating to the construction of road infrastructure. Members of the electorate can also call referendums if they gather sufficient signatures.

While municipal governments are responsible for urban and secondary road infrastructure in their districts, it is clearly established that the Ministry of Public Works and Communications of the central government is responsible for highways and roads that connect the country's cities and provinces, including the National District. Proper coordination between the central government and the country's municipal governments is thus necessary in order to carry out road infrastructure projects that will improve the safety of the country's roads throughout its territory. This division of areas of responsibility is of particular importance for cities such as Boca Chica, which is intersected by the Las Américas highway, since improvements to highways can only be undertaken with the authorization and supervision of the Ministry of Public Works and Communications.

4.3 Safer vehicles

4.3.1 Institutions with responsibilities concerning vehicles and transport policies

(a) *The Ground Transportation Technical Office*

In 1987, the Ground Transportation Technical Office (OTTT) was established by Decree No. 489 under the authority of the President of the Republic.² The mission of OTTT is to manage the public transportation system in a such a way as to meet the mobility needs of all members of the population. Its vision statement focuses on ensuring that it will be a model of public service that upholds ethical standards, works to achieve excellence in its field, keeps operations flowing smoothly and uses leading-edge technology in order to have a positive impact on the quality of life of all Dominicans. Its legal framework is composed of 17 national laws and 19 decrees governing various aspects of the work of government offices. These statutes include the 20 different laws amending Act No. 241-67; some of the most important of those amendments have been promulgated in Act No. 12 (on traffic fines), Act No. 114, Act No. 61-92, Act No. 56-89, Act No. 56-86-15, Act No. 284, Act No. 160, Act No. 593 (on load inspection), Act No. 146 (on insurance), Act No. 143 (prohibition of the use of mobile phones while driving), Act No. 585, Act No. 513 (regulations applying to public transport drivers), Act No. 176-07 Act No. 76-00 (regulations applying to taxis), Act No. 72-9 and Act No. 547-70 (on pension funds for public transportation drivers). OTTT is also governed by Decrees Nos. 178-94, 37-98, 448-97 (establishment of OTTT), 393-97 (establishment of the Metropolitan Inland Transport Authority (AMET)), 447-05 (establishment of the Transit Reorganization Office), 250-07 (establishment of the Ground Transportation Development Fund), Regulation No. 723-06 and Resolution No. 3 of 2006, which prohibits alcohol consumption in motor vehicles.

This office has developed a strategic plan composed of five areas of work: institutional development, research and statistics, transport planning and control, road safety and the promotion of transport company development. The road safety component of its work encompasses three different courses of action: (i) the implementation of projects and programmes to reduce the frequency of collisions involving public transit vehicles; (ii) the introduction of road safety measures for public transport; and (iii) the preparation of studies and the compilation of statistics on collisions involving public transit vehicles.

OTTT oversees 707 urban and 602 inter-urban routes, for a total of 1,309 different roadways; 14,003 vehicles are registered with OTTT. The following table shows the distribution of this fleet by type of vehicle.

² All the regulatory functions of the National Office for Road Transport were transferred to OTTO, which thus became the government office responsible for public transport. That same year, a new gasoline tax of RD\$ 0.60 per gallon was introduced in order to create a fund for the importation of buses that could then be leased to cooperatives for a period of five years. It has been the role of OTTO to redesign bus routes and then to reassign them to different operators. Bus operations are subsidized in order to keep passenger fares lower than they would otherwise be.

Table 4.5

Distribution of DGTT-registered vehicles by type of vehicle

Type of vehicle	Number	Percentage of fleet
Light vehicles	4 747	33.0
Buses	3 847	27.4
Minibuses	3 368	24.1
Other buses	522	3.7
Light trucks	1 519	10.8
Total	14 003	100

Source: Metropolitan Inland Transport Authority (AMET), "Tarifario de multas", 2015 [online] <http://www.amet.gob.do/index.php/destacados/item/369-tarifario-de-multas>.

This vehicle fleet is relatively old, since these vehicles came on line between 13 and 25 years ago; 1,819 of the bus drivers who are registered with this office, out of a total of 15,702, drivers, receive subsidies.

Act No. 241-07 requires that every motor vehicle must be inspected annually. OTTT is responsible for managing the mechanical and physical vehicle inspection process. This law stipulates that the inspections must cover the vehicle's tyres, brakes, seats, body condition, lights, horn and a number of other elements. It is, however, commonly believed that all that people need to do is simply to bring their vehicles in and pay the required fee in order to pass the inspection. Corruption has been a problem, since people can often buy the certificate for RD\$ 1,000 (US\$ 21) or pay inspectors an even lower amount to obtain it.

OTTT sends out a general notification of the dates on which vehicles should be taken in for an inspection. However, the fines for driving without the inspection certification and for failing to have a vehicle inspected are so low -- RD\$ 5.00 fee (US\$0.1) and RD\$ 10-RD\$ 100 (US\$ 0.2-US\$ 2.15), respectively -- that they do very little to motivate drivers to have official vehicle inspections performed.

While OTTT primarily focuses on the public transportation system, it also has jurisdiction over other transportation providers, such as school transportation systems, taxicabs, motorcycles, cargo transport, tourism-industry transportation, dangerous goods transport and international transport.

(i) School transportation systems

OTTT oversees a variety of school transportation providers, chiefly for private schools. It has introduced specific training courses for school bus drivers that cover a number of different aspects, including first aid responses. Only some 160 school bus drivers are registered with OTTT, however, and no regulations are in place concerning the number of passengers allowed per vehicle, passenger safety devices or other elements of the vehicles.

(ii) Taxicabs

Act No. 76-00 provided for the establishment of the Taxicab Management and Regulation Board. OTTT and the Board carried out a national survey to determine the size of this fleet and found that there are 6,832 officially registered cabs. Most of the fleet is located in Santo Domingo (2,380 vehicles) and elsewhere in the National District (1,629).

(iii) Motorcycle taxis

The size of this fleet has increased exponentially in the Dominican Republic. More than 50% of the fleet is now accounted for by this type of vehicle, which is used for transporting passengers, for delivering packages and mail, and for private use. According to information provided by OTTT, 46,344 individuals offer this type of taxi service, of whom 1,444 are located in Santo Domingo. According to official figures, only 15% of the operators of these motorcycle taxis (known as *motoconchos*) have a driver's licence; figures on these drivers' level of education indicate that 62.7% have completed their primary education, 22.2% have a secondary education and 13.9% are illiterate.

(iv) Tourism-industry transportation

This form of transportation is regulated by Act No. 84-179. OTTT is responsible for overseeing the inspection of these types of service vehicles. It does not, however, have statistics on the provision of this service. Companies offering transportation for tourists are registered with the Ministry of Tourism.

(v) Cargo transport

Act No. 241-67 regulates the inspection of cargo vehicles and the allowable weights and sizes of trucks used for this purpose. A more specific ad hoc regulation has been developed by ATEM, DGTT and the Traffic Office of the municipal government of the National District to govern cargo transport in Santo Domingo. As is also true of motorcycle taxi operators, there are several unions of cargo transporters that have joined together to form a federation. The Dominican Transport Federation (FENATRADO) represents more than 90% of the truck drivers who service the Dominican ports. In order to improve safety and address safety issues of different types, in addition to road safety, the National Land Transport Network was set up in 2006. This non-profit organization seeks to boost the competitiveness of cargo transporters by streamlining their logistics. It operates a digital data collection and GPS system that allows it to monitor trucks on the road as they transport goods into and out of the Dominican Republic via all the country's seaports, airports and tax-free zones. This monitoring function is conducted to ensure that safety protocols are followed. OTTT does not have access to this system, however, which limits its capacity to oversee this subsector.

(vi) Dangerous goods transport

The main legislation on the transportation of dangerous goods is Act No. 165-66, which provides that DGTT shall ensure the enforcement of Act No. 241-67. The regulation of the transportation of dangerous goods is very limited, however. Article 171 of title VII of Act No. 241-67 simply states that trucks must display a notification when transporting dangerous goods and must carry an extinguisher. It also establishes driving time, speed and passenger restrictions, but fails to make provision for improved roadside checks and stricter enforcement of vehicle certification requirements, does not provide for driver certification or training and does not empower DGTT to monitor driver training arrangements.

One important issue highlighted by DGTT authorities is the lack of coordination between municipal governments, which are responsible for urban road networks, and the Ministry of Public Works and Communications, which is responsible for the nation's highways. Another challenge to be addressed has to do with the enforcement of the applicable legislation, since, while there are, for example, restrictions on the movement of different types of goods on certain roads and during certain hours, these provisions are not always strictly applied.

(vii) International transportation

OTTT regulates transport vehicles heading towards the border with Haiti. Once vehicles enter into Haiti, they are governed by the traffic agreement concluded by the two countries. There are four operators regulated by OTTT which offer services between Port-au-Prince and Santo Domingo. A total of 15 buses are registered.

The Bilateral Dominican-Haitian Commission, which includes representatives of the European Union, has requested that a study be conducted to assess passenger and cargo transportation flows between these two countries. Four border crossings are supervised by the Border Safety Office, which is a unit of the National Army of the Dominican Republic.

(b) Transit Reorganization Office

This is a relatively new public office. It was created in 2005 by Decree No. 477-05 and has both substantive and administrative divisions. Its four substantive divisions are the Technical Division, the Architecture Division, the Santo Domingo Metro Division and the Expropriation and Social Development Division. This office has been entrusted with a number of responsibilities: (i) designing a comprehensive transport policy; (ii) carrying out the necessary studies to provide a basis for the establishment of the Autonomous Traffic and Transportation Authority; and (iii) planning, designing, building, operating and maintaining the Rapid Transit Bus system. The objectives of that system are to improve the quality of public transportation, phase out substandard buses and introduce affordable rates while ensuring that all investments are efficiently executed.

(c) Ground Transportation Development Fund

In 2007 the Transit Reorganization Office (ORT) established the Ground Transportation Development Fund (FONDET) under the terms of Presidential Decree No. 250-07 as a mechanism for pooling the funding for major transport projects. Its objectives are to:

1. Tackling all the challenges associated with the expansion of the transport sector by providing monetary resources for initiatives that are not covered by ORT funding.
2. Undertaking investment studies and proposing other studies on the subject.
3. Executing and managing programmes approved by its board of directors. The Development Fund supports road safety projects and programmes in general and, in particular, road safety educational programmes for drivers and other road users.

(d) General Directorate of Ground Transportation

The General Directorate of Ground Transportation (DGTT) is attached to the Ministry of Public Works and Communications and was established on 28 March 1966 under Act No. 165-67, which was published in *Gaceta Oficial* No. 8977 of 30 September 1966. DGTT is responsible for studying, managing, planning and overseeing all transport-related issues across the country and for ensuring full compliance with Act No. 241-67.

The main functions of DGTT are:

1. Planning and proposing rules for regulating the flow of traffic in the country.
2. Ensuring that transit and transport activities are in compliance with Act No. 241-67.

3. Inspecting and authorizing the conversion of petrol-fueled and diesel-fueled vehicles to use liquefied petroleum gas (LPG).
4. Issuing the initial operating permits for cargo vehicles.
5. Providing road safety training to driving licence holders and applicants.
6. Planning, designing and supervising the installation of vertical and horizontal signals on streets and highways across the country and establishing the corresponding requirements.
7. Analysing road crashes and undertaking research and making recommendations in this regard.
8. Plotting out traffic light systems for urban road networks and establishing the requirements that will ensure their proper and efficient operation.
9. Reviewing and approving the design and construction of public parking spaces and structures.
10. Checking to make sure that public road signs comply with traffic laws and regulations.

The mandate of DGTT also includes:

1. Issuing driving licenses and renewing them.
2. Authorizing changes in driving license categories.
3. Performing annual inspections of motor vehicles and issuing the corresponding certificates.
4. Approving applications to change vehicle licence plates from private to public plates and vice versa and conducting the corresponding inspections.
5. Inspecting all truck cargos.

4.4 Safe road-user behaviour

4.4.1 Institutions and programmes for regulating the behaviour of road users

(a) Driving licence system

The driver registration system is regulated by Act No. 241-67, and DGTT is responsible for overseeing all stages of the registration process. The management of this system is conducted partly by a private company and partly by DGTT. The private company's involvement in the registration process encompasses the compilation, design and regular updating of the driver information that is stored in the corresponding database. Initially, DGTT was responsible for supervising this portion of the process and had direct access to the data set, but now any type of information that it requires has to be requested from the private company that manages this database. As a result, DGTT has lost some institutional autonomy, which ultimately diminishes the quality of the overall service, since certain types of changes cannot be made without prior direct communication with the private company. This situation may, for example, make it take longer for applicants to receive their driving licences.

In accordance with Act No. 241-67, driving licences are the official document that authorizes road users to drive motor vehicles legally. A driving licence is valid for four years. There are five categories of licences for operators of different types of motor vehicles:

1. Category I: Motorcycles
2. Category II: Light motor vehicles
3. Category III: Heavy motor vehicles (with two subcategories)
4. Category IV: Buses with a capacity of up to 40 passengers and trucks with two axles
5. Category V: Special-purpose motor vehicles (i.e., backhoe loaders, graders).

The issuance of driving licences is a two-step process. First, a learner's permit is issued and then, only later, the actual driving licence is issued. In accordance with Act No. 241-67, applicants must meet both ethical and physical requirements and demonstrate that they possess a set of theoretical knowledge and practical driving skills. An important aspect of this evaluation concerns knowledge of road traffic laws and regulations.

In order to ensure that all road users have access to the licensing procedure, there are 13 licensing offices throughout the country (in Santo Domingo, Santiago, San Francisco de Macorís, Puerto Plata, La Romana, Mao, San Juan de la Maguana, Higüey, Barahona, La Vega, Nagua and Azua), as well as two mobile offices.

To obtain a learner's permit, applicants must be between 16 and 18 years of age. The prerequisites are:

1. Possession of a national voter identification card to certify the applicant's Dominican nationality.
2. Notarial authorizations from a parent or guardian. Persons who provide such authorizations to young applicants are responsible for any traffic fees, damages or other forms of liability associated with the driver's behaviour.
3. A copy of the national identification card of the parent or guardian.
4. A copy of the vehicle registration.
5. A statement attesting to the fact that the applicant has studied the driver's manual, which outlines the relevant traffic laws and regulations.

The post-registration procedure consists of an eye examination, attendance at a road safety talk and a written exam. DGTT then issues the driving licence within two hours for a fee of RD\$ 1,380 (approximately US\$ 30). In order to obtain a driving licence, applicants must have the following documents:

1. A national voter identification card
2. Bank statements
3. A police background check
4. A learner's permit.

This is followed by a registration process, practical driving test and the issuance of a driver's licence. The fee for this stage of the process is RD\$ 990 (approximately US\$ 21). There are no official statistics on the failure rate.

Information provided by DGTT indicates that there are 12,141 motorcycle operators who hold driving licences, but, according to the National Statistical Office, as noted above, there are more than 1.5 million registered motorcycles. In other words, no more than 5% of potential motorcycle operators are registered in the system. This is clearly a problem for any enforcement and educational programme that could be introduced in an effort to improve drivers' behaviour as a means of enhancing road safety.

A policy introduced by DGTT to encourage people who are driving motorcycles to obtain a permit consisted of easing the requirements for such permits. For instance, instead of taking a written examination, applicants could simply attend a course on driving rules and laws.

A common challenge in this regard is that when police officers try to enforce traffic laws they are often unable to issue tickets because drivers have no licence and there is thus no way to follow up on them. This also provides negative reinforcement for a road safety learning curve because motorcyclists are not exposed to measures for correcting poor road safety practices over time. In other words, since motorcyclists are not subject to a formal system under which they can learn to drive more safely and have that learning certified, once they start driving, they do so without the requisite knowledge. Their behaviour could be corrected by police enforcement, but, since this is impractical, motorcyclists are likely to continue with their initial high-risk driving behaviour.

The driving licence system should therefore be viewed as an opportunity to upgrade the skills and knowledge of persons who use this means of transport, especially those who use it as a form of employment. According to an IDB report, one motorcyclists' association has recognized this challenge and has sought to conclude institutional agreements with DGTT in order to promote skills and knowledge acquisition on the part of motorcyclists (IDB, 2015). More specifically, they are hoping to find other ways of obtaining driving licences once certain basic abilities have been tested. As one way of facilitating the registration of these motorcyclists, who number close to 20,000, it has been suggested that the fee for running a criminal background check could be waived.

Another challenge is the need to improve inter-agency communication between the Metropolitan Inland Transport Authority (AMET) and DGTT. AMET does not have access to the transport database, which naturally interferes with its efforts to enforce traffic laws and alter high-risk drivers' behaviour, since, for instance, police officers are unable to check to see whether a driving licence is false or not or whether the driver is a repeat offender.

(b) Ministry of Education

The Ministry of Education oversees 80,000 teachers, 2.5 million students and 60,000 technical workers, and the central government has recently launched an initiative for the construction of 3,000 additional schools. The Ministry is governed by Act No. 66-97. The principles and general objectives set out in this law provide the Ministry with the necessary guidelines for the introduction of road safety education into school curricula. Article 4 (c) of that law states that: "Education shall be based on respect for life, respect for fundamental human rights, the principle of democratic tolerance and the search for truth and solidarity"; article 6 (f) states that one of the primary purposes of education is to "strengthen the interaction between the community and education and to improve the mental, moral and physical health of the students and the community"; and article 6 (g) states that another of its main purposes is to "strengthen good learning habits in order to ... encourage students to engage in self-care". These principles and aims all support the principles of road safety more generally. The law also provides that the Dominican State, through its central government, shall strive to reinforce the principle of the sanctity of life in each of the four educational cycles (initial, primary, secondary and higher education).

In the recently promulgated Act No. 1-12 on the National Development Strategy 2030, the Dominican Republic introduced the concept of road safety in article 25, which sets out the specific objective (No. 3.3.6) of: “expanding educational services and improving the quality and competitiveness of infrastructure and of transportation and logistical services in order to promote territorial integration, productive development and a competitive position for the country in international markets”. More particularly, one of the lines of action set out in this law is the “strengthening of both road safety education for the people and obedience to traffic laws in line with a new institutional and sectoral regulatory framework.” Within this legal framework, the introduction of road safety education, to include safe driving guidelines, at each level of education has been formally proposed. This has been accompanied by a proposal to train teachers in road safety practices. This process has begun with the Municipality of Boca Chica, where more than 60 teachers have received this type of training.

(c) *National Road Safety School*

This institution was created by Presidential Decree No. 250-07 and is under the authority of FONDET. Its curricula have been designed to support the reform of the transport sector under the leadership of DGTT. Its main functions are to:

1. Provide road safety education
2. Train public- and private-sector drivers
3. Increase the level of safety offered by ground transportation services.

More specifically, this institution offers defensive driving and first aid courses that are certified by the United States National Safety Council. There is no publicly available information on how many people have taken these courses or on their impact on road safety practices.

With the enactment of the Mobility, Ground Transportation, Transit and Road Safety Act, this organization was assigned the following new functions:

1. Establish public policies on road safety education to raise awareness of road safety and deter high-risk behaviours in the transport system.
2. Define, under the direction of the Ministry of Education, the road safety curricula to be used at the initial, primary and secondary levels of education.
3. Design the requirements with respect to road safety education to be met as a condition for the issuance of operating permits to private driving schools which provide instruction to persons who are planning to apply for public passenger transportation and/or cargo transport driving licences.
4. Conduct talks for offenders of this new traffic law as part of the demerit point system.
5. Coordinate the development of public road safety campaigns with INTRANT.
6. Certify driving licence applicants.
7. Certify all cargo driving licence applicants, including applicants for licences that will authorize them to transport dangerous goods and to drive out-sized vehicles.
8. Design the courses and the examinations which public transportation drivers must take in order to obtain their driving licences.

9. Define the general content of the traffic courses that must be taken by persons who violate this traffic law or any of its accompanying regulations.
10. Organize talks, courses and seminars for technical and other staff of government and private institutions at all levels.

(d) Municipal governments

Municipal governments are subject to Education Act No. 176-07. More particularly, they are responsible for promoting all four levels of education and are required to allocate 4% of their municipal funds to educational projects, including ones that focus on gender and health-related issues.

A number of municipal governments have used this institutional framework to provide improved road safety education programmes and courses. For instance, the municipal government of the National District has developed an ad hoc road safety project in which several different stakeholders, including AMET, DGTT and OTTT, are participating. This project has defined road safety as the prevention of road crashes and the minimization of their consequences, while devoting particular attention to life-threatening events and to the introduction and application of safety-enhancing motor vehicle technologies (National District, 2015).

More specifically, the project focuses on three main aspects:

1. Laying the groundwork for the introduction of road safety education in the curricula of public schools.
2. Developing a media campaign which includes television spots and printed materials.
3. Building a road safety park where children and teenagers are taught about traffic rules in a safe and protective environment.

This municipal government has also introduced a regulation that establishes schedules and zones for truck traffic. This was done to provide greater safety for both truck drivers and other road users.

The municipal government of Boca Chica has developed a community-based road safety education plan that focuses on the road users who commonly travel through Boca Chica. This road safety plan promotes helmet use and seat belt use and includes courses directed towards instructors who provide training to drivers of motorcycle taxis.

4.5 Post-crash response

4.5.1 Institutions and public programmes

(a) Ministry of Public Health and Social Assistance

The Ministry of Public Health and Social Assistance is governed by Act No. 42-01. This ministry is responsible for guaranteeing the right to well-being of the Dominican population. Act No. 42-01 states that health is both a means and a goal and that the social production of health is the function of multiple societal forces. As such, health is an outcome which is facilitated by many actors, of which the health sector is only one. Under this paradigm, the Ministry of Public Health addresses all health-related challenges on the basis of a systemic approach. To this end, it created the National Health System, which is composed of a set of interrelated components that incorporate integration mechanisms, forms of financing, service delivery, human resources, State-regulated public and private management models and all the health-related activities engaged in by individuals and collective members of the community. Its objective is to foster well-being through the provision of health services at the national and local levels. This institutional umbrella

provides the Ministry of Public Health with a strong foundation for furthering preventive and corrective health projects. In terms of road safety, unlike the Ministry of Education, which only recently –and less explicitly– introduced the notion of road safety, the main legal instrument of the Ministry of Public Health openly addresses this challenge. Article 80, under title II (“Prevention and control of diseases and accidents”), chapter IV (“Accidents”), of Act No. 42-01 states that in order to prevent and control accidents, the National Health System shall focus on the inclusion of targeted accident-prevention activities in coordination with other competent institutions.

In reference to emergency response actions, this law contains only general provisions regarding an emergency subsystem. It does, however, establish the right of every person to receive immediate medical attention in any institution of the public health system, and medical services are therefore expected to remain open 24 hours a day. It defines emergency calls as requests made by the system for the services of health professionals in a given situation. In terms of traffic crash response actions, there is no clear set of guidelines or protocol concerning the transportation of crash victims to medical centres, and the law does not state what devices an emergency vehicle must be equipped with in order to respond to road crashes. More also needs to be done to define the type of training that health professionals who work on crash response teams should have.

(b) National Programme to Reduce Traffic Deaths

Since the emergency system is very underdeveloped, the Ministry of Public Health has created a specific programme that functions as an interim institution: the National Programme to Reduce Traffic Deaths (PREMAT). It is the job of PREMAT to design comprehensive road safety policies, and it has developed a plan to improve road traffic mortality and morbidity information systems. PREMAT has announced the introduction of a road safety plan that was designed in coordination with a number of different public and private stakeholders. One of the eight measures included in the plan is the creation of a road safety agency. As part of this effort, a bill was drafted and reviewed by the Ministry of the Office of the President which may have influenced the text of Presidential Decree No. 263-16, which will be discussed below.

(c) 911 National Emergency Response and Safety System

The government has received a significant amount of international funding to help it to launch and sustain a highly developed emergency response and safety system. The 911 National Emergency Response and Safety System liaises with the health system to provide a rapid response to vehicle crashes. The establishment of this institution was authorized by Act No. 140-13 of 2013, but thus far the system only covers Greater Santo Domingo. In 2016, work began on the expansion of its coverage to include Haina and San Cristóbal. Figure 4.1 maps out the municipalities that are covered by this system at present.

The purpose of this system is to provide members of the population, tourists and other persons with whatever attention is required after an emergency has been reported. The system coordinates all emergency calls with the help of a team of staff members, working in three eight-hour shifts, who monitor the system using visual and satellite equipment. To coordinate each response, the system’s operational centre contacts the designated staff members of the national police force, the Ministry of Health and other relevant institutions.

Because this institution has implemented a systematic public information campaign regarding the operations and benefits of the 911 system, it is now very well known by Dominicans and other inhabitants of the Metropolitan Area of Santo Domingo.

Figure 4.1

Municipalities covered by the 911 system



Source: National Emergency Response and Safety System, “Mapa de cobertura y fases”, 2016 [online] <https://911.gob.do/sobre-nosotros/quienes-somos/>.

The system requires users to know the difference between an emergency and a pre-emergency in order for it to function properly. An emergency is defined as an event that requires immediate attention because a person’s life or his or her possessions are endangered. A pre-emergency is defined as a situation in which a response within three hours will be sufficient to keep the situation under control. Users of the system must inform the 911 operator who answers their call of the location of the emergency and answer a set of standard questions so that the operator can determine whether the event is in fact an emergency and what type of service must be provided. All the information that is gathered remains confidential. A road crash is classified as an emergency, and the system will therefore respond by sending members of the police force, firefighters and medical staff, as appropriate, to the crash site.

(d) Insurance

Insurance coverage provides more than just monetary compensation; it is a highly effective mechanism for assessing, managing and reducing risk. By helping customers manage risk effectively, insurance schemes are an invaluable part of modern society and an essential tool for operators of motor vehicles. Motor vehicle insurance is a contract between the insured and the insurance company that protects the former from different types of losses. The motor vehicle insurance industry plays a very important role in reducing road traffic accidents by supporting road safety management.

Under the Mobility, Ground Transportation, Transit and Road Safety Act, vehicle insurance is mandatory in the Dominican Republic, and insurance companies must be registered with the Superintendency of Insurance. This law also establishes that when public, private or non-profit institutions do not acquire insurance, their workers or managers will be jointly liable for compensation awarded in the event of a traffic collision. The penalty for driving without motor vehicle insurance ranges from one minimum wage to the equivalent of five minimum wages.

This insurance covers civil liability for medical and legal expenses, as well as for damage to goods and property. In the event of death or permanent disability, it also covers medical expenses.

5. Conclusions and recommendations for strengthening national road safety management capacities

To strengthen the Dominican Republic's national road safety management capacities, a twofold strategy should be considered. The first prong of such a strategy would focus on realigning the institutional framework for the promotion of road safety by providing INTRANT with the necessary authority to coordinate the work of all public and private road safety stakeholders and with the funding needed to execute projects which will directly impact road users' behaviour and vehicle safety. The focus on road users' behaviour and vehicle safety is called for because institutional activities are currently scattered across these two pillars. The second prong would involve revising the road safety plan to introduce more clear-cut short- and long-term measures. In the short term, immediate attention should be focused on motorcyclists and the Metropolitan Area of Santo Domingo. In the long term, issues relating to the institutionalization and reform of the transport sector should be given further consideration. The following conclusions offer a series of insights relating to these two dimensions.

5.1 A new institutional framework for road safety in the Dominican Republic

The member countries of the Organization for Economic Cooperation and Development (OECD) have used different models for comprehensive road safety management schemes, but all these models link institutional management functions, interventions and results. For the Dominican Republic, the development of a greater institutional management capacity is of paramount importance since, as discussed earlier, numerous institutions are targeting various road issues in an uncoordinated manner and, in some cases, are duplicating each other's efforts, particularly in the case of the vehicle safety and road-user behaviour pillars. This is even true of work undertaken in accordance with the newly introduced legislation.

Bliss and Breen (2009) note that there are seven functions which a road safety institution should fulfil: (i) a focus on results; (ii) coordination; (iii) legislation; (iv) funding and resource allocation; (v) promotion; (vi) monitoring and evaluation; and (vii) research and development.

(i) A focus on results

A road safety institution, and other agencies that support road safety practices under the coordination of the main institutional body, should maintain an explicit focus on results. This is the most important function of all, since it establishes the principle that certain results must be achieved. This operationalizes a country's desire to attain given road safety goals. Research suggests that countries with quantifiable road safety targets perform better than countries without such targets (Wong and others, 2006). Targets are a tangible expression of a government's commitment to reduce the death toll, support a road safety strategy and allocate sufficient resources for safety programmes (OECD/ITF, 2008).

Setting achievable targets is a technical task and is very clearly the job of the institutional management system. When determining the nature of those targets, one of the most fundamental steps is to verify the available information on road safety indicators, such as fatality and injury rates, average traffic speeds, the proportion of fatal and serious injury crashes in which drunk drivers are involved, seat-belt-wearing rates, helmet-wearing rates, high-risk pedestrian behaviours, the physical condition of the road network and the quality of the vehicle fleet. This is critical because it enables policymakers to set baselines that can then be used to assess how much the country has succeeded in influencing these indicators by implementing a given set of road safety measures.

The first steps taken by the Dominican Republic are heading in the right direction, since a goal has been established. Nevertheless, the methodology used to set this goal is not clear, which undermines the road

safety plan. In order to determine a target, a set of measures should have been identified in such a way as to make it possible to assess how much each measure, on its own and in combination with other measures, may contribute to the achievement of the goal. In the present case, it is known that there are 20 targets, but it is not known how much the achievement of each of those targets would contribute to a 20%-30% reduction in traffic fatalities. The first recommendation is therefore to:

- 1. Develop a methodology for quantifying the contribution to be made by each measure to the targeted reduction.**

Such a methodology would allow the Dominican Republic to adjust its stated reduction target more precisely based on available resources and priorities. This adjustment process needs to be agreed upon by all stakeholders, since one of its purposes is to provide clear guidance and promote cohesiveness.

- (ii) Coordination*

This function involves organizing and aligning the relationship between governmental and community partners. There are at least four dimensions when dealing with different stakeholders that need to be systematically considered:

1. Horizontally across central government
2. Vertically from central to regional and local levels of government
3. Specific delivery partnerships between government, non-governmental and business stakeholders at the central, regional and local levels
4. Parliamentary relations at the central, regional and local levels.

Given the centralized nature of the government structure of the Dominican Republic, the lead road safety agency needs to be strategically positioned to facilitate coordination among central government institutions which participate in the road safety policy implementation process. The decision as to how best to position this agency should be based on considerations of permanency and political leverage. Many countries choose to attach this type of agency to a sectoral ministry (e.g., the Ministry of Transportation, the Ministry of Health) but this ultimately weakens its comprehensive framework because of the effect exerted by cultural and hierarchical differences among these institutions. In terms of the second dimension, the laws of the Dominican Republic clearly establish that the central government is empowered to set guidelines for local governments—in this case municipal governments— regarding the implementation of road safety measures. However, specific channels for cooperation between the central government and municipal governments need to be developed since, for instance, as mentioned earlier, responsibility for the road network is a shared function of both the Ministry of Public Works and Communications and municipal governments.

As for the third dimension, further consideration needs to be given to coordination with non-governmental organizations and the private sector. However, in this case, a clear hierarchical relationship headed by the central government must be established. While, for instance, safety protocols developed by private transport networks for the transportation of goods in Dominican territory may be taken as an example of good private practices, these guidelines ultimately need to be determined by the central government in order to ensure the safety of all road users. Protocols for communication between the central government and municipal governments also need to be created in order to coordinate both the establishment of goals and the allocation of resources. Lastly, review and approval by the legislature is necessary to ensure the legitimacy of these measures, which in turn will heighten their effectiveness.

(iii) Legislation

This function is related to the maintenance or creation of the necessary legal tools “for governance purposes to specify the legitimate bounds of institutions, in terms of their responsibilities, accountabilities, interventions and related institutional management functions to achieve the desired focus on results” (Bliss and Breen, 2009). Another aspect of this function has to do with the promotion function, since standards and rules should also be effectively communicated to road users.

(iv) Promotion

This function is associated with ongoing communication with the public concerning road safety and underscores the shared responsibility of all members of society for supporting the actions required to achieve the targets defined by the country. In line with this approach, if the promotion of road safety is to be effective, it needs to go beyond simply publicizing specific road safety measures. This type of promotional effort entails the dissemination of a vision of what road safety should look like as an enduring paradigm at the societal level.

(v) Funding and resource allocation

This function has to do with how policy actions and the corresponding organizational structure can be financed on a sustainable basis. It also involves determining the most effective allocation of resources to achieve the desired results. This is a critical function because it involves exploring possible new funding sources and mechanisms which will make the road safety management system sustainable over time. In the case of the Dominican Republic, this is an issue that requires prompt attention. The new Mobility Act clearly states how INTRANT should be funded, and the immediate impact of this type of institutional model is to strengthen road safety policy, since the allocation of the necessary funding is now assured. However, there are still grey areas, since other road safety institutions have not explicitly established how much funding will be allocated for the development of road safety projects.

With these four functions in mind, the second recommendation for improving institutional response capacity is therefore to:

- 2. Strengthen INTRANT by improving its coordination, legislation and promotion functions and by providing it with substantial funding by successfully taking advantage of options that have already been developed by the central government for other institutions.**

(vi) Monitoring and evaluation

This function consists of ongoing evaluations of the results of road safety policies and of the policy actions that have been implemented. These studies can then be used to redesign either the entire policy or certain aspects of it. More information is clearly needed, in addition to a complete vehicle collision database, since it is also necessary to have survey results on high-risk road user behaviours, transport registries for drivers and vehicles, and road audits, among other things. In the case of the Dominican Republic, there are two areas in which systematic efforts need to be undertaken. First, a protocol to facilitate communication between the nine information sources described above needs to be formulated. In this case, methodologies for the integration of the various databases need to be designed, and the new Road Safety Observatory needs to be positioned as the agency responsible for managing this system. Second, this organization should carry out studies to generate the information needed to supplement the road crash database. For instance, surveys, road audits and vehicle inspection analyses should be conducted periodically. By integrating these two types of information sources, a more thorough assessment of the country’s road safety performance can be prepared.

(vii) Research and development and knowledge transfer

This function is closely linked to the monitoring and evaluation function, as it entails the creation, codification, transfer and application of knowledge that contributes to the improved efficiency of the road safety management system and its effectiveness in achieving the targets that have been set. The participation of academic institutions is of paramount importance in this connection. The central government should therefore place priority on providing funding for research projects proposed by Dominican universities.

With regard to these last two functions, the third recommendation concerning the road safety institutional framework is therefore to:

3. **Develop a comprehensive road safety information system, to be managed by the new Road Safety Observatory, which relies on the systematic integration of a diverse range of information sources, including, but not limited to, road crash data sets, road safety studies and road safety research and development, to provide the necessary information to assess the overall performance of the road safety system.**

5.2 Content of the road safety plan for the Dominican Republic

In order to advance the implementation of the three institutional measures described above, consideration should be given to a series of substantive short-term and long-term road safety measures. While there are some elements which are universally accepted, there are specificities in the case of the Dominican Republic that need to be addressed as well. The seven core substantive measures that should be introduced, in line with the recommendations made by OECD and ECLAC, are:

- i. **Speed management:** According to OECD: "Enforcement of existing speed limits can provide immediate safety benefits, perhaps more quickly than any other single safety measure." (OECD/ITF, 2008) Setting standard speed limits, identifying roadside hazards, road design, traffic volumes and consideration of vulnerable road users are important considerations when implementing an effective speed management project. OECD also points out that: "Other essential components of speed management are infrastructure improvement and the use of new technologies, such as intelligent speed adaptation, to modify behaviour." (OECD/ITF, 2008). This measure is one whose implementation should be achieved by means of a joint effort on the part of police institutions and municipal governments. As was done in 2013, the acquisition of radar equipment, including automatic radar sensors, should be made mandatory. Significant changes in the registration of both vehicles and drivers should be made in order to make this plan more effective.
- ii. **Reduction in drunk-driving:** Highly visible enforcement using random breath testing to verify blood alcohol limits, which should not exceed 0.5g/l for the general population, is very effective. When these measures are backed up by extensive publicity and tough sanctions for repeat offenders, the decrease in alcohol-related fatality and injury rates can be substantial. OECD also contends that: "Alcohol interlocks fitted to all vehicles are a future option, subject to successfully increasing public acceptance." (OECD/ITF, 2008). The Dominican Republic has succeeded in introducing a new law that establishes a general blood alcohol content limit of 0.05% when it is determined by means of a blood test and of 0.025% when it is measured using a breathalyzer. For professional drivers, the limit is 0% for both measurements. For motorcyclists, the limits are 0.02% and 0.01%, respectively. This measure should be supplemented by the introduction of legislation which uses various means to restrict alcohol consumption. Limiting the hours of the day or the days of the week when alcohol sales are permitted (Middleton and others, 2010) and raising alcohol tax rates (Wagenaar and others, 2010) are both measures that have proved to be highly effective in reducing abusive alcohol consumption. The Dominican Republic should therefore

amend Act No. 42-01 and modify the rules applied by the relevant regulatory agencies accordingly. Other measures that could have an impact in the Dominican Republic include: the provision of special training to police officers and all other personnel involved in staffing sobriety checkpoints; improvements in the educational materials provided to first-time drivers that focus on alcohol consumption and its consequences; and the launch of a detailed public education and awareness campaign in order to explain clearly, step by step, the procedures used at sobriety checkpoints and what drivers should expect if they are pulled over. This campaign should include information on the fines, penalties, and consequences of drunk driving.

iii. Seat belts, child restraints and helmet use: As in the case of the enforcement of limits on alcohol consumption, tough legislation, extensive police enforcement and persuasive public campaigns are all measures that can, in combination with one another, result in higher use rates for seat belts, child restraints and protective helmets, which will then be reflected in a reduction in the severity of road crashes. OECD points out that: “Technologies such as seat belt reminder systems and seat belt ignition interlocks could almost completely counter the non-wearing of seat belts if introduced universally but would require community and vehicle industry acceptance.” (OECD/ITF, 2008). One of the measures that could be introduced in the Dominican Republic to support increased seat belt use would be a requirement that all new and second-hand imported vehicles must be equipped with seat belt reminder systems. This is particularly important because some vehicle exporters, such as Mexico (NOM-194-SCFI-2015) and Brazil (CONTRAN Resolution No. 518 of 2015), do not systematically include such equipment because its installation is not mandatory in their countries. The use of images captured by the 911 system, coupled with information on seat belt use, could also be effective. A first step has been taken in this direction with the inclusion of a provision in the new traffic law that makes the use of child restraint devices mandatory. The World Forum for Harmonization of Vehicle Regulations (WP.29) is a one-of-a-kind worldwide regulatory forum that functions within the institutional framework of the Inland Transport Committee (ITC). The mandatory use of motorcycle helmets and the certification of suitable helmet safety standards should also be the subject of further consideration by the legislature. These standards may refer to United Nations regulation No. 22 (United Nations, 2002), which details the required characteristics of helmets that are to be worn in tropical climates. ECE has pointed out that the ECE regulation No. 22 helmet requirements are performance-oriented rather than being design-oriented and therefore provide sufficient ventilation to make these helmets suitable for tropical climates (ECE, 2016, p. 12). Suitable education programmes could be an effective way of convincing the many riders who persist in riding without helmets or with the chinstrap undone to abandon these high-risk practices. In addition, surveys on the use of seat belts, child restraints and motorcycle helmets should be carried out periodically.

iv. Safer roads and roadsides: OECD distinguishes between short- and long-term road and roadside initiatives. Short-term initiatives include the identification of locations where crashes occur the most frequently and the application of specific “treatments such as audible edge-lining, shoulder sealing, clearing of roadside vegetation and the construction of passing lanes” (OECD/ITF, 2008). Long-term initiatives involve a complete overhaul of road infrastructure design and renovation systems and, here, a holistic approach and considerations of sustainability are the basic principles. In this connection, as was mentioned above, a complementary set of ad hoc measures suited to the road infrastructure of the Dominican Republic would include:

1. Regular inspections of existing road infrastructure.
2. Strengthening of black spot analyses and projects.
3. Systematic policies for promoting walking and cycling.
4. Building the capacities and knowledge of road designers.
5. National training and certification of road auditors.

For the Metropolitan Area of Santo Domingo, a specific black spot analysis and intervention programme should be designed. As indicated by table 4.4, a sizeable portion of emergency response actions are concentrated in this zone.

Within the sphere of international legislation on road traffic and road signs and signals, since the Dominican Republic is already a contracting party to the 1949 Convention on Road Traffic, it might consider becoming a party to some of the other United Nations conventions on traffic issues, such as the 1968 Convention on Road Traffic and Road Signs and Signals, vehicle regulations agreements and the European Agreement concerning the Carriage of Dangerous Goods by Road, all under the institutional framework of UNECE. This would make it easier for nationals of other contracting parties to drive when visiting the Dominican Republic and for Dominicans to drive when they travel to other contracting parties.

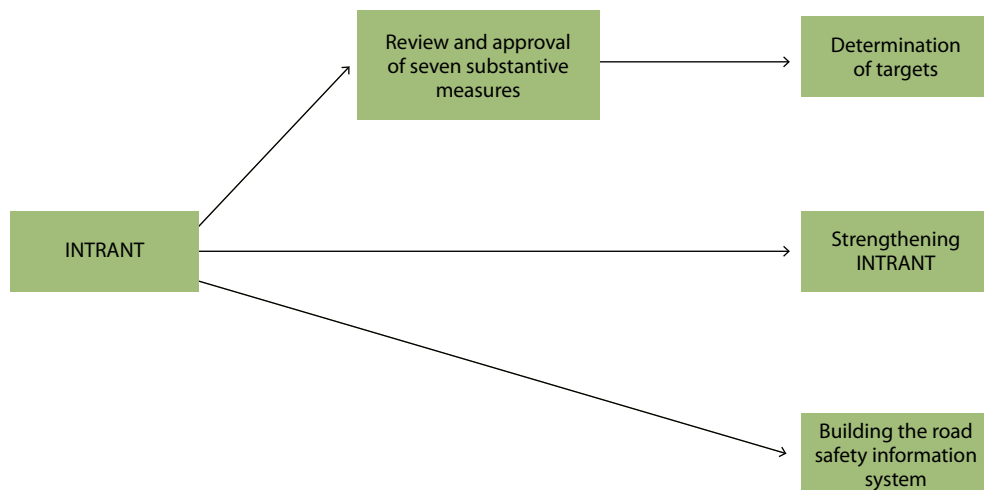
v. Enhanced vehicle safety: Both passive and active vehicle safety features have helped avoid numerous crashes which would likely have had fatal consequences, and OECD specifically notes that: “Electronic stability control systems represent a major recent advance in active safety, with collision avoidance and lane departure warning systems [being] examples of other promising technologies.” (OECD/ITF, 2008). There are a variety of safety devices that are not required in Mexico and Brazil, and motor vehicles imported from these countries therefore fail to meet the same safety standards that their North American and European counterparts do. This is of particular importance with respect to imports of motorcycles, given the huge numbers of motorcycles that have been introduced into the country’s vehicle fleet over the past decade. Safety regulations governing vehicle imports should focus, at a minimum, on aspects such as:

1. Brake systems
2. Tyres
3. Lights, including daytime running lights (ECLAC 2011)
4. Collapsible U-jointed steering columns
5. Intelligent speed adaptation
6. Collision warning/avoidance
7. Electronic stability control
8. Side impact protection
9. Airbags
10. Pedestrian protection systems

vi. Reduced young driver risk: Road safety practitioners have suggested that, in order to reduce young drivers’ fatality rates and involvement in crashes, graduated licensing schemes, along with extended training during the learning period, can be effective. OECD suggests the following components for a graduated licensing programme: “night-driving and peer-passenger restrictions, graduated demerit points while on probation, zero blood-alcohol content tolerance and extended learning periods while under supervision to provide for driving in a variety of road and weather conditions” (OECD/ITF, 2008). This approach is particularly relevant for the Dominican Republic, since the majority of fatal outcomes concern persons between 15 and 29 years of age. Such an initiative would provide an opportunity to reform the existing driving licence system.

Figure 5.1

Three-pronged strategy for building national road safety capacity



Source: Prepared by the authors.

In sum, the three-pronged strategy depicted in figure 5.1 should be led by INTRANT and entails a total of 10 measures: 3 of an institutional nature and 7 substantive ones. The substantive measures should inform the institutional determination of the targets, since each of them can be associated with real reductions in traffic fatalities and injuries. Concurrently, INTRANT should move ahead with an overhaul of both its institutional design and the road safety information system.

Annex1: International Alliance for Responsible Drinking (IARD) Drink-driving assessment of the Dominican Republic

Executive summary

Disorganized traffic patterns and poor driving habits are very common in the Dominican Republic. The police enforcement of traffic laws is inconsistent, and roadways themselves are often treacherous. This is combined with liberal attitudes toward the consumption of alcohol. Parents introduce their early teenaged children to alcohol, and drinking by minors is a significant issue, especially in less urban areas.

Consuming alcohol while driving is a common problem, and there are few serious legal consequences. The Dominican public is largely unaware of the dangers and effects of drink driving, and do not consider it a form of wrongdoing. Individuals of all ages regularly drink and drive, and most are unaware of the legal levels allowed to drive.

Despite cavalier local attitudes, the outcomes are serious. Although reliable road-safety statistics are difficult to find, World Health Organization figures rank the Dominican Republic in the top 15 countries globally for rates of fatalities in car crashes.

It is only recently that the national government has taken steps to address drink driving. In early 2017, a new law with a clear maximum blood alcohol concentration (BAC) and more specific sections on traffic patterns and drink driving was approved and put into effect. This law is in response to clear instructions and specific guidelines directly from the country's President, who described the law as one of the government's most important legacies. National leaders also noted a desire to achieve the United Nations goal of halving the numbers of deaths and disabilities due to road crashes by 2020. In addition, new national agencies have been created to address road safety, and beverage industry initiatives have been ongoing at both national and grassroots levels.

Selected Recommendations (see the text for the full list)

- To fully benefit from the new transit law, the implementation of random, high visibility, sobriety checkpoints should begin in a systematic and structured manner.
- Special training should be provided to all those involved in conducting sobriety checkpoints.
- Relevant authorities should be educated about the steps and experiences taken by other countries in programs to change negative driving habits.
- Provide the public with accessible information about driving laws, as well as the consequences of breaking the law.
- Provide the public with information on the new transit law passed in early 2017. At the same time, update driver education curricula to reflect the new law.
- A detailed public education and awareness campaign is needed to increase awareness of the magnitude of the problem and the strategy to address it. This campaign should include information on the fines, penalties, and consequences of drink driving.
- Educational materials provided to first-time drivers should be improved, and should contain all the current, relevant information, rules, and regulations related to driving motor vehicles.
- It is important to reach the younger generation and first-time drivers in a long-term manner to develop positive driving behaviors as early as possible.

Introduction

The goal of this study is to analyze, describe, and evaluate the situation of drink driving in the Dominican Republic: its causes, legislation, historic approaches from different sectors, possible outcomes, public awareness issues, enforcement actions, and possible initiatives encountered and envisioned by the public offices involved. From a broader perspective, poor driver education, distracted driving, and relentless and aggressive driving are among the important road safety issues that should be addressed.

In the Dominican Republic, nothing has been implemented until recently to identify or address the problem of drink driving. The current national government has engaged in a comprehensive strategy to reduce or prevent drink driving, and to assist in the achievement of the United Nations goal of halving the numbers of deaths and disabilities due to road crashes by 2020. The government has recognized a systemic weakness; thus, some very necessary steps are being taken to address the identified shortcomings.

The relevance of this study is further reflected in a 2015 WHO status report on road safety, which listed the Dominican Republic as the number one country in the Americas, and the 15th worldwide, for the highest estimated rates of fatalities in road crashes. Estimates were 29.3 fatalities per 100,000 population in 2015, a revised figure from the alarming 41.7 per 100,000 rate in 2013. These figures include cars, buses, and motorcycles, the latter of which constitute a significant part of the problem.

These very high numbers are closely related to drink driving, which is recognized by both local and international organizations as a topic in urgent need of action in the Dominican Republic. Some recent actions related to drink driving are underway and will be described in this assessment. These actions represent important early advances in a long process; in a country where drink-driving rules received little prior attention, this is a positive scenario.

Background and context

The Dominican Republic shares the Caribbean island of Hispaniola with Haiti to the west. The population is approximately 11 million people, with 4 million living in the capital, Santo Domingo. Although agriculture and mining were the historic economic mainstays in this geographically diverse country, the current, fast-paced economic growth is fueled by construction, manufacturing, and tourism.

There are approximately 3.6 million motor vehicles operating in the Dominican Republic (about 54 percent are motorcycles, and 21.4 percent are cars). Most these are found in the Distrito Nacional (26.2 percent), Santo Domingo (16 percent), and the second largest city in the country, Santiago de Los Caballeros (8.5 percent). Roughly two-thirds are private vehicles, while one-third are registered to companies.³

Political and Legislative Situation

The Dominican Republic is an open democracy. The current president, Mr. Danilo Medina Sánchez, first took office in August 2012 and was reelected in 2016. His current term ends in May 2020. His popularity was very high in the first term and the beginning of the second. Indeed, Mr. Medina, a chemical engineer and economist, was voted the most popular leader in Latin America for three consecutive years. However, after notable strikes against corruption by a large number of workers, his popularity dropped considerably, putting at risk a potential re-election in 2020 and thus his ability to carry out his priorities and legacy. These priorities include one of the three most important areas that the government has been instructed to carry out: traffic and road safety, and improved street logistics and urban planning.

³ Newspaper el Caribe, "RD tiene mas de 3.6 millones de vehiculos." <http://www.elcaribe.com.do/2016/03/16/>.

Chaotic, reckless, and disorganized traffic is very common in the country, where the laws are “flexible,” police enforcement is inconsistent, and road dangers are present in all areas. In the Dominican Republic, people drive while consuming alcohol beverages, with no legal consequences. The famous “alcohol drive-thrus” are frequently found in urban, expensive areas of Santo Domingo, where drivers can get alcoholic drinks at any time of day or night. There is no police response to this. The most common reason for police to stop drivers is because of drivers talking on their cellphones, which is often done while drinking and driving. Indeed, the Dominican Republic has one of the world’s highest road traffic death rates.⁴

No accurate or reliable information related to road safety is available through public offices or governmental bodies, making it difficult to either identify the populations most at risk, or to better define possible concrete strategies to address this problem. Hospitals do not collect drink-driving crash data systematically. Suspected drunk drivers that arrive injured to trauma hospitals after crashes are identified by doctors and nurses by the alcohol on their breaths, but without the verification of any devices. Dr. David Gonzalez Sapej, noted that when road-crash victims arrive in hospital emergency departments, no protocol is followed to detect alcohol consumption.⁵

These data also remain hidden because insurance company reports do not include injuries related to abuse of alcohol or drugs; in addition, patients and their families induce doctors to state another official cause for a hospital stay, in order to collect insurance allowances.

Contributing Factors

The main issues affecting vehicle transportation in the Dominican Republic are:

- Distracted driving.
- Aggressive and reckless driving.
- Speeding.
- Drink driving.
- Drivers not obeying transit laws.
- Drivers who are poorly informed on the transit laws.
- Limited police enforcement.
- A high level of police corruption.
- Many drivers with non-valid licenses.
- Reckless driving of motorcycles (the highest mortality is among motorcycle users).

Research Strategies Utilized

This assessment was based on semi-structured interviews with key stakeholders (see Annex) and additional analysis of relevant but limited secondary data. The data were collected from international agencies, existing domestic reports, and through consultations with officials and experts from agencies in the Dominican Republic. It should be noted that accurate road safety and related data are difficult to find in the Dominican Republic. At times, respondents offered inconsistent responses due to this lack of precise data and historic information.

⁴ World Health Organization (<http://apps.who.int/gho/data/node.main.A997>) and local respondents.

⁵ <http://www.listindiario.com/la-republica/2015/09/29/390037/mayoria-de-jovenes-tiene-accidentes-estando-ebrios>.

Findings

In the Dominican Republic, the issue of drinking and driving and its effects on society is a very complicated problem. The problem involves all aspects and sectors of society: public institutions, civil society, companies and the private sector, and most importantly, families. Being central to the life of Dominicans, alcohol has been identified as a social problem that needs to be treated with long-term education campaigns for the younger generation; the consumption of alcohol while driving is a significant part of this.

A recent study conducted by a certified company (Cuadrante-FLACSO 2016) stated that, on average, parents introduce alcohol to their children by age 12. Drinking by minors is a big problem in the Dominican Republic, especially in less urban areas. And along with teens and older drivers, even minors purchase drinks and consume them liberally and without any restrictions while driving.

Exacerbating this are the drive-through beverage outlets that allow drivers to make purchases from their vehicles. Along some of the major streets in Santo Domingo, it is typical to see car races and loud music coming from vehicles, while the drivers are openly drinking.

In general terms, the Dominican public is largely unaware of the dangers and effects of drink driving, and do not consider it a form of wrongdoing. Individuals of all ages regularly drink and drive, although most do know of the transit law prohibiting this habit. Patronizing very popular businesses like “Drinks to Go” or “La Cool Vita” (alcoholic beverage drive-throughs mentioned above) are a common and popular habit in the DR. There is no police monitoring of patrons, or regulations for these businesses.

Despite some isolated efforts, the outcomes are serious. In 2010, 1,902 persons were reported killed in car crashes, but some sources indicate that the real number of fatalities is 2,476, and this figure does not include post-crash casualties (which may add another 30 percent to the total).⁶

Institutional Capacity

In terms of laws and legislation, the old Dominican transit law, which until very recently regulated traffic and street circulation, was vague and evasive toward some key issues. The low level of police enforcement and high level of police corruption make the situation worse. For example, the old transit law only sparingly addressed drink driving. It disregarded the existence of a BAC (blood alcohol concentration) or the consequences of violating the law, stating simply that: “the drivers of motor vehicles should not drive under the influence of alcohol.”

In February 2017, a new law with clearer and more specific clauses concerning a safer and more structured traffic design, and important modified information on drink driving, was approved and put into effect; this law changed the overall environment related to the application of a new set of rules for road safety. This law is in response to clear instructions and specific guidelines directly from the country’s President, who described the law as one of the government’s most important legacies.

Some respondents interviewed for this assessment suggested that the methodology used to calculate the number of injuries and fatalities (that is, calculating injured and dead at an accident scene) is not the best approach,⁷ and thus incorrect data have been collected over the years. Moreover, general data on car crashes and their causes is often unavailable, manipulated, or inaccurate. This creates a challenge in trying to establish accurate baseline data. Public institutions do not have relevant information available, nor do they consider it important to have it or to attain the means to acquire it.

In 2014, the mortality rate was tracked somewhat through the creation and implementation of Servicios

⁶ Per Mario Holguin, director of a local road safety NGO.

⁷ Contributing factors include an informal approach to data gathering from authorities at crash sites, and victims being taken to hospitals by citizens on the scene when ambulances or emergency vehicles are caught in the frequent traffic jams.

911, a new emergency call service. The service includes contacts with police, ambulance, and fire trucks if necessary. This new service, along with improved road signaling and lighting, initially reduced the number of deaths from 2014 to 2015. However, in 2016, mortality rates went up again; the effect of the service was not sustained due to inadequate government support. According to the Decade of Action Report 2015, the unit Servicios 911 or a similar service should lower the mortality rate by 50 percent; in the DR this has not been the case. The biggest complication observed by Servicios 911 is that the sheer number of cars and pedestrians crowding the narrow streets across the country do not provide sufficient access to the ambulances and rescue trucks, which often arrive late to crash scenes.

A 2013 study noted the lack of reliable statistics for road crashes. The authors were attempting to integrate police and health insurance data sets, and they pointed out that, “Both police and health insurance data sets included WHO (World Health Organization) recommended minimum characteristics. Nevertheless, a large number of potentially important characteristics related to human and risk factors, such as alcohol consumption, seat-belt wearing, helmet use, or traffic volume, were not recorded” (Puella, Bhatti and Salmi, 2013:44).

Institutions that could provide road crash information include:

- The Metropolitan Transport Authority, (*Autoridad Metropolitana de Transporte, AMET*).
- The National Statistics Office of the Dominican Republic (*Oficina Nacional de Estadísticas*).
- The Emergency Services 911 (*Servicios de Emergencias 911*).
- The Ministry of Public Health (*Ministerio de Salud Pública*).
- The Forensic Sciences National Institute (*Instituto Nacional de Ciencias Forenses*).

However, at present, none of these institutions publicly share information regarding drink and driving.

Presidential Commission for Transit and Road Safety Initiatives

The unit controlling all transport topics and authorities is the Ministry of Public Works and Communications (*Ministerio de Obras Públicas y Comunicaciones, MOPC*), led by MOPC Minister Gonzalo Castillo. This Ministry is the leader of a newly created transit commission, named the Presidential Commission for Transit and Road Safety Initiatives (*Comisión Presidencial de Tránsito y Seguridad Vial*). This Commission leads the Technical Table for Road Safety (*Mesa Técnica para la Seguridad Vial*), which is a space or open forum to discuss, work, analyze and decide upon individual topics from all units concerning road safety and transportation. When decided upon and cleared, initiatives are taken to the Presidential Commission to be approved by the President, and put into effect.

The MOPC also leads the work of a unit called the Dirección General de Tránsito Terrestre (DGTT), or General Directory for Urban Transit, an office directly under the ministry, and which is responsible for:

- Planning and formulating the norms regulating vehicular flow across the national territory.
- The enforcement of transit Law 241-67 (and subsequent modifications).
- The planning, coordination, and control of road-safety education programs.
- Laying out the guidelines for conducting research and analysis on vehicle accidents.
- Controlling the compliance of sanctions imposed on verified breaches of the law and regulations.

New Transit Law

The new and modified transit law noted previously was approved in February 2017. It passed through the Congress with direct support from many politicians, but especially from Congressman Tobias Crespo,

who favored this law for many years. The new law includes a BAC index and many other key elements of law enforcement regarding drink driving, which were missing from past legislation. In addition, the consequences, penalties and fines related to drink driving are described.

The approved BAC is 0.5 grams per liter (gr/l) for blood, or 0.25 milligrams per liter for breath. Measurements are taken by General Office for Traffic Safety and Transport (*Dirección General de Seguridad de Tránsito y Transporte Terrestre*, DIGESETT) officials using special devices approved by the MOPC. In the case of public transportation or first-time drivers (16-18 years old), the BAC level is set at 0.0 per liter in blood, or 0.0 milligrams per liter in breath tests. Motorcycle drivers are not allowed to drive with any more than 0.2 grams of alcohol per liter in blood, or 0.1 in breath.

The new, modified law is extensive and very comprehensive, and addresses the priorities set by the government in terms of road safety in general, and traffic and transportation infrastructure in particular.

Law Enforcement

The Metropolitan Authority of Transport (*Autoridad Metropolitana de Transporte*, AMET), colloquially referred to as the AMET, was created in 1997 as an entity directly dependent on the Ministry of Interior and Police. Its main objective is to manage, control and regulate anything related to transport supply and demand, with a fundamental aim of reducing any negative social, economic, and environmental costs of transportation. While it appears to have been put in place primarily to oversee developments in the metropolitan region of Santo Domingo, the vision and mission statements suggest a national reach⁸. According to a provisional organigram (organization chart) depicted on in the AMET website⁹, the Director General of the Authority would report to the Chief of the National Police, who in turn responds directly to the Minister of the Interior and Police.

As stated in the new and recently approved transit law, AMET as such will no longer exist, and leads into the creation of the DIGESETT (noted above). Its main objective is to supervise, control, and enforce the public transit spaces and streets, and all activities that go on within them. This new department answers to the Ministry of the Interior and Police (*Ministerio de Interior y Policía*), and therefore has the authority to prosecute and submit to authorities anyone who violates the law.

Lead Agency to Coordinate Road Safety Efforts

Also created in this new law is the National Institute for Transit and Transport (*Instituto Nacional de Tránsito y Transporte Terrestre*, INTRANT). This is the highest unit at the national level, and has administrative, technical, financial and regulatory independence that responds to the Ministry of Public Works and Communications. The INTRANT is the main national department that deals with the transportation system, transit law, and road safety in the Dominican Republic.

All the experts interviewed agreed that the problem of drinking and driving is very sensitive to political will, and that even with all the support from the authorities, it will take time to implement changes. There are strong habits that need to be changed, and these will involve many measures, such as education and awareness campaigns, announcement of the consequences of violations, penalties and fines, training police forces in the use of breathalyzers, and the recognition by society (through constant enforcement) that drink-driving enforcement is of key importance and that the consequences for violations are real. It will take years until a pattern of change is seen for all members of society. If the government, from the top down, supports the initiative, and if producing a positive change is a priority for decision-makers, there is reason to be optimistic for the future.

Other Road Safety Initiatives

In 2007, the government purchased a large stock of breathalyzers, which were to be used by AMET officers to prevent or reduce drink driving-related fatalities. However, the initiative was not properly conducted,

⁸ <https://amet.gob.do/>.

⁹ <https://amet.gob.do/index.php/organigrama/>.

the goal was not met, and the project had no measurable effect. The breathalyzers were put into storage and never again used. The lesson learned is that such interventions need to be conducted with the correct methodology and training. High-visibility sobriety checkpoints require expert training, preparation, and logistics, and need to be conducted by well-trained police officers to ensure effectiveness. Otherwise, the negative effects (such as corruption; an increase or continuation of dangerous behaviors; or loopholes discovered by drink drivers) will outweigh the positive.

Other government offices, especially the Ministry of Health and some of its divisions, have undertaken special initiatives to address drink driving. A division called the Office for the Prevention of Transit Accidents or *Oficina para la Prevención de Accidentes de Tránsito*, (PREMAT) was created and it is doing work on both main avenues and rural roads. The Ministry also created a council (a “working cluster”) that has supported relevant laws, and initiatives from the alcohol industry and government. This cluster includes members from the public sector, decision-makers, civil society, and the alcohol industry. It also includes representatives from the police, justice department, and other law enforcement units.

As noted previously, no measures had been taking in the past to address drink driving, other than recommendations from decision makers in other sectors, and until recently, no real importance had been given to the subject. Then, in the first and second trimesters of 2016, the political will shifted toward road safety, and the government announced that special importance would be given to transportation, road safety, and traffic problems. Importance was given to the emergency 911 services and the road safety and transit restructuring project. Other advances and actions have been seen as well.

The major steps taken toward this improvement are:

- Passing the modified Transit Law.
- Creation of the National Commission for Road Safety.
- Actions taken to gather the stakeholder involved.
- Public announcements of the implementation of road safety measures.

The MOPC website has announced relevant activities. For example, an assistance and security program for highways conducted by the MOPC is referred to as a “precious instrument for accident prevention and roadside assistance”¹⁰. The initiative has designated over 200 MOPC trucks to transport military personnel and mechanics along the highways to assist drivers, both in cases of crime (mostly robberies) and roadside emergencies. To quote the MOPC site: “While it would be desirable that that AMET or police patrol the highways around the clock to avoid violations of traffic laws, especially concerning speeding and irresponsible driving, given the inertia to act from these institutions, the MOPC has had to take on the role.”

Another entry on the MOPC website (May 2014) refers to the merits of a program that has improved road signals and thus reduced accidents, according to reports from insurance companies (although these are not quoted therein). The Minister praised the program for “putting order in the heads of Dominicans”¹¹

On another front, the AMET website indicated the entity is committed to educating the population “to prevent accidents and save lives”. Numerous press releases refer to courses delivered by “experts” on a broad number of topics, including the imperative to abstain from drinking before driving. These courses appear to have various audiences, including professional drivers, teachers and parents. Instructions are given to make these sessions available throughout the country. Governors and local authorities could be present at some of these to reinforce the aspiration to save lives.

¹⁰ <http://mopc.gob.do/noticias/seguridad-en-las-carreteras/>.

¹¹ <http://mopc.gob.do/noticias/plan-se%3B1alizaci%C3%B3n-de-v%C3%ADas-reduce-accidentes-tr%C3%A1nsito/>.

The *Dirección Nacional de Control de Drogas* (<http://www.dncd.gob.do/>) (National Directorate for Drug Control) is yet another official institution carrying out prevention programs across communities through their Community Orientation Program (*Programa de Orientación Comunitaria*, POC). The intervention is centered around sports and a series of talks and interactive sessions directed at children and teenagers, their parents and other adult referents, universities and sport leagues. The National Directorate reports directly to the presidency and all actions are coordinated in agreement with the Ministry of Recreation and Sports (MIDEREC) and other relevant stakeholders, including civil society.

On a related note, the Interamerican Development Bank (*Banco Interamericano de Desarrollo*, BID) will work in technical cooperation with the AMET, now renamed DIGESSET, to develop a national strategy for road safety. It is anticipated that the BID experts will also collaborate in improving the management of traffic, including aspects of enforcement. The latter will be strengthened through dedicated training of AMET officers. The AMET/DIGESSET works towards a year-end deadline to have a formal action plan in place, and ready to be launched across the country.

In addition, an article¹² appeared in *El Nuevo Diario* in August 2014 that describes a collaboration between the Ministry of Economy, Planning and Development (MEPyD) and experts from Korea, to carry out a situation assessment leading to a national strategy on road safety. This is reported as a project financed by the BID, in this case, together with Korea's Eximbank.

It is rather surprising for two different ministries to undertake initiatives to help draft the national strategy on road safety, unless both efforts complemented each other.

Industry Initiatives

The alcohol industry, quite extensively, has developed several initiatives and programs aimed at reducing drink-driving fatalities. Programs like "Learning for Life" from DIAGEO, or "Angel Guardian" have been popular. Also, large local companies like *Cervecería Nacional Dominicana* (CND), the top beer producing company in the DR, and partner of AB-InBev International, or *Brugal y Co*, one of the largest local rum producing companies, have taken steps toward drink driving, like the very recent "Si tomas no manejes" ("If you drink, don't drive") campaign from CND.

Conclusions and recommendations

There is reason for optimism if the MOPC fully implements the new and modified transit law. Implementation is still in the initial stages, however, and at the time of this report, official announcements had not yet been made on any results from the trial implementation phase. Some actions have been noted above as a result of the new law. Several related recommendations are proposed:

- To fully benefit from the new transit law, implementation of random, high visibility, sobriety checkpoints should begin in a systematic and structured manner.
- To ensure effectiveness, it is vital that special training be provided to the police officers and all others involved in conducting sobriety checkpoints.
- A detailed public education and awareness campaign is needed to explain clearly, and step by step, the process of the sobriety checkpoints, and the expectations if one is pulled over. This campaign should include information on the fines, penalties, and consequences of drunk driving.
- Authorities should be educated about the examples and experiences of other countries that demonstrate how behavior change activities should follow a structured and proven methodology. Activities not undertaken in a structured and systematic manner run the risk of being ineffective and not being taken seriously by the public.

¹² <http://www.elnuevodiario.com.do/app/article.aspx?id=385830>.

- Technical assistance should be provided throughout the road safety activities, and close follow up is needed throughout all procedures and logistics.
- Provide the public with information on the new transit law passed in early 2017. At the same time, update driver education curricula to reflect the new law.
- Provide the public with accessible information about driving laws, as well as the consequences of breaking the law.
- Improve the educational materials provided to first-time drivers. These should contain all the current, relevant information, rules, and regulations related to driving motor vehicles. Clear messages related to safe driving should be provided in the materials, which need to be effectively distributed to the next generation of drivers.
- In general, outreach to the younger population and first-time drivers (in schools, through university curricula, at family centers, etc.) should be undertaken as a long-term project, in order to facilitate the formation of positive behaviors early in life.

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Annex

List of Interviewees

Name	Title	Organization
José Ignacio Nazif-Muñoz	Steinberg Global Health Postdoctoral Fellow	McGill Institute for Health and Social Policy, Montreal, Canada
Dr. Mario Holguín	Director	FUNDARED, GLOBEDIA y PRO-SEGURIDAD
Sr. Juan Manuel Vargas	President	ADARP: Asociación Dominicana de Aseguradoras y ARS
Dr. Leonel Ureña	National Director	PREMAT, Ministerio de Salud de la Republica Dominicana- Departamento de la Prevención de Muertes y Accidentes de Tránsito
Lara Guerrero	Marketing and Public Relations Manager	Ministerio de Obras Públicas y Comunicaciones
Tobias Crespo	Congressman; advocate and supporter of the new transit law	Cámara de Diputados
Sr. Milcíades Tejada	Director of Urban Planning	Ministerio de Planificación, Economía y Desarrollo (MEPYD)
Marcelo Oehlenschlager	Director ONG	FUNVI Organización Vial
Alexandra Cedeño		Autoridad Metropolitana de Transporte (AMET)

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Road Safety Performance Review

Dominican Republic

Road safety is an important sustainable development goal, yet relatively underappreciated and greatly underfunded. Every year, more than 1.2 million people are killed globally while another 50 million are injured as a consequence of road traffic accidents. Approximately 90% of all road accidents now happen in low- and middle-income countries.

Recognizing the need to support member States in urgently and effectively addressing road safety challenges, three United Nations Regional Commissions initiated project: "Strengthening the national road safety management capacities of selected developing countries and countries with economies in transition". The project aimed to assist four countries in enhancing national road safety management capacities and effectively address and improve national road safety records. The project was implemented in: Albania, the Dominican Republic, Georgia and the Viet Nam.

The Road Safety Performance Reviews assessed the current road safety situation, helped Governments to identify the most critical safety aspects and recommended actions to be taken. Based on the identified priority needs, capacity-building seminars and workshops for national road safety stakeholders were organized. Additionally, the Project raised public awareness on road safety issues and sensitized experts, as well as the public and non-governmental sectors on the need to set ambitious road safety targets and implement specific measures to improve road safety.

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United Nations – Economic Commission for Latin America
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