



TRANSPORTING QUÉBEC TOWARDS MODERNITY

SUSTAINABLE MOBILITY POLICY - 2030

Road Freight Transportation
Intervention Framework

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1. Road Freight Transportation in Québec

This document is an integral part of the Sustainable Mobility Policy to 2030. It presents an overall portrait of road freight transportation in Québec, its issues and all measures related to the 2018-2023 Road Freight Transportation Action Plan. The most promising and cross-sectional measures in this sectoral action plan also appear in the Sustainable Mobility Policy Comprehensive Action Plan.

The Road Freight Transportation Intervention Framework is a key component of the Sustainable Mobility Policy vision: In 2030, Québec will be a North American leader in 21st-century sustainable and integrated mobility. In a territory planned with a view to sustainable mobility, it will have a high-performance, safe, connected and low-carbon transport ecosystem that contributes to Québec's prosperity and meets the needs of people and businesses.

Current situation

In Québec, trucking is a strategic link in the economy and freight transportation logistics chains, which mainly transport merchandise from a supplier to a client. The flexibility and reliability of road transportation give trucks an essential role, especially when delivery time is an important factor in the modal choice. Its competitive advantages allow it to offer fast door-to-door service and competitive prices that meet the needs of businesses and consumers.

In 2016, the gross domestic product of the truck transportation industry was \$4.6 billion, 1.4% of Québec's GDP. In 2014, the trucking industry, made up of nearly 15,850 carriers essentially transporting goods for hire, had 41,267 employees. A higher number of other carriers—nearly 33,310—work in other industries, such as construction and wholesale and retail trade¹.

Trucking also plays an important role in Québec's exchanges with its principal trading partners. It is the predominant mode of transportation on the North American market, since most imported and exported freight is carried by truck. Its role in multimodal logistics system is also crucial, as it is often the only link between all the various parts of a freight transportation logistics chain. All goods, at one time or another, are transported by truck.

The road freight transportation industry in Québec is facing a number of issues, including some that have a major impact on its competitiveness on the Canadian and North American markets and that threaten the competitive balance among the different modes. These problems include the renewal and retention of the workforce, skill development, the growth of the heavy vehicle fleet in relation to its dependency on fossil fuels and the reduction of GHG, the safety of heavy vehicles and road sharing, road congestion and its economic impact, as well as the protection of road infrastructures.

¹ MTMDT (2018), Industrie du camionnage au Québec: Portrait statistique et économique, section 3.1.

The importance of road freight transportation for sustainable mobility in Québec

The ministère des Transports, de la Mobilité durable et de l'Électrification des transports (MTMDET) stands by its commitment to meet current transportation needs without compromising the capacity of future generations to meet theirs. Freight transportation is an essential component of the mobility that supports the economic development of Québec, because it allows businesses to be competitive, attract investments and create jobs.

Freight transportation involves the participation of every mode of transportation, and service management is largely provided by the private sector, based on the business criteria of the owners (profitability, delivery time, etc.). The corollary of optimizing logistics systems to reflect sustainability mobility objectives must be the use of each mode in the segment where it performs best, which, for trucking, is when multi- and intermodality conditions offer significant benefits. In this situation, the trucking industry is constantly seeking to improve its integrated logistics planning, control its costs and increase its efficiency without undermining safety.

The dominant place of trucking in Québec's exchange with its trade partners gives it an important share of the imported and exported freight transportation market. While many factors influence the organization of freight transportation, metropolitan Montréal plays a decisive role, given its economic importance due to its location as a freight transportation hub with a concentration of multimodal logistics activities.

The role of the Gouvernement du Québec in road freight transportation

The Gouvernement du Québec intervenes in road freight transportation in a variety of ways through the concerted actions of various organizations, primarily the Société de l'assurance automobile du Québec (SAAQ) and the Commission des transports du Québec (CTQ). In this field, the predominant role of trucks sets them apart from the other modes in terms of government responsibility. The MTMDET has undertaken to provide competent, innovative management for the networks over which it has direct responsibility. To fulfil its mission, it relies on the close collaboration of its public and private partners. As such, it is responsible for overseeing trucking in order to improve the general safety of road users and protect the road network.

In terms of safety, the legislation is enshrined in the Highway Safety Code and its regulations, which contain all the highway safety and protection standards that apply to carriers, drivers, freight transportation vehicles and their loads. The carriers are also subject to legislative oversight under the Act Respecting Owners, Operators and Drivers of Heavy Vehicles (ch. P-30.3). This law obliges them to register with the Registre des propriétaires et exploitants de véhicules lourds (heavy vehicle owners and operators registry) and behave in accordance with the SAAQ's Politique d'évaluation des propriétaires et des exploitants de véhicules lourds.

To protect the road network, the MTMDET enforces several laws and regulations concerning road vehicles and combinations of road vehicles. Furthermore, heavy vehicles may only drive on road networks reserved for trucking². For local routes, which are under the responsibility of the municipalities, the policy on heavy vehicle traffic on the municipal road network and the Regulation Respecting Road Signs govern the configuration and determination of trucking networks on municipal roads. Finally, since road transportation uses the road networks of neighbouring jurisdictions that are also our North American trade partners, the MTMDET must agree with them on actions that target truck transportation. This mainly involves harmonizing road safety, loads and sizes, cargo securement and the transportation of dangerous goods.

² <https://www.transports.gouv.qc.ca/fr/entreprises-partenaires/ent-camionnage/circulation-vehicules-lourds/Pages/reseau-camionnage.aspx>.

To help the industry deal with its dependency on fossil fuels and contribute to government GHG reduction targets in the road transportation industry, the MTMDET Écocamionnage program provides financial support to carriers that wish to improve the energy efficiency of their trucks.

Trends and outlook to 2030

Trend 1: Ongoing modernization of land freight transportation supported by the expansion of the trucking industry

It has already been acknowledged that the economic benefits of freight transportation by truck will continue to grow, driven by the growth of the Québec economy in general. It will become more modernized, through innovations in the operations of logistics systems and the introduction of new technologies that respond to the issues shaping the future of this industry. The legislation and regulations will continue to evolve to streamline the oversight of the trucking industry and support technological advancements. The oversight will extend to electric, autonomous and connected vehicles. Road transportation will benefit from increased integration in logistics chains, with the development of logistics platforms, the introduction of logistics hubs and industrial port areas, as well as the reorganization of the industry itself, especially in terms of storage and related services.

Recent studies on intermodal potential in Québec point to relatively limited possibilities for modal transfer between trucks and other modes of transportation. In fact, a reduction in the proportion of trips with intermodal potential is anticipated, for the simple reason that high potential freight flows are not those that are expected to increase significantly³.

The structure of the industry should remain more or less the same from now to 2030, relying primarily on small businesses. In 2014, trucking employed 41,267 people, a number that has remained relatively stable for a decade. As in other industries, the lack of human resources will be a crucial issue in terms of responding to the inherent needs of growing trucking businesses. Furthermore, future demands for workers stem from the turnover and ageing of workers in this industry in Québec. Currently, the ageing ratio in the industry is 0.55, which means a high proportion of the workers are coming to the end of their careers. Also, even though technological innovation responds, in part, to the need for workers, its corollary is the need for skills that require increasingly demanding training.

Trend 2: Impact of just-in-time in truck movements, road congestion, the organization of logistics chains and trade practices

Road congestion is a major factor in economic life, especially for freight transportation, businesses and road users. Just-in-time delivery, which has affected logistics practices since the 1970s, makes businesses more competitive by reducing the level and cost of the inventory they need for processing or sale. It increases the presence of trucks on the roads, however. Furthermore, in terms of supply safety, congestion obliges businesses to face delivery delays and plan larger inventories. For the transportation of dangerous goods, it also entails higher risks, especially when road conditions are the most difficult.

The capacity of the road networks will have to be adjusted to support the economic growth of Greater Montréal and the affected areas and absorb the increase in the demand for freight transportation. For metropolitan Montréal, the cost of congestion is currently evaluated at \$1,852.1 million, and the trucking

³ MTQ (2013), Étude multimodale du transport des marchandises au Québec en appui aux plans territoriaux de mobilité durable.

industry absorbs 7.1% of that cost⁴. The impact on trucking stems mainly from delays, the cost of truck use and additional fuel consumption, which represent 3.75% of the total cost of congestion.

Trend 3: Relative growth of the environmental footprint of road freight transportation

In Québec, transportation is the industry that produces the most GHG. The energy consumed in 2014 by trucking alone represents 29.8% of the energy consumed by the transportation industry, all modes combined.

Trucking's share of the GHG emissions related to road transportation rose from 30.9% in 1990 to 40.6% in 2014, but a reduction can be anticipated in the carbon footprint similar to the reduction in the consumption of fossil fuels in the passenger transportation industry, which is also decreasing sharply. Improved energy efficiency in trucks, the introduction of new technologies, the electrification of vehicles, the efficiency of logistics practices and new fuel options should all contribute to increased performance. By way of proof, from 1990 to 2014, the energy intensity – that is, energy consumption per ton-kilometre – has already dropped from 3.2 to 2.64, a reduction of 17.4%. New, stricter environmental standards will also be introduced in 2019 for the design of heavy vehicles.

That said, economic growth and road freight transportation needs may exert pressure on GHG emissions. Some regions will see strong economic growth, and the contribution of the trucking industry to that growth will entail anthropogenic pressures and pollution. For example, the implementation of the Plan Nord could open vast expanses where trucks are currently practically absent but will be unavoidable in the future. The change in logistics practices due to JIT standards, particularly in terms of storage, will have a significant impact on energy consumption by changing the composition of trucking fleets. Between 1990 and 2014, the number of heavy and medium trucks increased by 82.2% and 130.2% respectively, while the number of light trucks grew by 180.9%. Due to their high fuel consumption, light trucks may offer more potential for improving energy performance through the electrification of short-distance freight transportation.

Trend 4: Reduction in the number of accidents related to heavy vehicle traffic

Québec's road safety reports for the last five years reveal a significant reduction in the number of accidents involving heavy vehicles, with a decrease of 8.2% from 10,688 in 2011 to 9,814 in 2016. Accidents involving heavy vehicles cause the most damage, however, due to their sheer size, with a death rate of 0.5%, or double the death rate for all road accidents. That said, heavy vehicles are driven by professionals, and their rate of responsibility for accidents is very low. Despite constant improvement, the safety of all users is a primary concern in the government's actions.

Québec is taking part in the United Nations 2011-2020 Decade of Action for Road Safety. The Table de concertation gouvernement-industrie sur la sécurité des véhicules lourds (government-industry round table on heavy vehicle safety) also established an action plan to reduce the number of road victims attributable to trucks and semi-trailer trucks.

Trend 5: Unavoidable review of the investment approach for road infrastructures

Road infrastructures are one of the fundamental components of the MTMDÉ's mission. They allow for the transportation of passengers and freight, as well as safe access to the entire territory and the

⁴ MTMDÉ (2018), Industrie du camionnage au Québec: Portrait statistique et économique, section 6.3.3.

resources for future generations. The longevity of Québec's road assets and their conservation at North American standards will require increasing sums of money and will continue to absorb a significant portion of Québec's budget. It is understood, however, that the solution to the problems associated with reaching the capacity limits of some parts of the network cannot indefinitely rely on the development of new infrastructures or ever-higher investments in existing infrastructures. The future relies on a set of factors that must take the taxpayers' capacity to pay into account.

The increase in the number of road vehicles of all sorts will oblige municipalities to rethink their land use for more efficient transportation service and optimize the use of existing networks. Studies and research to support innovation and technology will improve knowledge about the freight transportation industry in general. They will facilitate decision-making in a situation where collecting and sharing information is essential for the implementation of innovative solutions.

2. Sustainable Mobility Issues in Road Freight Transportation

In the context of modernization, the road transportation industry has benefited from its great flexibility and adaptability, as well as the competitive costs associated with this mode of transportation. The major change in services required to support businesses in the face of increased competition in the marketplace was good for this industry, where service provision is a major component of logistics chains. These now need to be coordinated with the production and resupply plans that are the foundation of our manufacturing industry.

The *Politique sur le transport routier des marchandises 2009-2014*⁵ looks at several recurring issues that the trucking industry and all concerned players still consider pressing today. The constantly growing socio-economic development of our societies, despite periodic slowdowns, has generated an increased volume of goods transported by truck and, by extension, a series of issues to consider.

Sustainable mobility requires the government to establish a long-term vision to mobilize businesses, especially to encourage investment, review their methods, maintain and renew their vehicle fleets and adopt more ecological fuels. For example, this vision could result in the development of a substitute fuel supply infrastructure, including the network required to support the electrification of transportation.

Issue 1: Free flow of freight in the urban environment

The economic development of Québec and its regions depends on fluid mobility. It is important for the competitiveness of the businesses and the appeal of Québec to be supported by a transportation system that meets the requirements of a changing world. With regard to just-in-time merchandise delivery, the trucking industry is especially vulnerable to road congestion and the network capacity of major urban centres, especially metropolitan Montréal, which can hurt economic competitiveness and consumer expectations. Freight movement must be optimized, and the complementarity of existing multimodal networks appears to be the route to consider for better performance. In this regard, the efforts made to upgrade the road network also lead to problems for a variety of users, who would benefit from the increased use of technological potential for improved active signage supported by advanced warning signals to anticipate work zones and quickly find alternative routes, if necessary, before being caught in construction congestion.

⁵ https://www.transports.gouv.qc.ca/fr/entreprises-partenaires/ent-camionnage/Documents/Politique-transports-marchandises/3_Politique2009-2014-BilanMiseEnOeuvre.pdf.

The economic impact of congestion is significant for the trucking industry. It reverberates in supply chains and causes costs that compromise the economic performance of businesses. According to the multimodal freight transportation study carried out in Québec in 2013⁶, the proportion of trucks in road traffic across the entire province is 11.82%. Although trucks only represent 11.22% of the road traffic in Montréal, it is in this region that the most trucks are found in Québec. As a percentage of all vehicles on the road, there are more trucks in the Nord-du-Québec (32.31%), Chaudière-Appalaches (27.55%), Centre-du-Québec (23.09%), Capitale-Nationale (23.04%) and Bas-Saint-Laurent (20.53%) regions. The Association du camionnage du Québec refers to a recent study on the cost of congestion in Montréal which estimates that 87% of businesses suffer its effects⁷.

Integrated land-use and transportation planning is crucial for sustainable mobility. Ensuring the fluidity of freight transportation is no exception, especially as concerns through-traffic and local or interregional delivery. Solutions for the urban environment rely on urban planning innovations, such as creating reserved lanes for trucking or occasionally using public transit lanes. Such solutions call on many players, including those who generate the movement of freight and who rely, as a location factor, on the proximity of the multimodal logistics chain and system interconnectivity. In this regard, the land-use planning must take into consideration the construction and location of businesses to encourage better accessibility of the merchandise to be transported, the reduction of distances to cover and the social and health costs of transportation and road congestion. The plans must strive for balance between network capacity and transportation needs, without continually relying on new and increasingly costly investments from the taxpayer.

In terms of GHG emissions, the time required for heavy vehicle trips also has a negative impact on fuel consumption. Furthermore, the presence of trucks on congested urban arteries has consequences for road sharing and the “discomfort” of other users.

Issue 2: Safety of heavy vehicles and road sharing

The questions of public health and safety related to the presence of trucks on Québec’s roads, especially in congested situations, are intimately linked to the sustainable mobility of freight. The safe sharing of infrastructures and the cohabitation, on public roads, of trucks, cars, bicycles and pedestrians are central to this topic. Québec’s road safety report for heavy vehicles improved steadily from 2009 to 2014, even though accidents involving them are generally more harmful due to their size. In 2016, the number of accidents involving a heavy vehicle increased by 2.9% over 2015, rising to 9,814; 0.5% of these accidents caused a death and 81.9% led to material damages of over \$2,000. The risk that an accident will cause a death increases when a heavy vehicle is involved. The main reasons for these accidents were work methods, inattention or distraction, failure to yield passage, careless driving or speeding and fatigue. It is worth mentioning that driver responsibility was a factor in 33.8% of accidents involving heavy vehicles between 2007 and 2011.

An improvement in knowledge about heavy vehicle safety is the foundation of the modernization of the related legislation and regulations. Cooperation with industry stakeholders is essential not only to agree on and develop best practices but also to inform and sensitize the industry and the public. New technologies and innovation, including autonomous vehicles and assisted driving, offer a wide array of new possibilities that will usher in significant improvements in the safety of truck travel in the future, by reducing the risks arising from lack of vigilance or incorrect manoeuvres. The training and skill development of drivers will improve the industry’s transportation safety performance.

⁶ MTQ (2013), Étude multimodale du transport des marchandises au Québec en appui aux plans territoriaux de mobilité durable.

⁷ Source: Association du camionnage du Québec.

Like infrastructure sharing, the use of the roads must be approached as a whole, since public safety and health are also factors to consider in terms of sustainable mobility. With the demand for road freight transportation continuing to increase, the presence of more heavy vehicles on the roads will also have effects on health, especially in the urban environment. The public must be informed and made aware of the dangers and risks associated with heavy vehicles.

The transportation of dangerous goods (TDG) represents about 6% of road transportation in Québec and constitutes an inherent risk in anthropogenic activities. This type of transportation is necessary and unavoidable, however, in order for society and the economy to operate. Since it is subject to stricter oversight, however, the TDG safety record is better than the record for road transportation in general. Carriers also have to take the necessary and indispensable means to maintain a safety record that will be assessed by the Commission des transports du Québec under the Act Respecting Owners, Operators and Drivers of Heavy Vehicles⁸.

TDG accidents are a matter of concern for many stakeholders, including municipal officials who are demanding greater transparency and a reduction in the risks inherent in the movement of vehicles carrying these goods. Many questions related to events involving dangerous goods have demonstrated the need for the MTMDet and the municipalities to have the most up-to-date information possible about dangerous goods transportation corridors and to be able to identify them. With the introduction of technologies such as anti-collision systems, this knowledge would allow for better transmission of the information about the actions taken by the MTMDet and ensure the safest TDG possible.

For the public to have a fair opinion of the trucking industry and its importance for everyday life in Québec, research and knowledge must help inform the citizens and raise awareness about the unavoidable cohabitation of various road users.

Issue 3: Competitiveness of the Québec trucking industry in relation to other complementary modes of transportation and more efficient logistics chains

In the context of mode integration, all future interventions on logistics systems must seek to maintain the competitive balance among the modes so they can all play an active and decisive role in guaranteeing transportation efficiency. It is important, therefore, to strengthen and maintain the role of trucking by supporting it through MTMDet expertise. The economic value of trucking's share of road freight transportation has been firmly established. In 2011, the industry generated annual operating earnings of \$4.86 billion in Québec, over 1.6% of Québec's GDP, and it was the direct or indirect source of employment for the equivalent of 59,327 full-time jobs.

Internationally and across Canada, the performance of transportation systems to support external trade depends on fluid, flexible, competitive, reliable, effective transportation services that provide predictable low-risk deliveries for business supply chains. In this regard, the trucking industry is the most-used mode in trade between Canada and the United States.

In the future, innovation will shape freight mobility and become a significant asset for fostering the exchange of information with increasingly intelligent logistics chains integrating different modes of transportation. The improvement of knowledge about logistics chains will be essential to ensure their reliability and efficiency. Supporting the introduction of innovative communications technologies for the ground transportation of goods would decompartmentalize transportation services and reduce the number of unladen journeys, as well as improving the efficiency of vehicle fleet management.

Many voices are clamouring for the relaxation and modernization of the administrative rules to give the

⁸ SAAQ (2016), Obligations of heavy vehicle users, Société de l'assurance automobile du Québec.

industry an improved competitive regulatory environment. In addition to facilitating trade by road, border crossings for trucks and the reciprocal recognition of the requirements of each set of regulations, interventions could, for example, result in an agreement on the intermodal connections required for the development of integrated, intelligent, obstacle-free transportation corridors in North America.

Eco-taxation could foster investment in the road freight transportation industry by encouraging the industry's shift to sustainable transportation in a responsible green economy. Tax measures could stimulate the modernization of practices in the industry and accelerate and encourage recourse to technology and innovation by enhancing the benefits in existing programs.

Issue 4: Increasingly limiting shortage of workers

The shortage of workers, worker retention and recruitment problems have a growing economic impact on the competitiveness of businesses. Staffing needs are pressing and exacerbated by the turnover of ageing workers and retirements. The worker shortage slows the company growth and business development, creating a major economic impact on the industry and generating significant consequences for the cost of freight transportation. The lack of driver availability lengthens delivery time and undermines the efficiency of the logistics chain which demands just-in-time delivery. The general economy in Québec is facing a major crisis in the transportation industry due to a shortage of workers.

Compared to industry as a whole in Québec, the trucking workforce is older. In 2011, 23% of the workers were over 55, compared to just 18% in the economy in general. The ageing of the workforce in the trucking sector raises the fear that there will not be enough young workers to replace older workers who retire, compounding the pronounced ageing in the occupation. Unless there is a big shift in the situation, truck transportation will have a severe shortage of workers in coming years as many workers retire.

Moreover, innovation and the introduction of new technologies are another significant reality with consequences for the workforce. The autonomous and semi-autonomous driving systems under development, the increased use of longer combination vehicles, etc., will not be enough to replace the missing workers. It will also become necessary to review training and competency development, which will have to be adapted to this situation. The result will be additional requirements to become a driver and sometimes divergent expectations between job seekers and employers.

Issue 5: Environmentally friendly freight transportation

Trucking is an activity that is highly dependent on fossil fuels. Most trucks run on diesel or gas. Other marginal sources of energy are ethanol-gas blends, propane, natural gas and electricity. In 2014, the energy consumption related to trucking in Québec represented 29.8% of all energy consumed by the transportation sector, all modes combined. Trucking is a major emitter of GHG, which adds to the other effects of road transportation. This is a segment where interventions must be prioritized to achieve Québec's GHG reduction targets. For maximum efficiency, the assistance measures or programs to be considered and implemented must have long-term stability, because changing the trucking industry to meet environmental objectives cannot be achieved overnight.

In 2016, there were 146,450 straight trucks and semi-trailer trucks on Québec's highway network. The energy consumption related to trucking increased by 58.3% between 1990 and 2014, while the volume of activity in the industry nearly doubled over the same period. Another factor: energy-efficiency technologies that allow for the use of electric or hybrid engines are spreading more quickly in the passenger road transportation sector than in the trucking sector, particularly due to advances in vehicle electrification. The just-in-time inventory management formula, which consists of delivering the

merchandise the moment it is required for processing or sale, also increases the number of truck trips and energy consumption.

The impact of transportation on the environment has led to awareness among governments and the public which can be seen in the reduction objectives for greenhouse gases which are threatening the balance of the planetary climate system. The environmental footprint of freight transportation in Québec is high, and these emissions are increasing and may exceed those of passenger transportation by 2030. Truck transportation alone is responsible for 80% of the GHG emissions of this sector.

Issue 6: Longevity and availability of road transportation infrastructures

The longevity of the infrastructures and the availability of roads are the foundations for the competitiveness and operation of the road freight transportation industry. These major economic and strategic components are unique in that they must be shared with all users of ground transportation. Maintaining their efficiency and development and adding components to meet specific needs are putting an increasingly heavy burden on the province's budget.

The quality of the highway network is also an essential condition for the efficiency of internal and external trade. In reference to the North American standards, trucking today requires roads that meet the new bearing capacity and geometry standards so they can support the intensity of today's traffic with authorized load levels. In this regard, the ageing network has shortcomings that amplify the operating problems on certain busy routes. The Réseau stratégique en soutien au commerce extérieur (RSSCE, the strategic support network for external trade)⁹ is especially affected by this situation. It is on this network that the trade corridors have been developed that constitute the backbone of freight transportation and foster the fluidity of movement and border crossing in both directions. These corridors support trade with our partners, both internal and external, as well as supporting the development of the regions.

In Québec, the MTMDDET is responsible for the maintenance of the highway network, including the RSSCE, which represents more than one-quarter of the highway network, serves 87% of the population and accounts for 91% of the jobs in this sector. With the capacity of this network expected to reach its peak soon in several areas, major investments are required for its improvement and conservation, in terms of both road surfaces and structures. Furthermore, to protect the network and maintain the equilibrium between its maintenance costs and its economic contribution, the MTMDDET must impose restrictions that take its characteristics and Québec's climate into account. These measures are outlined in the Vehicle Load and Size Limits Regulation¹⁰ and the Regulation Respecting Special Permits¹¹, which contain sections about the safety of dynamic vehicle behaviour, the features of heavy vehicles and the cohabitation of road users.

Finally, in the opinion of transportation stakeholders, it is important to manage the supply (infrastructures) and demand (needs) by targeting the optimized use of the network and its interconnection with access to modal transfer and multimodal logistics activities – hub, platform, storage, etc.

⁹ MTMDDET (2018), Industrie du camionnage au Québec : portrait statistique et économique, section 2.1.

¹⁰ SAAQ (2016), Obligations of heavy vehicle users. Société de l'assurance automobile du Québec.

¹¹ SAAQ (2016), Obligations of heavy vehicle users. Société de l'assurance automobile du Québec.

3. 2018-2023 Road Freight Transportation Action Plan

The 2018-2023 Road Freight Transportation Action Plan supports the Sustainable Mobility Policy intervention framework. Its goal is the sustainable mobility of freight using efficient and safe transportation systems that contribute to the development of Québec. The MTMDET's intervention focuses on intervention priorities for which it has the levers to take effective action in its areas of responsibility. Since transportation involves a vast array of responsibilities that are shared by many stakeholders with sometimes diverging interests, some issues may be shared with other partners and result in actions taken by third parties. The intervention may, in these cases, take the form of collaboration, participation or one-off support initiatives which, together, support the MTMDET's concerns.

Issue 1: Free flow of freight in the urban environment

INTERVENTION PRIORITY 1: REDUCE THE IMPACTS AND CONSTRAINTS OF TRUCK TRAFFIC IN THE URBAN ENVIRONMENT

The MTMDET plans to collaborate actively on the overhaul of government guidelines to ensure road transportation is taken into consideration in land-use planning and development. The MTMDET is responsible for the sustainable mobility content in the "Sustainable Development of Living Environments" guideline. It is also helping to draft this guideline with the ministère des Affaires municipales et de l'Occupation du territoire (MAMOT), the ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC), the ministère de la Culture et des Communications (MCC), the ministère de la Santé et des Services sociaux (MSSS) and the ministère de la Sécurité publique (MSP). More specifically, it continually publishes notices to encourage land-use and urban planning tools to take heavy vehicle traffic and road freight transportation into consideration in the overhaul of government land-use planning guidelines. Furthermore, the MTMDET produced the policy on heavy vehicle traffic on the municipal road network largely for the purpose of harmonizing trucking networks in the highways and local roads and protecting the road network by directing trucks to roads that are better suited for heavy vehicles. The initial version of this policy was released in 1991. It was last updated in 2011.

Measure 1: Update the policy on heavy vehicle traffic on the municipal road network

To ensure it is up to date and accurately reflects the needs of the municipal partners and the Ministry, the MTMDET will update the policy on heavy vehicle traffic on the municipal road network.

Indicator:	Policy adopted
Target:	Policy in effect by 2020

Issue 2: Safety of heavy vehicles and road sharing

INTERVENTION PRIORITY 2: DOCUMENT THE LEGISLATIVE AND REGULATORY SAFETY RULES FOR HEAVY VEHICLES TO INFORM STAKEHOLDERS AND RAISE AWARENESS OF THE NEED TO REDUCE THE ACCIDENT RATE AND IMPROVE THE SAFETY RECORD IN ORDER TO MEET THE CHALLENGES OF ROAD SHARING

Matters of safety, public health and road sharing related to the presence of trucks in traffic are central to the MTMDET's concerns. From the perspective of sustainable mobility, road use is approached globally with the continuous improvement of expertise and knowledge about the safety and movement of heavy vehicles, which will also support the modernization and review of the legislation and regulations, if necessary. The MTMDET will also continuously contribute to efforts made by partner organizations (SAAQ, CTQ, CRQ, Transport Canada, municipalities) on the safety and oversight of trucking. It also holds round tables on improvements to be made to the legislation and regulation.

If required, the MTMDET will also extend its involvement with the multidisciplinary working group on reducing accidents involving vehicles transporting dangerous goods.

Measure 2: Produce a communications plan and release it to inform municipalities about TDG oversight and the related actions taken by the MTMDET

Indicator: Communications plan produced and released

Target: Communications plan released by 2019

Measure 3: Raise industry awareness of the obligations and best practices related to the road safety of heavy vehicles

The MTMDET will carry out information and awareness activities for the owners and operators of heavy vehicles concerning the obligations and best practices related to the road safety of heavy vehicles and produce and update awareness and information tools.

Indicator: Number of annual activities and number of documents published or updated

Target: Information and awareness documents published and updated annually until 2023

Measure 4: Draw up a portrait of fatal accidents involving heavy vehicles

The MTMDET will analyse fatal accidents involving a heavy vehicle and draw up a portrait of the main problems recognized as causing or contributing to these accidents.

Indicator: Analysis report completed

Target: Analysis report of causes of fatal accidents involving heavy vehicles in 2014-2017 available in 2022

Measure 5: Develop an action plan on accidents involving heavy vehicles

The MTMDET will draw up a detailed action plan with recommendations for resolving known problems unveiled in the analysis of heavy vehicle accidents.

Indicator: Submission of action plan

Target: Action plan and recommendations submitted by 2020

Measure 6: Hold an awareness campaign on road noise

The MTMDET will launch an awareness campaign with target groups concerning road noise to sensitize drivers about the appropriate use of engine brakes, the removal of prohibitive signs by municipalities, etc.

Indicator 1: First awareness campaign completed

Indicator 2: Second awareness campaign designed

Target: Awareness campaign completed by 2019

Proposal for a second awareness phase in 2019

Measure 7: Implement the solution proposed by the study on the visibility of heavy vehicle drivers

Indicator: Publication of a best practices guide

Target: Creation and release of a best practices guide for the installation and use of rear-view mirrors by 2019

Issue 3: The competitiveness of the Québec trucking industry in relation to other complementarity modes and more efficient logistics chains

INTERVENTION PRIORITY 3: HELP OPTIMIZE ROAD TRANSPORTATION OPERATIONS IN SUSTAINABLE MULTIMODAL TRANSPORTATION SYSTEMS TO SUPPORT THE COMPETITIVENESS OF THE INDUSTRY

The oversight of road freight transportation is rooted in the Act Respecting Owners, Operators and Drivers of Heavy Vehicles, which relies on the standards in Canada's National Safety Code. In the context of economic deregulation, this has an effect on the competitiveness of the trucking industry, particularly with regard to special permits and standards for loads and sizes. To reinforce and maintain the role of trucking, the MTMDET intends to modernize and harmonize the legislative and regulatory framework with neighbouring administrations to support the efficiency of road transportation in multimodal logistics systems across the continent.

In terms of the environmental footprint of road freight transportation and the reduction of GHG emissions, the MTMDET plans to take advantage of the modernization and harmonization of trucking regulations to simplify business operations and, where appropriate, integrate vehicle configurations or practices that will help reduce GHG emissions. This is the case of loadable axles for unladen journeys, which reduce the rolling force of the vehicles and thereby reduce fuel consumption. The use of equipment and technologies that improve vehicle aerodynamics will also be considered.

To do this, the MTMDET will continue to actively participate in the work of round tables and discussion forums with neighbouring and international administrations, such as the Canadian Council of Motor Transport Administrators (CCMTA) Program Committee on Compliance and Regulatory Affairs, the committee that reports to the deputy ministers responsible for transportation and road safety, and the federal-provincial-territorial working group on policies related to the weight and dimensions of road vehicles. With Canadian provincial administrations, the MTMDET collaborates in particular on efforts to

update Standard 10 on cargo securement. Internationally, it works with organizations and coalitions dedicated to improving transborder transportation, particularly the Eastern Border Transportation Coalition (EBTC).

To support regulatory streamlining and the administrative oversight of the road transportation industry, and to prepare for the advent of autonomous or semi-autonomous heavy vehicles, the MTMDET also considers to be of strategic importance to pursue road freight transportation research and monitoring in North America. It will also, where appropriate, support the initiatives of organizations that work in transportation logistics to improve knowledge and expertise in this field.

Measure 8: Introduce multimodal route planners for passenger and freight transportation

Measure 8 will evaluate the potential and suitability of deploying a multimodal route planning tool for freight, inspired by the Logistics and Transportation Metropolitan Cluster of Montréal model, CargoM.

To improve the fluidity of truck transportation, especially to the Port of Montréal, CargoM developed and launched a technological tool (CargoMobile) for truckers, which allows them to find the most efficient route to a destination in real time. By taking the location of obstructions and bottlenecks on the road network into account, this application for smart phones and tablets makes it easier for freight carriers to choose the time and route of their trips on the road network of Greater Montréal.

Indicator: Achievement rate

Target: 5% by 2023

Budget: \$0.1 million over one year (additional funds)

REFERENCE: See the Measure 7 of the Intelligent Transportation System Intervention Framework.

Measure 9: Set up a socio-economic round table

The MTMDET will set up a socio-economic round table with appropriate stakeholders to broach the industry's economic concerns and issues and to find solutions to those issues – transportation flexibility and just-in-time, cohabitation with other users, workforce, sharing of responsibilities between carriers and shippers, etc.

Indicator: Creation of the table

Target: Table set up by 2019

Measure 10: Update the Act Respecting Owners, Operators and Drivers of Heavy Vehicles

In collaboration with government and industry partners, the MTMDET will update the Act Respecting Owners, Operators and Drivers of Heavy Vehicles to strengthen the competitiveness of the trucking industry.

Indicator: Consultation and status report completed

Target: Guidelines adopted by 2020

Measure 11: Amend the Regulation Respecting Special Permits

To simplify and optimize the administrative processes associated with the application for non-standard transportation, the MTMDET will amend the Regulation Respecting Special Permits.

Indicator: Entry into force of regulatory amendments

Target: Amended regulation and administrative processes in effect by 2019

Measure 12: Assess the possibility of establishing an adapted road corridor reserved for non-standard vehicles

The MTMDDET will set up a working group to analyse and assess the possibility of establishing an adapted road corridor reserved for non-standard vehicles.

Indicator: Completion of the report

Target: Produce an assessment report by 2022

Measure 13: Draw up an up-to-date statistical and economic portrait of the road freight transportation sector

To provide better documentation concerning the road freight transportation sector and its impacts, the MTMDDET will update its statistical and economic portrait by 2021. The purpose of this portrait is to meet a need by establishing a thorough, accurate snapshot of the industry. It will be for the use of government partners, the industry and the public.

Indicator: Portrait completed

Target: Publication of the portrait in 2018

Updated portrait available in 2021

Measure 14: Conduct a study on the movement of heavy vehicles, including the transportation of dangerous goods

The MTMDDET will conduct a national road study on interurban trucking to establish a profile of road freight transportation in Québec, including the transportation of dangerous goods. This study is essential to accurately characterize the movement of freight and how it is changing inside Québec and with its economic partners and to provide a portrait of traffic flows on the infrastructures used. The study will also allow for better decisions concerning network development, interventions related to economic development and safety, and the transportation of dangerous goods, and it will document assessment and environmental impact studies and the potential of intermodality.

Indicator: Feasibility study/origin-destination study completed

Target: Feasibility study and origin-destination study completed by 2021

Budget: \$4.8 million (funds already planned)

Measure 15: Implement the work plan for the ministerial table responsible for the overhaul and modernization of the bulk trucking framework

Indicator: Draft amendment available

Target: Draft amendment for framework available by 2021

Measure 16: Modernize the Vehicle Load and Size Limits Regulation

Road transportation uses the road networks of neighbouring administrations which are also our North American trade partners. To harmonize and reconcile truck transportation measures with those networks, the MTMDET will update the regulation.

Indicator: Regulation amended

Target: Amended regulation in effect by 2019

Measure 17: Review the framework for the movement of agricultural vehicles

To adapt to new realities, the MTMDET will assess the possibility of amending and simplifying the framework for the movement of agricultural vehicles, which is defined in several regulations.

Indicator: Status report completed

Target: Assessment report available by 2019

Measure 18: Update the Special Road Train Operating Permits Regulation

To reflect harmonization with neighbouring administrations, the MTMDET will amend the Special Road Train Operating Permits Regulation.

Indicator: Regulation amended

Target: Amended regulation in effect by 2019

Issue 4: Increasingly limiting shortage of workers

INTERVENTION PRIORITY 4: SUPPORT THE PRESENCE OF ENOUGH QUALIFIED WORKERS IN THE INDUSTRY TO ENSURE THAT TRAINING IS IN LINE WITH THE LEGISLATIVE, REGULATORY AND ROAD TRANSPORTATION ADMINISTRATIVE FRAMEWORK

The shortage of workers and the current retention and recruitment difficulties associated with training and competency development are of increasing concern to the road transportation industry and are already compromising its growth and competitiveness. Although the MTMDET has no means of leverage for intervening directly to help the sector, it is committed to supporting its partners with the transportation workforce.

The MTMDET is also open to collaborating on initiatives to raise public awareness of the importance of the trucking industry in Québec, such as the Semaine du camionnage (Trucking Week). The same goes for solving socio-economic problems that arise in the industry. In the meanwhile, it will provide financial support, based on need and budget availability, for certain recurring activities held by its partners.

Measure 19: Establish a worker shortage support program

With industry partners (Camo-route, Centre de formation en transport de Charlesbourg [CFTC], Centre de formation du transport routier [CFTR]), the MTMDET will set up a financial assistance program to support initiatives that will relieve the worker shortage. A number of issues will be addressed, including the promotion of the road freight transportation industry, public awareness about the strategic and economic importance of the industry to their daily lives, sectoral diagnostics for workers in the transportation and storage sector and related training and competency development needs, financial support for organizations that work in road transportation training, competency development and workforce training, and promotional activities for the occupation of truck driver, such as the annual provincial truck driver championships.

Indicator: Program defined and authorized

Target: Financial assistance program available by 2019

Budget: \$800,000 over five years (additional funds)

Measure 20: Continue to serve on the Board of Directors of Camo-route and the national schools in Saint-Jérôme and Charlesbourg

The MTMDET will continue to support the mission of Camo-route, the CFTC and the CFTR. Camo-route's goals include defining the development needs of the road transportation workforce and supporting competency development, as well as promoting the occupations of freight and passenger transportation. The national schools focus mainly on the training offer for heavy vehicle drivers throughout Québec.

Indicator: Number of meetings

Target: About 16 meetings per year

Issue 5: Environmentally friendly freight transportation

INTERVENTION PRIORITY 5: SUPPORT INNOVATION, PROMOTE GREEN ENERGY INITIATIVES AND FACILITATE ACCESS TO NEW TECHNOLOGIES TO REDUCE THE ENVIRONMENTAL IMPACT OF ROAD FREIGHT TRANSPORTATION AND THE MOVEMENT OF HEAVY VEHICLES

Through its Écocardionnage program, the MTMDET financially supports the industry's efforts to reduce the impact of heavy vehicle GHG emissions. The program includes measures that improve energy efficiency and use alternative forms of energy. It may involve new technologies, the certification or demonstration of new technologies to reduce fuel consumption or the implementation of logistics projects.

In addition to the program, the MTMDET is aware of the need to foster the cooperation of modal players and raise their awareness of the change in certain logistics practices to help reduce GHG among all modes of transportation, especially with regard to multimodal activities in intermodal transfer hubs, to eliminate unladen journeys. In terms of land-use planning, stakeholder cooperation should lead to innovations to support new logistics practices and find solutions to ease the movement of freight.

Measure 21: Implement and manage the Écocamionnage program

Through the Écocamionnage program, the MTMDET will continue to support the industry to foster the use of equipment and technologies that will improve energy efficiency and reduce greenhouse gas emissions in freight transportation.

Indicator: % of annual CO₂ reduction

Target: Reduction of 325,000 tons of CO₂ equivalent by 2020

Budget: \$48.3 million for the period 2017-2020

Measure 22: Establish a program to support the deployment of shared and electric delivery projects

Freight transportation leads to major energy expenditures as well as the emission of significant pollutants and GHG. The constant renewal of inventories and online shopping are creating upward pressure on package deliveries, in urban areas and less dense zones. Increased delivery vehicle traffic compromises people's quality of life, and municipalities are looking for solutions to reduce their impact (noise, congestion, safety). Some cities are restricting delivery services during the day.

Measure 22 will improve the efficiency of freight transportation through improved cooperation among the stakeholders. It will reduce the number of trucks on the streets and roads, optimize vehicle use (loading) and reduce the cost of transportation and the negative impacts on personal health, because urban delivery is responsible for a significant portion of city pollution.

This measure will establish a program for not-for-profit organizations (clusters, sectoral associations, retailer associations, etc.), municipalities and RCM to support collaborative shared and electric delivery projects. The projects submitted on the basis of a call for projects may be for either light or heavy vehicles.

Indicator: Number of projects

Target: 4 projects by 2023

Budget: \$10 million over four years (additional funds)

REFERENCE: See Measure 9 of the New Mobility Intervention Framework.

Issue 6: Longevity and availability of road transportation infrastructures

INTERVENTION PRIORITY 6: SUPPORT THE LONGEVITY OF ROAD TRANSPORTATION INFRASTRUCTURES AND THE DEVELOPMENT OF AN EFFICIENT TRUCKING NETWORK TO SUPPORT ROAD FREIGHT TRANSPORTATION

The longevity of the infrastructures and the availability of road transportation are indispensable for efficient external and internal trade and freight transportation services for the general public. The need to protect the network and maintain the balance between its maintenance costs and its contribution to the economy requires annual investments that will continue to absorb a significant portion of Québec's budget.

Measure 23: Support the maintenance of an efficient trucking network for road freight transportation

Through its annual road network maintenance and development program, the MTMDET protects the longevity of Québec's road transportation infrastructures and supports the development of an efficient trucking network to provide road freight transportation, particularly for the strategic transportation network that supports external trade (RSSCE) and access to multimodal logistics activities.

Indicator: Proportion of RSSCE roadways in good condition, based on the International Roughness Index

Target: 87.8% annually to 2020

SUMMARY TABLE

Road Freight Transportation Intervention Framework	Indicator	Target	Contribution to aspects of the Sustainable Mobility Policy					
			SMP aspect 1	SMP aspect 2	SMP aspect 3	SMP aspect 4	SMP aspect 5	Winning conditions
Issues, Intervention Priorities and Measures								
ISSUE 1: Free flow of freight in the urban environment								
Intervention priority 1: Reduce the impacts and constraints of truck traffic in the urban environment								
Measure 1: Update the policy on heavy vehicle traffic on the municipal road network (MTMDET)	Policy adopted	Policy in effect by 2020		X				
ISSUE 2: Safety of heavy vehicles and road sharing								
Intervention priority 2: Document the legislative and regulatory safety rules for heavy vehicles to inform stakeholders and raise awareness of the need to reduce the accident rate and improve the safety record in order to meet the challenges of road sharing								
Measure 2: Produce a communications plan and release it to inform municipalities about TDG oversight and the related actions taken by the MTMDET (MTMDET)	Communications plan produced and released	Communications plan released by 2019						X
Measure 3: Raise industry awareness of the obligations and best practices related to the road safety of heavy vehicles (MTMDET)	Number of annual activities and number of documents published or updated	Information and awareness documents published and updated annually until 2023						X
Measure 4: Draw up a portrait of fatal accidents involving heavy vehicles (MTMDET)	Analysis report completed	Analysis report of causes of fatal accidents involving heavy vehicles in 2014-2017 available in 2022					X	
Measure 5: Develop an action plan on accidents involving heavy vehicles (MTMDET)	Submission of action plan and recommendations	Action plan and recommendations submitted by 2020					X	

Road Freight Transportation Intervention Framework Issues, Intervention Priorities and Measures	Indicator	Target	Contribution to aspects of the Sustainable Mobility Policy					
			SMP aspect 1	SMP aspect 2	SMP aspect 3	SMP aspect 4	SMP aspect 5	Winning conditions
Measure 6: Hold an awareness campaign on road noise (MTMDET)	First awareness campaign completed Second awareness campaign designed	Awareness campaign completed in 2018 / Proposal for second awareness phase in 2019						X
Measure 7: Implement the solution proposed by the study on the visibility of heavy vehicle drivers (MTMDET)	Publication of a best practices guide	Creation and release of a best practices guide for the installation and use of rear-view mirrors by 2019					X	
ISSUE 3: The competitiveness of the Québec trucking industry in relation to other complementary modes and more efficient logistics chains								
Intervention priority 3: Help optimize road transportation operations in multimodal sustainable transportation systems to support the competitiveness of the industry								
Measure 8: Introduce multimodal route planners for passenger and freight transportation (Intelligent Transportation System framework)	Achievement rate	100%					X	
Measure 9: Set up a socio-economic round table (MTMDET)	Creation of the table	Table set up by 2019						X
Measure 10: Update the Act Respecting Owners, Operators and Drivers of Heavy Vehicles (MTMDET)	Consultation and status report completed	Guidelines adopted by 2020		X				
Measure 11: Amend the Regulation Respecting Special Permits (MTMDET)	Entry into force of regulatory amendments	Amended regulation and administrative processes in effect by 2019		X				
Measure 12: Assess the possibility of establishing an adapted road corridor reserved for non-standard vehicles (MTMDET)	Completion of the report	Produce an assessment report by 2022			X			

Road Freight Transportation Intervention Framework Issues, Intervention Priorities and Measures	Indicator	Target	Contribution to aspects of the Sustainable Mobility Policy					
			SMP aspect 1	SMP aspect 2	SMP aspect 3	SMP aspect 4	SMP aspect 5	Winning conditions
Measure 13: Draw up an up-to-date statistical and economic portrait of the road freight transportation sector (MTMDET)	Portrait completed	Publication of the portrait in 2018					X	
Measure 14: Conduct a study on the movement of heavy vehicles, including the transportation of dangerous goods (MTMDET)	Feasibility study/origin-destination study completed	Feasibility study and origin-destination study completed by 2021					X	
Measure 15: Implement the work plan for the ministerial table responsible for the overhaul and modernization of the bulk trucking framework (MTMDET)	Draft amendment available	Draft amendment for framework available by 2021		X				
Measure 16: Modernize the Vehicle Load and Size Limits Regulation (MTMDET)	Regulation amended	Amended regulation in effect by 2019		X				
Measure 17: Review the framework for the movement of agricultural vehicles (MTMDET)	Status report completed	Assessment report available by 2019		X				
Measure 18: Update the Special Road Train Operating Permits Regulation (MTMDET)	Regulation amended	Amended regulation in effect by 2019		X				
ISSUE 4: Increasingly limiting shortage of workers								
Intervention priority 4: Support the presence of enough qualified workers in the industry to ensure that training is in line with the legislative, regulatory and road transportation administrative framework								
Measure 19: Establish a worker shortage support program (MTMDET)	Program defined and authorized	Financial assistance program available by 2019		X				

Road Freight Transportation Intervention Framework Issues, Intervention Priorities and Measures	Indicator	Target	Contribution to aspects of the Sustainable Mobility Policy					
			SMP aspect 1	SMP aspect 2	SMP aspect 3	SMP aspect 4	SMP aspect 5	Winning conditions
Measure 20: Continue to serve on the Board of Directors of Camo-route and the national schools in Saint-Jérôme and Charlesbourg (MTMDET)	Number of meetings	About 16 meetings per year		X				
ISSUE 5: Environmentally friendly freight transportation								
Intervention priority 5: Support innovation, promote green energy initiatives and facilitate access to new technologies to reduce the environmental impact of road freight transportation and the movement of heavy vehicles								
Measure 21: Implement and manage the Écocamionnage program (MTMDET)	% of annual CO ₂ reduction	Reduction of 325,000 tons of CO ₂ equivalent by 2020				X		
Measure 22: Establish a program to support the deployment of shared and electric delivery projects (MTMDET) (New Mobility Intervention Framework)	Number of projects	4 projects by 2023		X				
ISSUE 6: Longevity and availability of road transportation infrastructures								
Intervention priority 6: Support the longevity of road transportation infrastructures and the development of an efficient trucking network to support road freight transportation								
Measure 23: Support the maintenance of an efficient trucking network for road freight transportation (MTMDET)	Proportion of RSSCE surfaces in good condition, based on the International Roughness Index	87.8% annually to 2020			X			