

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

APPROVED
Head of the Department

Grygorak M.Yu.
(signature, surname and name)
«05» June 2020

BACHELOR THESIS

(EXPLANATORY NOTES)
OF GRADUATE OF ACADEMIC DEGREE
«BACHELOR»

THEME: «Organization of road transport in terms of global crisis»

Speciality 073 «Management»

Educational and Professional Program «Logistics»

Done by Ihnatova Anastasiia O.

(surname and name)

(signature, date)

Supervisor Pozniak O.V.

(surname and name)

(signature, date)

Standards Inspector Kaban N.D.

(surname and name)

(signature, date)

Kyiv 2020

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ
Факультет транспорту, менеджменту і логістики
Кафедра логістики

ЗАТВЕРДЖУЮ
Завідувач кафедри логістики
Григорак М.Ю.
(підпис, П.І.Б)
«05» червня 2020 р.

ДИПЛОМНА РОБОТА

(ПОЯСНЮВАЛЬНА ЗАПИСКА)

ВИПУСКНИКА ОСВІТНЬОГО СТУПЕНЯ

«БАКАЛАВР»

ТЕМА: «Організація автомобільних перевезень в умовах глобальної кризи»

зі спеціальності 073 «Менеджмент»
(шифр і назва)
освітньо-професійна програма «Логістика»
(шифр і назва)

Виконавець: Ігнатова Анастасія Олександрівна
(прізвище, ім'я та по батькові) (підпис, дата)

Науковий керівник: Позняк О.В.
(прізвище та ініціали) (підпис, дата)

Нормоконтролер: Кабан Н.Д.
(прізвище та ініціали) (підпис, дата)

Київ 2020

NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

Academic degree Bachelor

Speciality 073 «Management»

Educational and Professional Program «Logistics»

APPROVED
Head of the Department

Grygorak M.Yu.
(signature, surname and
name)

«25» May 2020

TASK

FOR COMPLETION THE BACHELOR THESIS OF STUDENT

Ihnatova Anastasiia.

(surname and name)

1. Theme of the master thesis: «Organization of client-oriented service of cleaning company» was approved by the Rector Directive №553/ср. of May 04, 2020.
2. Term performance of thesis: from May 25, 2020 to June 21, 2020.
3. Date of submission work to graduation department: June 05, 2020.
4. Initial data required for writing the thesis: general and statistical information “Precise transportation company”, production and financial indicators of the “Precise transportation company”, literary sources on transportation, Internet source.
5. Content of the explanatory notes: introduction; organization of road transport in the global crisis; analysis of the American road transport market; general characteristics of the “Precise Transportation” company; detection of "gaps" in the activity of the transportation company in global crisis conditions; operational diagnostics of the financial and economic state of the Precise transportation company; justification of changes in the organization of road transport in the context of the global crisis; development the set of measures for managing gaps in the transport company in coronavirus conditions; conclusions.
6. List of obligatory graphic matters: tables, charts, graphs, diagrams illustrating the current state of problems and methods of their solution.

7. Calendar schedule:

№	Assignment	Deadline for completion	Mark on completion
1	2	3	4
1.	Study and analysis of scientific articles, literary sources, normative legal documents, preparation of the first version of the introduction and the theoretical chapter	25.05.20-27.05.20	Done
2.	Collection of statistical data, timing, detection of weaknesses, preparation of the first version of the analytical chapter	28.05.20-29.05.20	Done
3.	Development of project proposals and their organizational and economic substantiation, preparation of the first version of the project chapter and conclusions	30.05.20-01.06.20	Done
4.	Editing the first versions and preparing the final version of the master thesis, checking by standards inspector	02.06.20-03.06.20	Done
5.	Approval for a work with supervisor, getting of the report of the supervisor, getting internal and external reviews, transcript of academic record	04.06.20	Done
6.	Submission work to Logistics Department	05.06.20	Done

Student _____
(signature)

Supervisor of the master thesis _____
(signature)

8. Consultants of difference chapters of work:

Chapter	Consultant (position, surname and name)	Date, signature	
		The task was given	The task was accepted
Chapter 1	Associate Professor, Pozniak O.V.	25.05.20	25.05.20
Chapter 2	Associate Professor, Pozniak O.V.	28.05.20	28.05.20
Chapter 3	Associate Professor, Pozniak O.V.	30.05.20	30.05.20

9. Given date of the task May 25, 2020.

Supervisor of the master thesis: _____
(signature of supervisor)

Pozniak O.V.
(surname and name)

Task accepted for completion: _____
(signature of graduate)

Ihnatova Anastasiia O.
(surname and name)

ABSTRACT

The explanatory notes to the bachelor thesis «Organization of road transport in terms of global crisis» comprises of 74 pages, 29 figures, 15 tables, 51 references and 2 appendixes.

KEY WORDS: “DOOR TO DOOR” DELIVERY, FULL TRUCKLOAD, EXPEDITE TRACKING, QUOTING, RATE AGREEMENT, INVOICING, BIT

The purpose of the research is to study the theoretical foundations and develop practical recommendations for the transport company that performs in terms of global crisis.

The object of the study of the thesis is the activities of the transport company in terms of global crisis.

The subject of this thesis is the principles, methods, and tools of management of the transport company in terms of global crisis.

Methods of research are system approach, generalization, economic - statistical analysis, graphic modeling, forecast methods.

The thesis consists of three chapters, introduction and conclusions, and recommendations.

Materials of the thesis are recommended for use during scientific research, in the educational process and in the practical work of specialists of logistics departments.

CONTENTS

NOTATION	7
INTRODUCTION	8
CHARTER 1. THEORETICAL FOUNDATIONS OF THE ORGANIZATION OF ROAD TRANSPORT IN THE GLOBAL CRISIS....	10
1.1 Organization of road transport in the global crisis	10
1.2 Analysis of the American road transport market	16
1.3 Chapter 1 summary.....	24
CHARTER 2. ANALYSIS OF ROAD TRANSPORT IN A GLOBAL CRISIS	26
2.1 General characteristics of the “Precise Transportation” company.....	26
2.2 Detection of "gaps" in the activity of the transportation company in global crisis conditions.....	34
2.3 Operational diagnostics of the financial and economic state of the Precise transportation company	38
2.4 Chapter 2 summary	46
CHAPTER 3. PROJECT PROPOSALS FOR THE ORGANIZATION OF ROAD TRANSPORT IN GLOBAL CRISIS CONDITIONS.....	47
3.1 Justification of changes in the organization of road transport in the context of the global crisis	47
3.2 Development the set of measures for managing gaps in the transport company in coronavirus conditions.....	54
3.3 Forecast of the transport company` activities in coronavirus conditions.....	59
3.4 Chapter 3 summary	66
CONCLUSIONS AND RECOMMENDATIONS	67
REFERENCES	69
APPENDIXES.....	75

NOTATION

- RA - Rate Agreement
- FTL - Full Truckload
- LTT - Less Than Truckload
- BC - Border Crossing

INTRODUCTION

It is obvious that at the moment the main problems of the industry due to the pandemic are associated with serious delays in the supply and damage of goods with special properties (for example, perishable). Also, do not forget that a lot of people have traditionally been involved in the transportation of goods, from the preparation of the cargo, its packaging and loading, and ending with paperwork and escort. Paperwork for goods is an integral part of the work of forwarders, carriers, line agents, warehouse complexes and terminals, customs authorities and even banks, and despite the widespread introduction of digital technologies and the use of modern data exchange systems, many transportation stages are still connected with paper work that is done exclusively by people. In connection with the introduction of strict quarantine measures, many enterprises temporarily close offices, transfer their employees to remote work, changing the usual business processes for all, which can be the cause of various kinds of errors when transferring data along the supply chain and processing transport documents for goods.

It is also obvious that any reduction in the volume of goods produced and delays in their dispatch have a strong impact on the income of cargo owners. In this regard, there is a risk that customers will require forwarders to urgently (including without proper execution of the relevant documents and amendments to the contract) organize alternative delivery options that may be more expensive or less reliable than traditional ones, for example, deliver goods by constantly growing prices amid the crisis by air transport or use them to deliver small and little-known contractors with all the risks involved.

Many companies not only temporarily closed their offices, but also significantly limited foreign business trips of employees, which may lead to insufficient control over the security of transactions and a decrease in the quality of customer service. It should be noted that in these circumstances, the role of videoconferencing is significantly

increasing, which allows you to gather all interested parties in the supply chain and quickly discuss the necessary actions for each of the parties to the process.

In a pandemic, trucking begins to play a key role in immediate mitigation of the pandemic, as well as in the future recovery of the country's economy. The supply of basic necessities, medical goods and equipment, as well as food will depend on how efficient and high-quality the work of road carriers and the state of infrastructure will be.

As the epidemic declines, trucking will bear the brunt of restoring trade, construction, and healthcare. At the same time, it is quite obvious that against the background of the general economic recession, which is forecasted for the next 2-3 years, the industry will face serious changes. This determined the relevance of the research topic.

The purpose of the research is to study the theoretical foundations and develop practical recommendations for the transport company that performs in terms of global crisis.

The object of the study of the thesis is the activities of the transport company in terms of global crisis.

The subject of this thesis is the principles, methods, and tools of management of the transport company in terms of global crisis.

Methods of research are system approach, generalization, economic - statistical analysis, graphic modeling, forecast methods.

The thesis consists of three chapters, introduction and conclusions, and recommendations.

CHARTER 1

THEORETICAL FOUNDATIONS OF THE ORGANIZATION OF ROAD TRANSPORT IN THE GLOBAL CRISIS

1.1 Organization of road transport in the global crisis

In accordance with modern conditions of world development economy and its globalization, more and more attention is paid for the transport support of foreign trade, a large role in which is performed by freight forwarding and carriers companies. They perform an important function of ensuring the delivery of goods to the consumer within an efficient logistics chain.

Given the world experience, it is safe to say that in the freight forwarding service for the consumer plays an important role not only cost but and largely the quality of services.

Based on modern economic conditions in the scientific literature, the issues of quality and characteristics of the transportation market in countries with more developed economic systems are receiving more and more attention.

To achieve a high level of competitiveness among other companies providing freight forwarding services, it is necessary to ensure uninterrupted delivery of goods with minimal effort of the sender (customer). This requires a high level of training of specialists organizing feasibility studies and rational organization of the service delivery process.

Proper distribution of tasks and responsibilities among the company's employees and a well-established system of coordination and exchange of information between delivery participants increases the efficiency and quality of its implementation.

Transportation is a key integrated activity associated with the movement of material resources, work-in-progress or finished goods by a certain transport vehicle in the logistics chain, which in turn consists of complex and elementary activities,

including forwarding, cargo handling, packaging, transfer of ownership rights on cargo, insurance, etc.

Auto Transportation, also known as vehicle shipping or car shipping, is a service that aids people in moving their vehicles from one location to another on a truck designed to transport vehicles by auto transport companies.

A large number of entities can be involved in road transport, which in the future will affect the nature of the relationship and transportation.

So the subjects of road transport are presented in Figure 1.1.

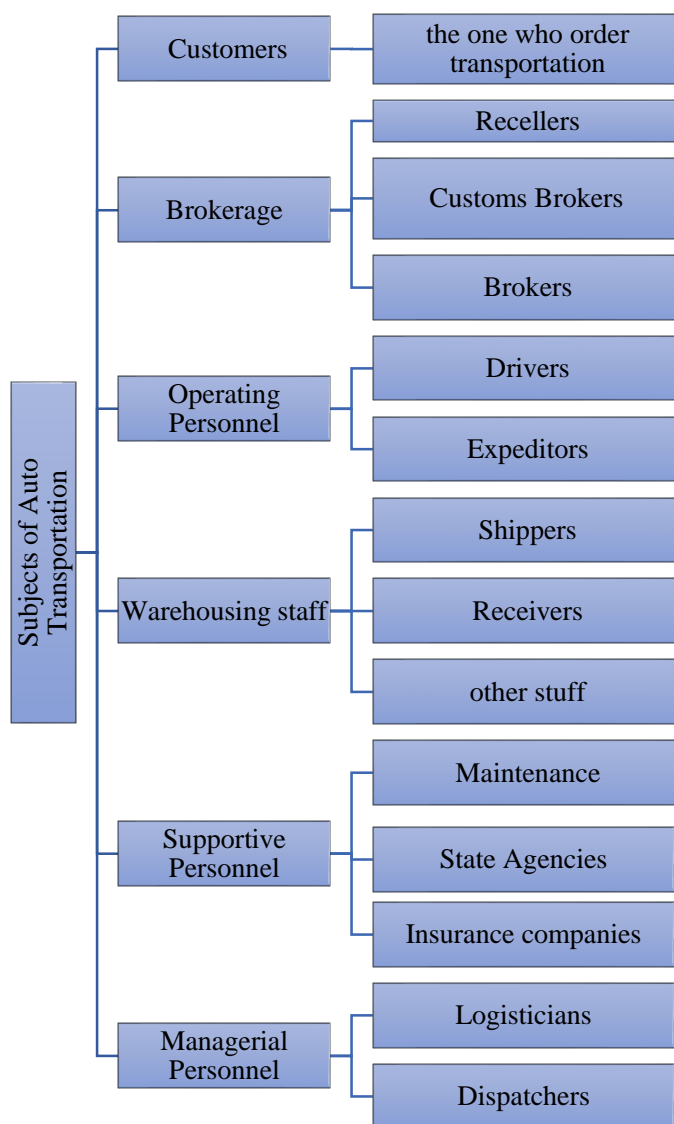


Figure 1.1 - Subjects of Auto Transportation

The procedure of transport service is a rather complex technological process. Management of this process is characterized by the presence of a large number of alternatives at different stages of decision-making. The cost of error in decision-making is often high, which can be explained by high rates of downtime of vehicles, the possibility of damage or loss of cargo and reduction, or even lack of income of carriers.

The optimal model of organization of transport activities enterprise is based on the following ways to increase the efficiency of the enterprise: the use of a scientific approach in the practice of organizing the transportation process, optimal forecasting of the delivery system, the development of integration technologies in the organization of mixed transportation. The correctly constructed model of the organization of work of the transport enterprise allows to provide the maximum level of coordination of actions of all participants of transport process.

In the conditions of market relations, the economic and qualitative indicators of process of delivery of production from the supplier to the consumer which are connected not only with maintenance of preservation and performance of terms come to the fore.

Delivery of goods, but also with conveniences for customers that allow them to deliver products with minimal loss of time and effort. Work to improve the process of delivery of products from supplier to consumer should be aimed at reducing transport costs and ensuring maximum customer satisfaction. The quality of service is one of the most important means of competition, gaining and maintaining market position.

Multimodal transportation - transportation of goods under one contract but performed by at least two modes of transport; the carrier is responsible for all transportation, even if this transportation is performed by different modes of transport.

Different types of multimodal transportation are represented at the Figure 1.2

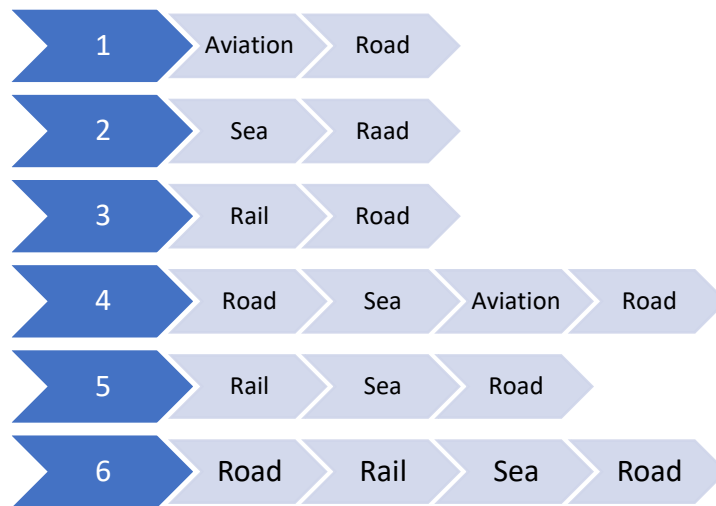


Figure 1.2 – Types of Multimodal Transportation

As can be seen in figure 1.2 trucking play a leading role. This is the only mode of transport that allows “door to door” delivery. Therefore, regardless of the type of transport that plays a key role in transportation - road transport is always needed.

Road transport occupies a significant place in passenger and freight transportation. The total length of paved roads and streets, including the length of waterfront streets in cities and towns, exceeds 6,683,316 km. Numerous trucking companies have a well-equipped production base and an extensive network of infrastructure facilities: bus stations, freight forwarding companies, terminals.

Road transportation has a lot of cons and pros (table 1.1).

Table 1.1 – Advantages and disadvantages of road transport

Advantages	Disadvantages
1	2
High maneuverability and mobility (door to door delivery with the necessary level of urgency)	Low productivity of road transport.
High flexibility, dynamism of motor transport.	Dependence of road transport on weather and road conditions.
The possibility of using different routes and delivery schemes by road	Relatively high cost of transportation by road

Continuation table 1.1

1	2
Road transport has the least stringent requirements for the packaging of goods	A large number of noise of domestic cars.
Extensive choice of the most suitable carrier.	Possible theft of cargo and theft of vehicles.
Road transport has the least stringent requirements for the packaging of goods Road transport ensures regular delivery.	Relatively low load capacity of road transport.
Ability to send cargo in small batches	Urgency of unloading (high cost of downtime)
Small capital investments in the development of small cargo turnover for short distances	A large number of environmentally harmful emissions and non-environmentally friendly transport
Local, over border, long or short haul deliveries even in rural areas	

At the same time, American highways meet standards in many respects, including speed, axle load, safety modern road signs and markings, the required number of points of technical and medical care, food and recreation, refueling, telephone and others.

For short-distance transportation, the most convenient is road transport, which has excellent maneuverability and the ability to deliver in a short period of time.

A large selection of modern cars of different capacities allows you to consistently deliver both small and heavy and oversized cargo.

Almost all manufacturers and sellers of goods prefer to use the services of trucking companies, ordering transportation of goods on specialized sites.

Almost all manufacturers and sellers of goods prefer to use the services of trucking companies, ordering transportation of goods on specialized sites.

And there are good reasons for this. The most important thing is the ability to quickly find a carrier car for every taste: to transport a large consignment of goods before moving to a new house or new apartment.

1. Possibility of door-to-door delivery. Truckers provide the opportunity to deliver the goods to any address and directly to the customer's door.

2. Fast delivery. Here everything is obvious: the car can approach any place, unlike the plane for which landing there are only special platforms. Therefore, the efficiency of transportation by road is not in doubt.

3. You can change the route in the process of transportation - this is another advantage of transportation by car compared to transportation by rail or air.

4. It is not necessary to use several types of transport, because transportation is carried out continuously, which guarantees the safety of things, as well as saving time and money.

5. It is possible to send groupage cargoes. To save on shipping, it is possible to combine several not very large loads into one. As for unloading, it can take place in stages and along the entire trajectory of the car.

6. Fast transportation order. Unlike the organization of transportation by rail, for trucking you do not need to approve the route. You just need to find a driver and choose the most suitable car, or a company that will take over.

7. Large selection of types of cars for transportation. Cars differ in capacity of passengers, loading capacity depending on purpose. Simply choose a car in which you can best place your cargo by volume and type. This significantly reduces transportation costs.

Road transport is a branch of material production, which carries out the transportation of goods on highways. Road transport does not actually produce material values.

It participates in the production process:

- carrying out delivery of raw materials and accessories necessary for production of certain types of production.

- delivering finished products to consumers.

Transport costs include the cost of finished goods or products. In some industries, this value can reach 30%. Transport is the most important part of the market infrastructure.

There are about 600 million mobile vehicles in the world. Most of them: 86% cars; 13% freight; 1% passenger buses.

Experts predict a decrease in the relative share of vehicles in developed countries due to an increase in its number in Russia, Ukraine, China, Brazil and India. Experts predict an annual increase of 1.5-2% in the number of trucks in countries by 2022. The world's annual increase in the length of roads can be compared with the growth in the number of vehicles.

Countries with developed industries maintain a leading position in the quality of roads. New roads are being built in developing countries, but the pace of construction is not high enough.

The share of road transport in the total freight traffic Road transport in most countries is developing faster than other types (rail, air -, sea) and is the main for the movement of goods within the country and abroad. 75% of cargo in developed countries is transported by road.

1.2 Analysis of the American road transport market

The logistics and transportation industry in the United States is highly competitive. By investing in this sector, multinational firms position themselves to better facilitate the flow of goods throughout the world's largest consumer market. International and domestic companies in this industry benefit from a highly skilled workforce and relatively low costs. United States Business Logistics Costs reached \$1.6 trillion in 2019 (9 percent of GDP that year). In 2019, foreign direct investment in the industry totaled \$1.5 billion.

In the USA, a large share (62-66%) of freight traffic is performed by trucking companies. For small countries, domestic road transport is very profitable. The number of goods moved with the involvement of innovative technologies far exceeds the rates of transportation organized without the introduction of modern methods.

Analysts expect investment to correlate with sector-specific growth in the U.S. economy. America's highly integrated supply chain network links producers and

consumers through multiple transportation modes, including air and express delivery services, freight rail, maritime transport, and truck transport. To serve customers efficiently, multinational and domestic firms provide tailored logistics and transportation solutions to ensure coordinated goods movement from origin to end user through each supply chain network segment.

Freight transportation is carried by a variety of networks. The largest percentage of US freight is carried by trucks (60%), followed by pipelines (18%), rail (10%), ship (8%), and air (0.01%). Other modes of transportation, such as parcels and intermodal freight accounted for about 1% of the remainder (table 1.2). Air freight is commonly used only for perishables and premium express shipments.

Table 1.2 – Percentage of freight carried by different modes of transport in USA

Mode of Freight Shipment	Ton miles (in billions)	Percent of Total
Truck	3,267	60.24%
Rail	549	10.13%
Water	405	7.47%
Air & Air/Truck	11	0.19%
Pipeline	950	17.53%
Multiple modes	186	3.43%
Other & Unknown	54	1.01%
Total	5,422	100%

The system, as of 2019, has a total length of 6,683,316 km making it the world's second longest after China's, and the largest public works project in US history.

The Interstate system joined an existing National Highway System (a designation created for the legacy highway network in 1995), comprising 160,000 miles (256,000 kilometers) of roadway, a fraction of the total mileage of roads (see fig.1.3).

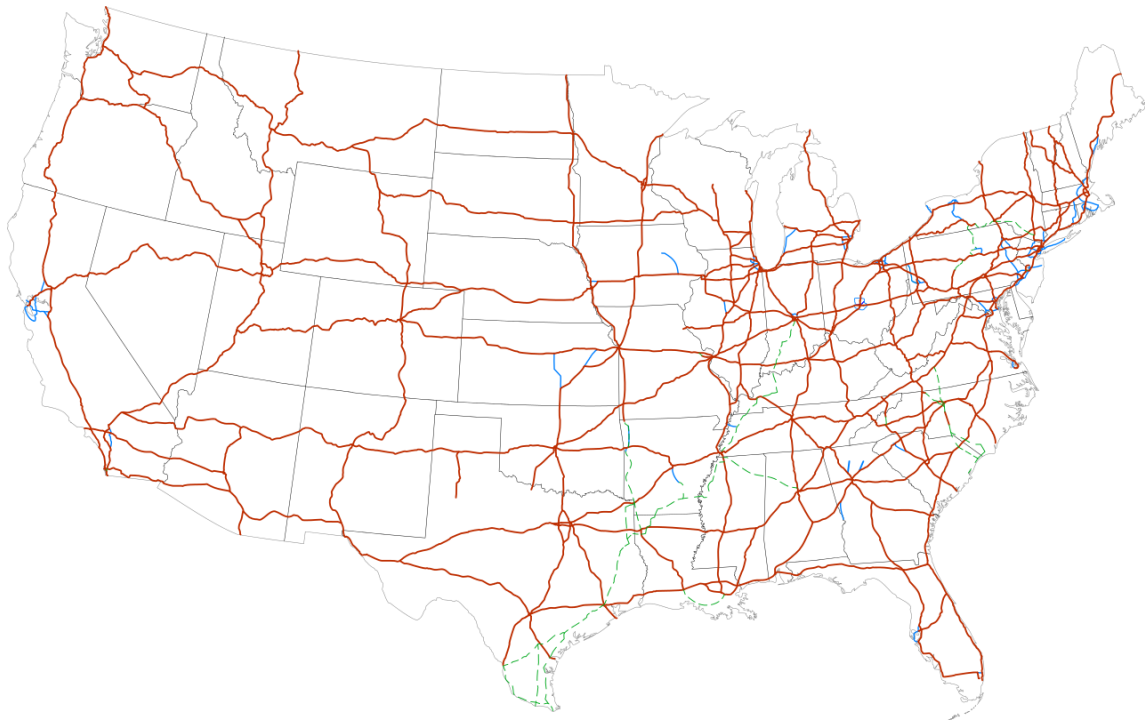


Figure 1.3 - The Interstate highway system is the largest national controlled-access highway network in the world

In addition to the routes of the Interstate system, there are those of the U.S. highway system, not to be confused with the above-mentioned National Highway System. These networks are further supplemented by State Highways, and the local roads of counties, municipal streets, and federal agencies, such as the Bureau of Indian Affairs. The five inhabited U.S. territories also have their own road networks. There are approximately 4,071,000 miles (6,552,000 km) of roads in the United States, 2,678,000 miles (4,310,000 km) paved and 1,394,000 miles (2,243,000 km) unpaved. State highways are constructed by each state, but frequently maintained by county governments aided by funding from the state, where such counties exist as governing entities (mostly every state except the Northeastern).

The American freight forwarding market is growing rapidly, and a large number of new carriers' companies are emerging whose services do not always meet all defined standards. The reason for this is finding the so-called "own" client.

The trucking industry (also referred to as the transportation or logistics industry) involves the transport and distribution of commercial and industrial goods using

commercial motor vehicles (CMV). In this case, CMVs are most often trucks; usually semi trucks, box trucks, or dump trucks. A truck driver (commonly referred to as a "trucker") is a person who earns a living as the driver of a CMV.

The trucking industry provides an essential service to the American economy by transporting large quantities of raw materials, works in process, and finished goods over land—typically from manufacturing plants to retail distribution centers. Trucks are also important to the construction industry, as dump trucks and portable concrete mixers are necessary to move the large amounts of rocks, dirt, concrete, and other construction material. Trucks in America are responsible for the majority of freight movement over land, and are vital tools in the manufacturing, transportation, and warehousing industries.

Large trucks and buses require a commercial driver's license (CDL) to operate. Obtaining a CDL requires extra education and training dealing with the special knowledge requirements and handling characteristics of such a large vehicle. Drivers of CMVs must adhere to the hours of service, which are regulations governing the driving hours of commercial drivers. These, and all other rules regarding the safety of interstate commercial driving, are issued by the Federal Motor Carrier Safety Administration (FMCSA). The FMCSA is also a division of the United States Department of Transportation (USDOT), which governs all transportation-related industries such as trucking, shipping, railroads, and airlines. Some other issues are handled by another branch of the USDOT, the Federal Highway Administration (FHWA).

Developments in technology, such as computers, satellite communication, and the internet, have contributed to many improvements within the industry. These developments have increased the productivity of company operations, saved the time and effort of drivers, and provided new, more accessible forms of entertainment to men and women who often spend long periods of time away from home. In 2006, the U.S. Environmental Protection Agency implemented revised emission standards for diesel trucks (reducing airborne pollutants emitted by diesel engines) which promises to improve air quality and public health.

As of May 2018, over 90.0% of companies in the United States long-distance freight trucking industry are owner-operators. Therefore, even the top corporate operators only hold a small share of the total market. According to the industry market research firm IBISWorld, J.B. Hunt Transport Services holds an estimated 2.5% market share, CH Robinson holds 1.8%, FedEx holds 1.6%, United Parcel Service of America owns 1.5%, and Con-way holds 1.4% (table 1.3)

Table 1.3 - Top 10 trucking companies by revenue in 2018

Parent company	Primary service	Public/ Private	Revenue (millions) -2018
UPS Freight	Parcel	Public	\$29,829
FedEx Freight	Parcel	Public	\$19,827
J.B. Hunt	FCL	Public	\$6,188
CH Robinson	FCL FTL LTL	Public	\$4,832
Swift Transportation	FCL & FTL	Public	\$4,229
Hub Group	FCL	Public	\$3,526
Schneider National	FCL & FTL	Private	\$3,423
Landstar System	FTL	Public	\$3,364
XPO Logistics	FCL & LTL	Public	\$3,273
Old Dominion Freight Line	LTL	Public	\$2,788

The trucking industry refers to the use of road transportation, such as semi-trailers and light trucks, to move goods across overland routes. Most commonly goods are transported from manufacturing plants to retail distribution centers, but there are other common uses such as the transportation of building materials and waste in the construction industry. Trucking is responsible for most of the overland freight movement in the United States, with the market being worth 796.7 billion U.S. dollars in 2018. At that time, there were over 928,000 truck drivers employed in the U.S., which is less than the industry requires. Owing to this driver shortage, driver costs are the biggest challenge faced by the industry.

Broadly speaking, the U.S. trucking industry can be divided into three main sectors: full truckload (FTL), less-than-truckload (LTL), and couriers. FTL carriers are those who haul large amounts of homogenous cargo, generally enough to fill an entire

semi-trailer or container. Fleets in the FTL sector can be either privately owned, for example by a large manufacturer who needs to distribute their goods, or available on a for-hire basis. For-hire carriers generally offer additional logistics and transportation services, such as intermodal transport options. The largest U.S. FTL carrier is J.B. Hunt, who in 2018 reported a total operating revenue across all operating segments of over eight billion U.S. dollars. Other prominent FTL carriers are Schneider National and Knight-Swift, who reported over 4.5 billion U.S. dollars and five billion U.S. dollars in revenue for 2018 respectively.

Conversely, LTL carriers transport shipments that are larger than parcels, but not large enough to fill a full trailer. Many LTL carriers will transport multiple shipments simultaneously to optimize their operations. The largest LTL carrier is FedEx Freight, who in 2018 reported 7.3 billion U.S. dollars in revenue from LTL shipments. Following FedEx, the next largest carriers are Old Dominion, XPO Logistics and YRC Freight, all of which generated somewhere between three and four billion U.S. dollars in revenue in that year from LTL shipments.

Finally, the courier sector is comprised of carriers of non-palletized and light goods, such parcels. Three main companies dominate this sector in the United States: the U.S. Postal Service, FedEx and UPS. Revenues in this sector appear higher than for FLT and LTL: FedEx Express reported just over 29 billion U.S. dollars in revenue from package delivery for their 2019 fiscal year, while UPS reported close to 43.6 billion U.S. dollars in revenue from domestic package delivery in 2018. However, not all this revenue can be directly attributed to the courier sector of the trucking industry.

Sector of trucking remains a very important job. An overwhelming amount of statistics show that trucking may be the leading indicator of the country's economic health. If trucks are moving more freight, that means Americans are more productive and earning more money.

Below are reasons explaining why trucking is America's number one of promising industries today.

1. Truckers are Everywhere. Despite a much-publicized shortage of qualified drivers, truck driving remains one of the fastest-growing occupations in the United

States. There are more than 1.7 million heavy-duty and tractor-trailer truck driving jobs today, according to the U.S. Bureau of Labor Statistics. Overall, a total of 7.4 million Americans has jobs tied to the trucking industry. A recent study by National Public Radio found that “trucker driver” was the most dominant job in 29 U.S. states, including California and Texas (see fig.1.4).

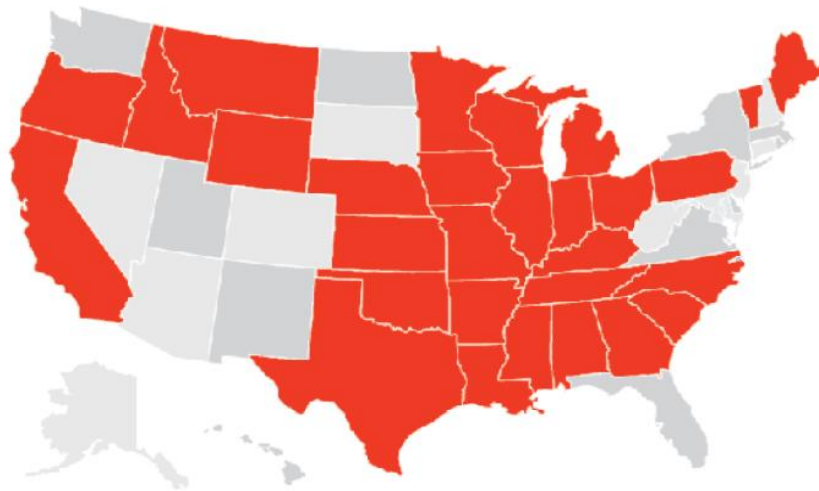


Figure 1.4 – States where Trucking is the Most Common Job

2. Trucks Move Everything. Rail and intermodal transportation have been growing in recent years. However, commercial trucks still move the lion’s share of goods and materials. These statistics from the American Trucking Associations’ 2019 Trends report illustrate the industry’s dominance (see fig.1.5).

Total Class 8 Trucks	3.68 million
Total Revenue	\$676.2 billion
Freight Moved	10.42 billion tons
Percentage of All Freight	70.6%
Percentage of All Freight Sales	79.8%
State and Federal Highway Taxes	\$41.3 billion

Figure 1.5 - Trucking Statistics for 2018

3. The Industry Continues to Grow. Over time, trucking's percentage of the overall freight market is projected to decline slightly. However, industry groups project steady overall growth for the industry. Below are projections for the next 11 years from the American Trucking Associations (ATA) (see fig.1.6).

For 2017	2.8%
For 2018-2023	3.4%
For 2024-2028	2.3%
Total growth, today-2028	36.6%

Figure 1.6 – Trucking Freight Volume Growth

4. Driving Isn't Automated. At a time when many American blue-collar jobs in have been in decline, the number of truck driving jobs has grown. That is because trucking has been immune to two of the biggest forces affecting the U.S. workforce today—automation and offshoring. Driving a truck over the Interstate cannot be outsourced to India or China. Likewise, robots have not learned how to drive and park a rig. That latter fact may not always remain true, as truck manufacturers are attempting to develop trucks with self-driving technologies.

5. Trucking Drives the Economy. Many economists look to trucking as a key bell weather of the United States' overall economic health. When more trucks are moving and freight rates are rising, that means consumers are spending more, and retailers and manufacturers are adding to their inventories. It's no coincidence that, at a time when consumer confidence and overall employment are at the highest levels in nearly 17 years, the trucking industry is also seeing growth in shipping demand.

6. Trucking is Small Business. Is the American dream dead? Not with trucking, apparently. Owning and operating a single truck or a small fleet remains the most frequent route to business ownership. In fact, trucking is an industry made up of small businesses, with 91% of motor carriers operating six or fewer trucks. Over 97% of trucking companies today have fewer than 20 power units. According to the Federal

Motor Carrier Safety Administration (FMCSA) there were 493,730 trucking companies operating in the United States in 2016. That number is down slightly from a few years ago, but the fact remains: many of America's small business owners are truckers.

7. Trucking Remains a Solid Career Path. When compared with U.S. household median income, driving a truck remains a good way to make a living. According to the National Transportation Institute (NTI), for-hire drivers earn an average annual income of \$54,000, while private fleet drivers make well over \$70,000, on average. Median income for all U.S. households was \$56,516 in 2016, according to U.S. Census numbers. Trucking remains a solid, middle-class living, but there is concern about the industry's wage growth and ability to recruit younger workers. According to the NTI, driver compensation has risen only 6.3% over the past five years. By comparison, the minimum wage has increased 45.2% over the same period of time.

In the context of the global crisis caused by COVID-19, road freight transport has become a key way of transporting goods during quarantine restrictions. While the air and sea borders were closed, the possibility of transporting goods by truck across the border became the only possible way to deliver goods and maintain the viability of large plants and factories.

Important for the continued possibility of preserving such a market share as trucking was the permission of the US government to carry out transportation related to commercial activities during quarantine. Because each state in the United States is based on its own laws, government support for commercial transportation permits has been a positive part of the transportation business.

1.3 Chapter 1 summary

Nowadays, an automobile mode of transport is increasingly used to transport goods to main modes of transport, cargo delivery, both long and short distances, as

well as the possibility of door-to-door cargo delivery. Over long distances, road transport transports perishable goods, valuable goods, goods requiring quick delivery. In the modern world, the activity of more than one large enterprise, which is engaged in the production and sale of its own products, is impossible without road transport.

In the context of the global crisis, transport companies are struggling to organize - and reorganize - complex routes for transporting goods - and do it remotely. Employees are struggling with delayed production schedules, with violations of routes familiar to carriers. Cargo often needs to be carried over to new routes or modes of transport.

The task of the transport company now is to find effective solutions in a rapidly changing environment.

The introduction of quarantine led to the closure of most enterprises and factories in Ukraine and Europe. This, in turn, affected the volume of international road transport. Back in March, there was a demand for transport, and rates were rising, and already in April, demand began to fall. Thus, the decline in the automotive industry is about 20% (according to a pessimistic forecast). At the same time, a situation of gradual restoration of work is now observed. It was in the conditions of the coronavirus that automobile transport became the main link in the supply chain.

CHARTER 2

ANALYSIS OF ROAD TRANSPORT IN A GLOBAL CRISIS

2.1 General characteristics of the “Precise Transportation” company

Precise Transportation deals with freight transportation for more than 7 years. They provide tailored solutions for each client and solve any logistics task. The goal is to always perform flexible, fast, and cost-efficient delivery. That’s why they gathered an experienced team that can handle any task. Company only employ professionals who are put through a rigorous pre-screening process that includes a comprehensive background check, all the previous along with qualified dispatch who will deliver your freight anywhere in North America, as they provide cross-border delivery to Mexico and Canada.

With the logistics infrastructure growing, many aspects of provided services have changed. To fulfill every client’s expectations logistics companies must improve their solutions, techniques, and machinery. The main goal is to make the delivery process smart, flexible, fast, and, of course, cost-efficient.

The company makes its own way collecting new technologies and motivating drivers to perform qualified deliveries. Service of Precise transportation is shown in figure 2.1.

Consider all these services in more detail.

1. Full Truckload. FTL (Full Truckload) is perfect for the freight that is:
 - more than 10 pallets;
 - high-risk or fragile;
 - time sensitive.

The entire truck is filled only with cargo of one client, so the delivery will be faster and safer because there won’t be any stops on the route.

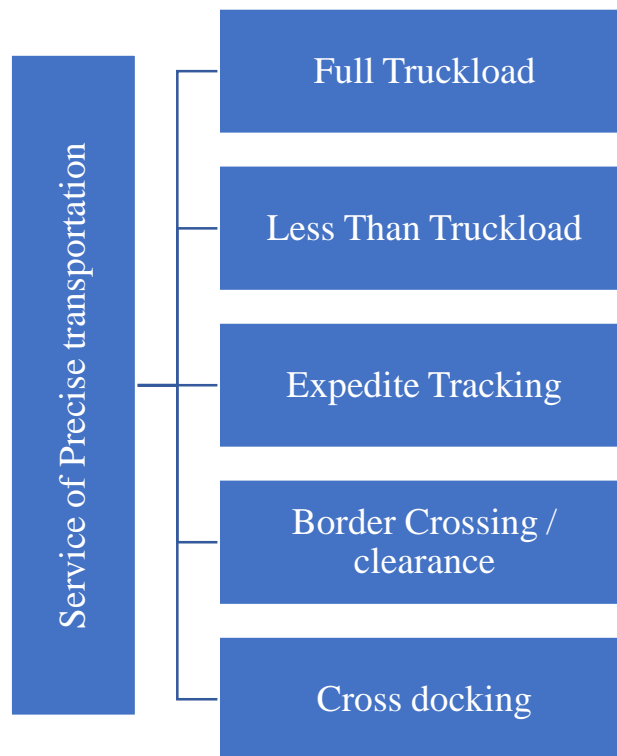


Figure 2.1 - Service of Precise transportation

2. LTL (Less Than Truckload). Shipping implies that the truck will be filled with freights from multiple shippers and customer pays only for the space that your cargo takes. LTL service is a great solution for those who:

- ship cargo that weight between 100 and 10.000 pounds;
- earch for budget friendly option;
- not time-sensitive.

3. Expedite Tracking. Expedite delivery service for those who desire to deliver or receive their freight as fast as possible. This service is the best option for those who want to ship small and medium-sized cargo. Expedite solutions include:

- same day delivery;
- next day delivery;
- express delivery from one to three days;
- cross-border expedite delivery.

Company understands that the time of our clients is a valuable resource. Company has a big web of connections that will make this possible with the shortest time frames

in transit times. In addition, company place the driver who is most experienced in fast delivery.

4. Cross Border / Clearance. Precise Transportation is proud to offer you tailored cross-border transportation solutions. Our services include delivery to/from Canada and Mexico, with this service, your freight has a powerful ally along every step of its journey. Experienced team of drivers and dispatchers can easily perform fast and safe delivery across North America.

Company can help to:

- establish strong import/export line;
- pick up and deliver any cargo from neighbor country;
- providing all needed clearance documentation with using CBSA/ ACE / MEBA.

General process of work: requirements and steps. The work of the transport company begins from the moment of concluding the contract with the client. The client's contract with the transport company is called Rate Confirmation and is signed by two companies with an electronic digital signature. The agreement is considered concluded from the moment of receipt by both parties of the signed copy of Rate Confirmation.

According to American law, transport companies with a registered carrier registration (motor carrier number -MC) (LLC, corporation, sole proprietor, etc.), regardless of the form of their taxation (disregarded entity, S-corp, C-corp, etc.) can to conduct business negotiations and fulfill orders of companies that have a brokerage registration (broker`s MC #).

Carrier`s and broker`s registrations are created, registered and controlled by the Federal Motor Carrier Safety Administration (FMCSA). The list of requirements for the creation and the necessary items for the continued existence of the company are set out on the official website of the service (1).

This service ensures the functioning of the entire transportation sector. Since only it provides the necessary requirement to perform transportation legally.

Before concluding a contract, companies must create a Set up package. Set up package has a general structure, there is no mandatory form. It includes data on the

place of registration of the company, MC number and order of registration, insurance policies and the scope of their distribution. The Set-up package is concluded once and is changed with the addition of information about the insurance, if the previously mentioned one has been changed.

Most brokerage companies use the Net 30 or Net 45 payment system. Net 30 or Net 45 are forms of trade credit which specify that the net amount (the total outstanding on the invoice) is expected to be paid in full by the buyer within 30 or 45 days of the date when the goods are dispatched or the service is completed (3).

In turn, carriers' companies pay salaries and pay for services weekly or monthly. This payment term does not always coincide with the deadline for payment by the brokerage company. To be able to do business, carriers use the services of factoring companies, which in turn provide credit to the company based on the agreement of the brokerage company to pay for the services of carrier's company by signing the Rate Confirmation.

Therefore, the last requirement for concluding a Set-up package is the approval of the broker by the factoring company. The main steps of load lifecycle is shown in figure 2.2.

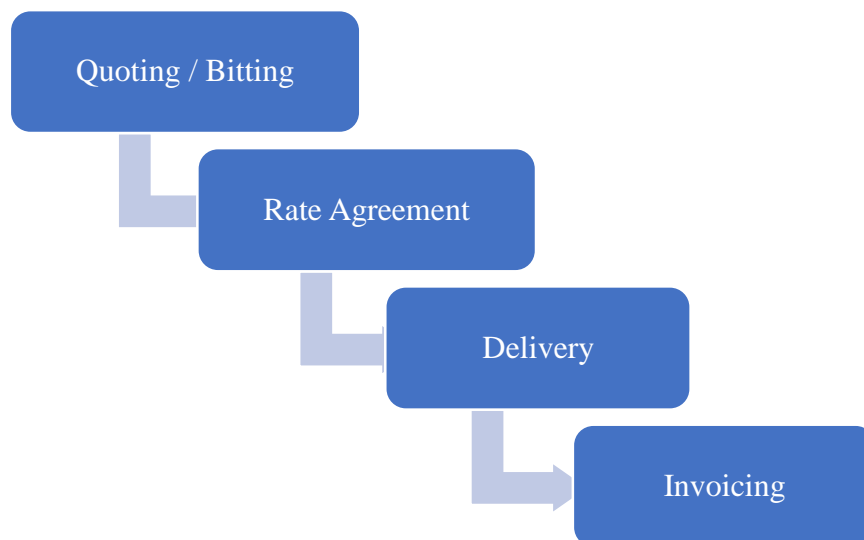


Figure 2.2 – Steps of load lifecycle

After agreeing on all the above points, the companies are considered to be ready to cooperate.

The first stage of each shipment is to offer a quote or bidding process.

Naturally, technology can help with this part work. There is a variety of freight bidding software (sometimes simply referred to as “online truck load boards” or “freight load boards”) that can be used to establish better ties with shippers and carriers, become more efficient, and save some money along the way.

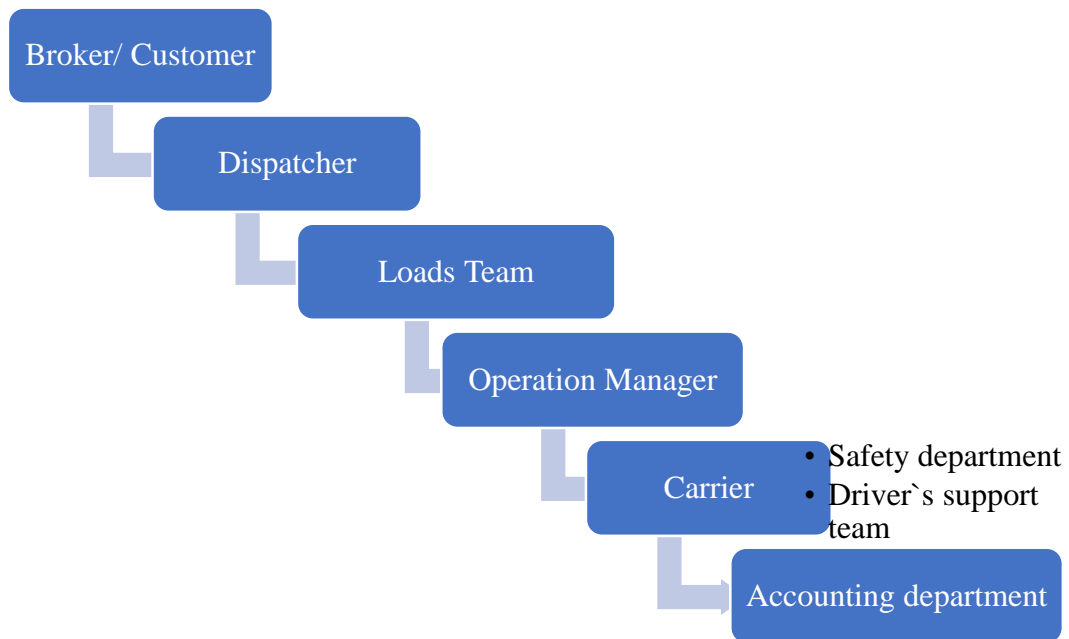


Figure 2.3 –Subjects involved in the load processing

The five most popular freight bidding platforms is:

- DAT Solutions;
- Sylectus Omnitrans;
- 123 Load Board;
- ComFreight;
- Post.Bid.Ship.

For this stage, the brokers use any of the previously mentioned online services. They fill out an online form with general questions that contain all the necessary information for the further work of transport companies.

As you can see in the figure 2.4 necessary information for the further work of transport companies includes:

The following 'Expedited Load' type load has been posted on the Alliance system:

Pick-up at: HOUSTON, TX 77065 **1**
Pick-up date (CEN): 06/03/2020 11:00 **2**
Pick-up date (EST): 06/03/2020 12:00 **3**

Deliver to: SAN ANTONIO, TX 78230 **4**
Delivery date (CEN): 06/03/2020 15:30 **5**
Delivery date (EST): 06/03/2020 16:30 **6**

Notes: LIFTGATE & PALLET JACK / INSIDE DELIVERY **7**

Miles: 199 **8**
Pieces: 1 **9**
Weight: 165
Dims: 20x38x40 in.
Stackable ? : N
Hazardous ? : N **10**
FAST Load ? : N
Dock Level ? : N
Suggested Truck Size : SPRINTER **11**

This posting expires (CEN): 06/03/2020 09:49
This posting expires (EST): 06/03/2020 10:49

If you are interested in this load, please contact : **12**
TAT LOGISTICS
3601 CHICAGO ROAD
STEGER, IL
(708)506-3497

Load posted by: Trevor Chuipek **13**
Phone: (708)506-3497
Fax: (708)515-9743

Figure 2.4 – Example of the bit

1. City name and zip code of the pickup address.
2. Pickup time local timezone.
3. Pickup time eastern timezone.
4. City name and zip code of the delivery address.
5. Delivery time local timezone.
6. Delivery time eastern timezone.
7. Special requirements for cargo (manual loading /unloading/special equipment on a pickup or delivery / requirements for personal protective equipment).
8. Total miles.
9. Detailed cargo information (number of units / weight / dimensions).

10. Presence of substances dangerous for transportation.
11. Contact information of the brokerage company to which the cargo belongs.
12. Contact person negotiating for this cargo.

Then this information is sent by domain funds to all companies with which the broker cooperates.

The transport company, having received a quote, can offer a bit if the required option is available. Or as it is called to place a bit. The usual is a 15-minute bit duration. If within 15 minutes the broker decides that this option is suitable for him, he can negotiate with the dispatcher of the transport company or immediately send supporting documents regarding the transfer of the load to the company.

The first stage on the part of the transport company looks a little different. After receiving the quota, the dispatcher checks the availability of options in the region (options for free trucks) for compliance with the size of the cargo. To facilitate the work of dispatchers, various CPM systems are used. With these systems, you can set search criteria: truck size, distance from the loading point, compliance with additional requirements, as well as when transported abroad - search for drivers who have the necessary documents to cross the border.

After performing a search, the dispatcher installs several truck options that are most suitable for this cargo.

He begins to negotiate with drivers to establish the price of transportation for this cargo. The driver, in turn, has the right to refuse and not take part in the bit process.

Having determined the best option by all criteria, the dispatcher offers the broker an option, taking into account in advance the rate of transportation percentage of the carrier company for the provision of services.

This is what it means to place a bit. 15 minutes starts from the moment of sending the offer to the broker. General structure of the bit (see table 2.1): location of the truck, number of miles to the pickup, estimated time of the arrival, the size of the truck and its cargo capacity, the presence / absence of the possibility of fulfilling special requirements on the cargo, needed transit time, total rate. It may also include other information if the client requests it at the time of offering the quote.

Table 2.1 - General structure of the bit

Indicators	Value
Chicago, IL, 60660 – 20 miles out	165*56*80
ETA :	11 AM local time
Liftgate/handloading if needed – extra	\$50
Transit time	7 hours
Rate	\$550

The broker chooses the best option, from the bits offered by various transport companies and passes to the second stage - the conclusion of rate confirmation

At this stage, the parties sign a rate confirmation [Appendix A]. The signing of this contract by both parties involved in the carriage has legal consequences. Failure to comply with the requirements of this agreement may be grounds for further change in payment for services rendered, and in the worst case, prosecution.

The contract itself contains more detailed information about the cargo, and may include various types of information (from general items for the provision of additional services to the amount of fines for improper performance and non-compliance with the terms of the contract).

After signing the contract, the transport company begins its work on the cargo.

Algorithm of work consists of the following steps:

1. Register / create this load in the system
2. Provide the driver with information on all stages of the load
3. Check the presence of additional conditions and compliance of the truck with these requirements
4. Check the time of arrival (for all subsequent stages, the obligatory criterion is the notification of the client / broker regarding the stage of transportation (at least once every two hours))
5. Check-in on the pickup
6. Loading and receiving documents for cargo

7. Check the compliance of the cargo with the requirements provided by the customer
8. Receive confirmation from the customer about the possibility of starting delivery
9. Transportation process
10. Check-in on delivery
11. Unloading the truck and signing all the necessary documents
12. Obtaining permission to leave the place of delivery
13. Invoicing to pay the customer.
14. Carrying out bank settlements

The considered algorithm shows the sequence of processes in the company for interaction with all entities involved in the transport process, which were shown in Fig.2.3. A detailed review of the processes makes it possible to distribute responsibilities and responsibilities among all participants. In addition, it makes it possible to identify “gaps”, that is, crisis situations that may arise in the process of providing transport services.

2.2 Detection of "gaps" in the activity of the transportation company in global crisis conditions

Since the process of transporting goods involves a large number of successive steps, as well as a large number of actors involved - it is not surprising that there may be bottlenecks, so-called gaps.

These gaps negatively affect the performance, speed and quality of transportation services. For further specifications and find ways to overcome these phenomena firstly needed to describe blind spots at all stages of delivery (figure 2.5).

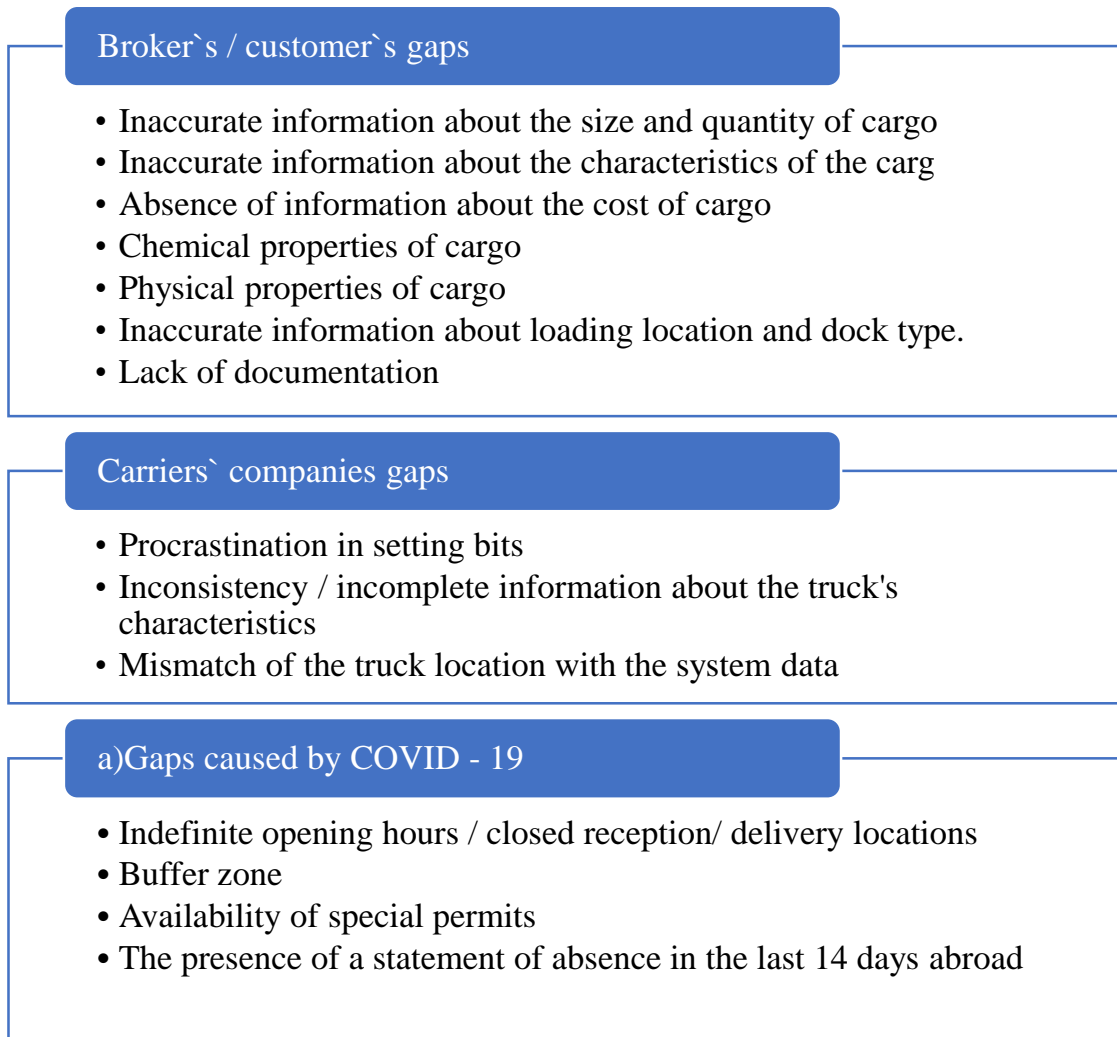


Figure 2.5 – Identified gaps in in the activity of the transportation company in global crisis conditions

Consider them in more detail:

1. Broker`s / customer`s gaps.

This stage is characterized by a large number of errors, which in turn can lead to delays in the delivery of goods, or to the complete cancellation of transportation.

The most common mistakes are:

a) inaccurate information about the size and quantity of cargo. When transporting goods by truck, it is important to have clear, complete and, most importantly, reliable information about the cargo. Pallet sizes. If the customer provides information on the size of the pallet 48 * 48 * 56, then in accordance with these dimensions and the truck

is selected for transportation. Deviation of even one inch can make it impossible to load the car;

b) number of pallets. Very often when transporting goods between different plants / factories, as well as retail stores, the shipper changes the number of pallets or the number of units of cargo on pallets. So on the pallet 40 * 48 * 54 boxes are located: 3 tiers of boxes with 4 boxes in one tier. When adding 4 more boxes, the size of the pallet will change to 40 * 48 * 76. This will make it impossible to load more than 70% of standard Sprinter Van trucks;

c) inaccurate information about the characteristics of the cargo. Characteristics of cargo are an important stage of negotiations. It is important not only whether the shipper can load the goods, but also whether the carrier can deliver it legally;

d) the cost of cargo. The cost of the cargo directly affects the carrier's admission to transportation. Since trucking is a dangerous type of transportation, the possibility of car accidents forces carriers to invest heavily in car and cargo insurance. But there are limitations. The most common is insurance in the amount of payments up to one million, but the cost of the goods should not exceed five hundred thousand dollars;

e) chemical properties of cargo. When transporting hazardous substances, special permits are required. Since hazardous substances are divided into 9 classes, some of them are less dangerous. That is, those classes can be transported without special permits, but in the amount of up to one thousand pounds;

f) physical properties of cargo. The physical properties include temperature, humidity, non-penetration of light into the cargo space of the truck. These requirements apply to the transportation of medicines, food, animals and plants;

g) inaccurate information about loading location and dock type. Very often facilities are equipped with different places to load, but not always. Dock-high loading is impossible to load the sprinter van and not dock-high level of loading makes it impossible to load the cargo van;

h) lack of necessary documents. The need for BOLs, invoices, cargo releases, payment slips, hazardous substance characteristics, information on the origin of cargo,

permits for transportation on behalf of brokerage companies can also lead to delays and refusals to transport goods [Appendix B]

2. Carrier companies` gaps:

a) procrastination in setting bits. Since there is a rule regarding the consideration of the bit for 15 minutes - a delay in the work of the dispatcher reduces the chances of receiving the cargo. Internet connection, inability to connect with the driver to discuss the cargo, poor orientation in the system - all this leads to a gap;

b) inconsistency / incomplete information about the truck's characteristics. Every database is created by people. Therefore, the possibility of human error in the process of entering information about the technical component of the car is not excluded. As previously mentioned, the difference in pallet size and truck size, even by one inch, leads to loss of cargo;

c) mismatch of the truck location with the system data. Most carrier companies use online tracking systems to locate trucks and their status (available / not available). Lack of internet connection on the driver's phone, or untimely update of the system - leads to the receipt loads not supported by the car located there.

3. Gaps caused by coronavirus:

1) indefinite opening hours of plants / closed reception / delivery points. Due to the threat of the disease, a large number of facilities were closed. The rest was switched to reduced mode. If previously the shipping/ receiving worked on a standard schedule from 8 AM to 6 PM , then at the peak of the disease working hours were reduced to 2-4 working hours per day. Which led to the impossibility of unloading the trucks that missed this time frame. Also, the reduced working day led to long queues of trucks

2) buffer zone. The need to create buffer zones at airports, especially in those sections of airports where there is direct contact of workers with those who arrived abroad has led to long delays;

3) availability of special permits. Due to the spread of the infection, and the partial ban by the authorities of some states of any tourist travel, the list of documents required for commercial activities has been expanded. Since this situation first arose on the scale

of not only one state, but the country as a whole - the lack of regulatory documents led to delays in deliveries;

4) the presence of a statement of absence in the last 14 days abroad. The presence of this statement became the main pass document for the driver to carry out transportation activities. This statement can be obtained online, after filling in all the necessary data and confirming them by the state migration service.

The “gaps” in the company’s activity that we have identified are caused by both the results of operations and the global problems of the coronavirus. Therefore, it is necessary to analyze the financial and economic activities of the company in order to understand how they affect the results of the company.

2.3 Operational diagnostics of the financial and economic state of the Precise transportation company

Operational diagnostics of the financial and economic state of the logistics company are carried out by using coefficients that allow establishing a relationship between one indicator and another. To conduct operational diagnostics of a logistics company, the following groups of indicators are used:

- analysis of logistics assets (logistics infrastructure of the company)
- liquidity of a logistics company;
- financial stability (solvency) of the logistics company;
- business activity of a logistics company;
- profitability of the logistics company.

Consider the main groups of indicators that are used in the operational diagnostics of a logistics company.

The first group of indicators is the analysis of logistics assets that make up the elements of the logistics infrastructure. In general, the logistics infrastructure is a set

of elements that perform important logistics tasks and ensure the implementation of logistics processes (transport, storage, information, handling, etc.).

We consider the logistics infrastructure as a part of the assets the logistics company that form its production potential, and which it uses to provide logistics services to customers. For the analysis of logistics assets, it is necessary to calculate the following indicators:

1. The share of intangible assets in the structure of non-current assets of a logistics company is defined as the ratio of the amount of intangible assets to the amount of fixed assets.

2. The share of tangible assets in the structure of non-current assets of a logistics company is defined as the ratio of the amount of tangible assets to the amount of fixed assets.

3. The indicator of investments in logistics infrastructure - determines the amount of net profit that has been reinvested in logistics assets. It is calculated by the formula:

$$PLI = \Sigma NP / \Sigma Lia, \quad (2.1)$$

where ΣNP is the amount of net profit,

ΣLia is the amount of investment in logistics assets

4. Fixed assets turnover ratio is an indicator of the business activity of the company, demonstrating the effectiveness of the use of a significant part of logistics assets (fixed assets).

The calculation of the above indicators is presented in the table 2.2

As a result of the analysis of indicators logistics assets indicators, we can conclude that logistics assets have negative dynamics over three years. This means that the company does not manage its assets very well, however, these dynamics does not have large leaps in value. Apparently the company has small interruptions in the logistics infrastructure and some of the elements are sagging in their own operations. An increase in the share of intangible assets in the structure of non-current assets by 2018 for 0,81 indicates the innovative activity of the enterprise. “

Table 2.2 - Analysis of the logistics assets of the company

Indicators	2017	2018	2019	Dynamics (absolute deviation)	
				2017/2016	2018/2017
The share of intangible assets	0,76	0,78	0,81	0,02	0,04
The share of tangible assets	0,22	0,21	0,18	-0,02	-0,02
The indicator of investments in logistics infrastructure	1,33	0,99	0,76	-0,35	-0,23
Fixed assets turnover ratio	1,57	1,55	1,53	-0,02	-0,02
Return on assets	0,17	0,22	0,19	0,05	-0,02

The second group of indicators is liquidity indicators. The liquidity of a logistics company is its ability to convert (exchange) current assets into means of payment (cash).

By liquidity, the assets are divided into the following group:

- money (at the cash desk and on bank accounts)
- short-term financial investments and securities;
- accounts receivable;
- inventories;
- fixed assets, intangible assets, and work in progress.

The calculation of the indicators that assess the liquidity is presented in the table 2.3.

Table 2.3 - Analysis of liquidity of the company

Indicators	2017	2018	2019	Dynamics (absolute deviation)	
				2017/2016	2018/2017
Cash ratio	0,54	0,45	0,35	-0,10	-0,09
Quick ratio	1,00	0,92	0,71	-0,08	-0,22
Current ratio	1,18	1,22	1,15	0,04	-0,07

As a result of the analysis of indicators of liquidity, we can conclude that Precise transportation company has low ability to pay off its current liabilities with only cash and cash equivalents, but company able to pay its current liabilities when they come due with only quick assets (indicators also has negative dynamics for three years, but it's level is higher than norm, except 2019). Precise transportation company has

average ability to pay off its current liabilities with current assets. “Bottleneck”: Current ratio. Schematically, the dynamics of these indicators is shown in Fig. 2.6.

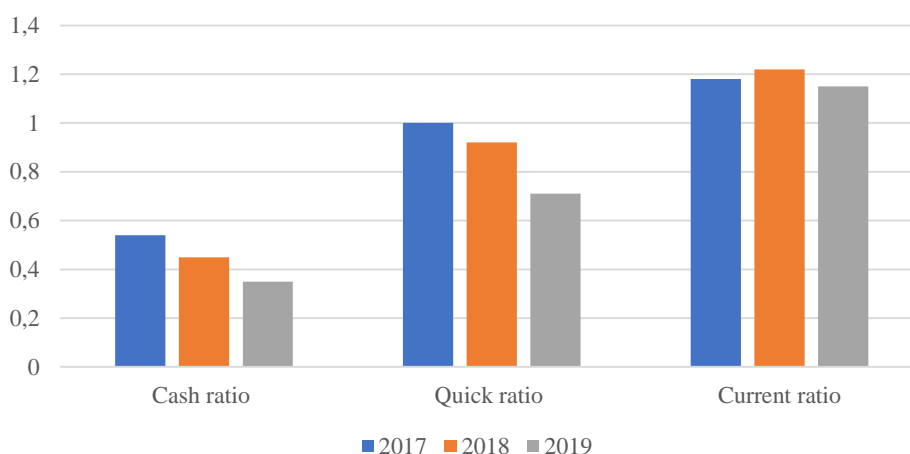


Figure 2.6 - The dynamics of liquidity indicators of the Precise transportation company

The next group is the group of financial stability (solvency) indicators of a logistics company. Solvency ratios, also called leverage ratios, measure a company’s ability to sustain operations indefinitely by comparing debt levels with equity, assets, and earnings. In other words, solvency ratios identify going concern issues and a firm’s ability to pay its bills in the long term. Solvency ratios show a company’s ability to make payments and pay off its long-term obligations to creditors, bondholders, and banks. Better solvency ratios indicate a more creditworthy and financially sound company in the long-term.

The calculation of the indicators that assess the liquidity is presented in the table 2.4.

Table 2.4 - Analysis of financial stability (solvency) of the company

Indicators	2017	2018	2019	Dynamics (absolute deviation)	
				2017/2016	2018/2017
Equity ratio	0,01	0,02	0,06	0,01	0,04
Equity multiplier	1,41	1,39	1,39	-0,02	0,00
The debt to capital ratio	0,98	0,96	0,88	-0,02	-0,08
The asset coverage ratio	1,67	1,27	1,44	-0,40	0,17
Debt ratio	0,99	0,98	0,94	-0,01	-0,04

After calculations of indicators of solvency of the company, it is possible to say:

1) according to the Equity ratio, investors almost do not own the assets of the company and are not involved in its financing, it is also clear that the amount of borrowed funds is minimal, although over the years it has slightly increased;

2) Equity multiplier is slightly below normal; from this we can conclude that the company is not exposed to credit risks;

3) the debt to capital ratio shows positive dynamics, as the indicator decreases, therefore the company is less risky in relation to loans;

4) the debt to equity ratio shows that in 2017 bank loans were used much more than investments of investors and the level of debt exceeded the level of total capital, however, by 2019 this ratio decreased by almost seven times, which means that total capital exceeds the level of debt.

Schematically, the dynamics of these indicators is shown in Fig. 2.7.

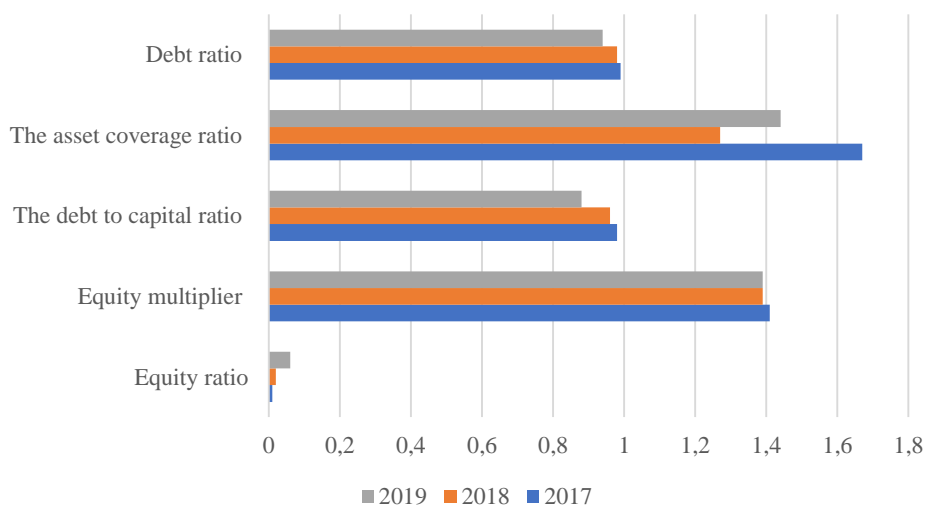


Figure 2.7 - The dynamics of financial stability (solvency) indicators of the Precise transportation company

The next group of indicators is indicators of business activity of the company, which determine the level of efficiency of use of its economic resources. To assess the level of efficiency of resource use, enterprises use various indicators of turnover. The

calculation of the indicators that assess the business activity of the company is presented in the table 2.5.

Table 2.5 - Analysis of business activity of the company

Indicators	2017	2018	2019	Dynamics (absolute deviation)	
				2017/2016	2018/2017
Receivable Turnover	0,44	0,56	0,53	0,11	-0,02
Days Sales Outstanding	573,41	454,30	473,05	-119,11	18,75
Accounts Payable Turnover	1,05	1,15	1,10	0,10	-0,05
Days Payable Outstanding	242,86	220,87	230,00	-21,99	9,13
Cash Conversion Cycle	332,24	235,19	244,81	-97,05	9,62
Total Asset Turnover	1,57	1,55	1,53	-0,02	-0,02

As a result of the analysis of indicators of business activity, we can conclude that Precise transportation company has:

- average level of the lending process and collection;
- not very good DSO (it takes a lot of time to receive receivables);
- payments are deferred for more rational use of money, which is good;
- “Bottleneck”: Days Sales Outstanding and Cash Conversion Cycle.

And the last group of indicators is group of profitability. Profitability ratios compare income statement accounts and categories to show a company’s ability to generate profits from its operations. Profitability ratios focus on a company’s return on investment in inventory and other assets. These ratios basically show how well companies can achieve profits from their operations.

The calculation of the indicators that assess the profitability of the company is presented in the table 2.6

Table 2.6 - Analysis of profitability of the company

Indicators	2017	2018	2019	Dynamics (absolute deviation)	
				2017/2016	2018/2017
Return on Sales	2,25	1,53	1,47	-0,71	-0,07
Return on Equity	8,70	11,41	10,60	2,71	-0,81
EBITDA Margin	16,09	14,73	12,90	-1,36	-1,83

After calculations of indicators of profitability of the company, it is possible to say that company has a good percentage of converting total income into profit; company effectively uses equity financing to finance operations and growth of the company, and from 2017 to 2019 this figure only increased; EBITDA Margin has negative dynamics and it is the “bottleneck”.

Conduct bankruptcy threat analysis to define the possibility on influence to the activities of the company.

To analyze the threat of bankruptcy in the practice of financial and economic activity, a five-factor model is widely used, which is called the Altman Z- score model:

$$Z\text{-score} = 0.717T1 + 0.847T2 + 3.107T3 + 0.42T4 + 0.998T5, \quad (2.2)$$

were, $T1 = \text{Net working capital} / \text{Assets}$

$NWC = \text{Total Current Assets} - \text{Total Current Liabilities}$

$T2 = \text{Retained earnings} / \text{Assets}$

$T3 = \text{EBIT} / \text{Assets}$

$T4 = \text{Equity} / \text{Liabilities}$

$T5 = \text{Revenue} / \text{Assets}$

Depending on the value of the Z- score, the probability of bankruptcy of the logistics company is estimated on a separate scale (Table 2.7):

Table 2.7 - The scale of assessment the probability of bankruptcy of a logistics company

value of the Z-score	Bankruptcy probability
$Z < 1,23$	"Red zone" there is a possibility of bankruptcy
$1,23 < Z < 2,9$	"Gray Zone", border zone, bankruptcy probability not high but not excluded
$Z > 2,9$	"Green Zone", low bankruptcy rate

The calculations are summarized in the table 2.8.

Table 2.8 - Calculations of T-indicators and Z-score

	2017	2018	2019
NWC	2119	2832	2123
T1	0,052	0,062	0,042
T2	0,121	0,128	0,160
T3	0,190	0,165	0,140
T4	0,010	0,022	0,064
T5	1,526	1,461	1,437
Z-score	2,259	2,134	2,063

Schematically, the Z-score is shown in Fig. 2.8.

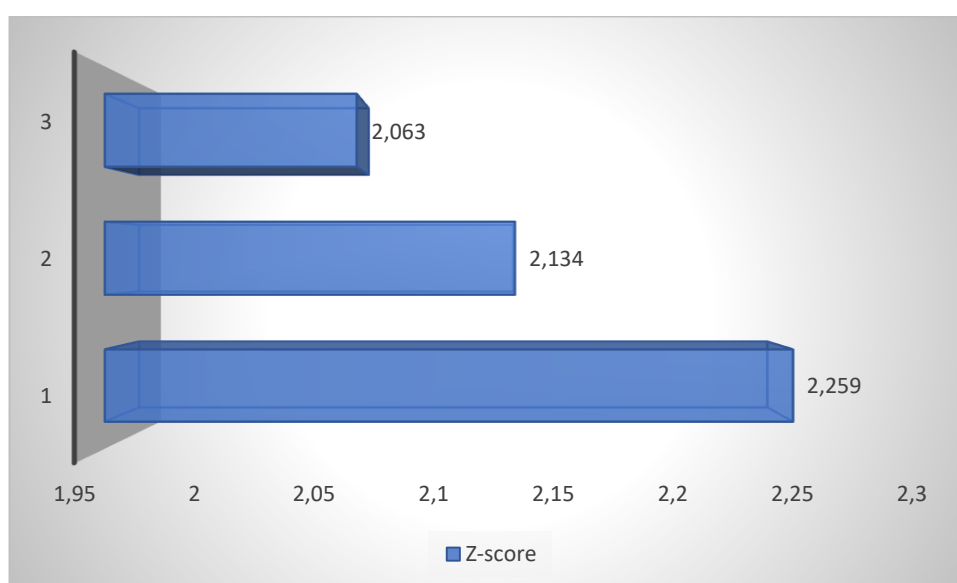


Figure 2.8 – The dynamic of Z-score

So, according to the calculations, the company is in the “gray zone” during 2017-2019. That is, even before the onset of the coronavirus, the company was already in the zone, which is characterized as such that the likelihood of bankruptcy is not high, but not excluded.

Therefore, it is necessary to develop a set of measures that will neutralize the negative impact of the identified "gaps" that occur constantly in operational activities, and those that were provoked by the coronavirus. Because if urgent measures are not taken, then the company can move from the "gray zone" to the "red zone", where the probability of bankruptcy is very high.

2.4 Chapter 2 summary

An analysis of the activities of the transport company in the analytical department showed that the company cooperates with many entities in the market. The life cycle of the process of providing transport services was analyzed, the main stages of the algorithm of the transport company were identified.

The considered algorithm shows the sequence of processes in the company for interaction with all entities involved in the transport process. A detailed review of the processes makes it possible to distribute responsibilities and responsibilities among all participants. In addition, it makes it possible to identify “gaps”, that is, crisis situations that may arise in the process of providing transport services.

The main “gaps” in the activities of the transport company were identified. Some types of these gaps are caused by daily operating activities, others have occurred recently, and were caused by the global crisis due to the coronavirus. Identification of these “gaps” enables the company to develop a number of measures to manage them.

The analysis of the financial and economic status indicates a relatively stable financial position of the company. Therefore, it is necessary to develop a set of measures that will neutralize the negative impact of the identified "gaps" that occur constantly in operational activities, and those that were provoked by the coronavirus. Because if urgent measures are not taken, then the company can move from the "gray zone" to the "red zone", where the probability of bankruptcy is very high.

CHARTER 3
PROJECT PROPOSALS FOR THE ORGANIZATION OF ROAD
TRANSPORT IN GLOBAL CRISIS CONDITIONS

3.1 Justification of changes in the organization of road transport in the context of the global crisis

The global crisis caused by the coronavirus has led to changes in the activities of transport companies, as well as setting a precedent for further improvements. We carried out a grouping of changes that have the greatest impact on the activities of the transport company that is shown in figure 3.1.

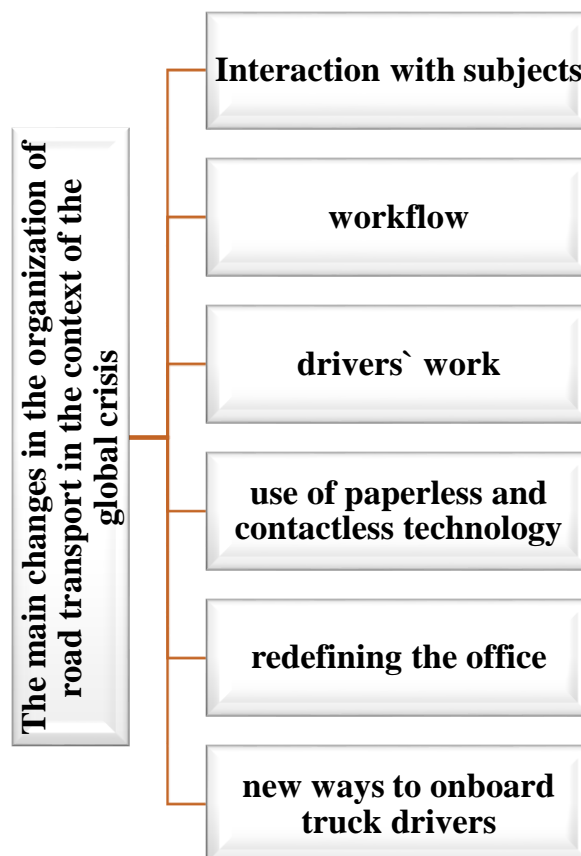


Figure 3.1 - The main changes in the organization of road transport in the context of the global crisis

Consider all these changes in more detail.

Companies had redefining the office. The employees who stayed to work were successful thanks to company`s IT departments. Due to a more comfortable environment, transport company managers talk more calmly with drivers because they don't feel the severity of the working atmosphere.

Companies may decide to reduce offices, which can save money on fleets. Commercial real estate will change; companies will use public office space.

The transport industry has found ways of virtual communication, and not only freight transportation but also all the companies with which the transport company interacts will fundamentally change. A transport company cannot replace communication with someone personally, but, of course, you can determine the best balance between the real and the virtual world.

More use of paperless and contactless technology. The transport industry is switching to paperless technology, and experts estimate that we will see more paperless transactions with electronic bills of lading on the driver's side and more virtual meetings with customers on the sales side.

Paperless and non-contact is a big push right now, which is not only an improvement in safety, because it is not only about sanitation, but also an increase in efficiency, noting that this can reduce the number of times when drivers have to walk the truck to the safety shack, from truck to the warehouse to pay for lumbers, and so on.

We want to note that the crisis has provided opportunities for innovation, and the company's staff has become its most valuable resource. Understanding that the company's staff is the main link, the transport company has created a standard for reloading personnel - drivers, mechanics, dispatchers so that they are up to date with the latest working procedures.

Based on this transport company must do the following:

1. Spend time retraining drivers on policies and procedures, providing them with fast, but mandatory, retraining for high-level elements that are important for your business.

2. With COVID-19, it is highly recommended that each company introduce new safe methods for contactless delivery, if possible, to protect both your employees and your customers.

3. Perform a quick check of all documents. Items that must be permanently in vehicles may include the following:

- fuel card associated with the relevant vehicle (s);
- emergency kit;
- insurance documentation;
- paperwork;
- employee Handbook;
- car operation manual;
- user manuals for third-party devices installed in the vehicle (ELD, etc.);
- masks and gloves;
- disinfectant wipes and spray.

Changes occurred at all stages of transportation, but the most essential changes have occurred in workflow. From the moment of issuing the bit, until the signing of the document of receipt of the goods by the consignee.

First, brokerage companies in direct interaction with shippers / consignees were warned about a number of requirements set for all facilities not only by management but also by public authorities.

When issuing a bit, the brokerage company had to provide an Essential Letter, the so-called confirmation for carrying out activities during quarantine. Essential Letter data was obtained by brokerage firms after the Department of Transportation (DOT) agreed that the transportation data would be carried out on a commercial basis.

Importantly, this documentation was issued and was valid for 2 weeks and required updating on the first and 15th of each month.

After signing the rate confirmation, the broker had to provide the carrier with a document for transportation. This document was to include the name of the brokerage company, the name of the transport company and information that the given

transportation is performing an essential function and its covered under exemption and specified in the Emergency Declaration.

The changes that took place in the field of transportation during the quarantine affected not only brokerage companies, but also all participants in the process.

So for truck drivers, it was important to have a statement stating that they had not been abroad for the last 14 days. Particular attention was paid to people who visited Asian countries, as well as Central Europe. They could work after leaving the two-week isolation regime.

Transport companies conducted a survey of drivers to obtain information about their location over the past 14 days.

The quarantine regime has caused a lot of inconvenience and innovations.

One of the most important innovations enshrined at the state level was the restrictions on the access system to state borders. First of all, tourist lanes were closed to cross the border. In the United States, just as it was necessary to confirm the commercial activity to cross the border. When crossing borders, the main document was still a manifesto. But he got some changes. Thus, when creating a manifesto for entry into the United States from Canada or Mexico, the required field to fill in was a field confirming the absence of contact of the driver with potentially dangerous threats (see figure 3.2).

The process of crossing the border before the introduction of quarantine restrictions involved moving a truck across the border without cargo using a tourist line.

After the introduction of restrictions, and the closure of the possibility of crossing the border by tourist lines, a new document was introduced - an empty manifesto.

This document could be created in the process of customs clearance of goods using existing services CBSA, ACE, MEBA.



**eManifest Portal
Lead Sheet**

**Portail du Manifeste électronique
Feuille maîtresse**



Conveyance Reference Number Numéro de référence du moyen de transport :	165A0046776
--	-------------



Tractor Plate Plaque d'immatriculation du tracteur :	87621MM	New York
Trailer Plate(s) Plaque(s) d'immatriculation de la remorque :		
Submitted - Transmis :	2020-04-29 09:39	

Cargo Control Number(s) (CCN) – Numéro(s) de contrôle du fret (NCF) :

Figure 3.2 – Empty E-manifest (border crossing documents) during COVID

An additional window has appeared in each of these sites, marked "Restrictions on Coronavirus Causes".

Drivers must undergo mandatory questionnaires, temperature screening and training on how to behave in quarantine. A new link has been added to the site for online training and learning the skills required to behave on pickups / deliveries.

All documents after announcement quarantine include information about special requirements for drivers and the procedure of their work.

Drivers must follow the below procedures while at shipper and consignee:

1. Wear a facial mask that meets CDC guidelines.
2. Have your own writing utensil.
3. Maintain 6 ft. social distancing including when paperwork and key exchange is required.
4. Wear latex gloves.
5. Follow all Customer directions and guidelines while at their facility.

Example of the Essential Letter “Memorandum on identification of essential critical infrastructure workers during COVID-19” is shown in figure 3.3.

“If you work in a critical infrastructure industry, as defined by the Department of Homeland Security, you have a special responsibility to maintain your normal work schedule.”

The Department of Homeland Security’s Cybersecurity & Infrastructure Security Agency (CISA) executes the Secretary of Homeland Security’s responsibilities as assigned under the Homeland Security Act of 2002 to provide strategic guidance, promote a national unity of effort, and coordinate the overall federal effort to ensure the security and resilience of the Nation’s critical infrastructure. CISA uses trusted partnerships with both the public and private sectors to deliver infrastructure resilience assistance and guidance to a broad range of partners.

In accordance with this mandate, and in collaboration with other federal agencies and the private sector, CISA developed an initial list of “Essential Critical Infrastructure Workers” to help State and local officials as they work to protect their communities, while ensuring continuity of functions critical to public health and safety, as well as economic and national security. The list can also inform critical infrastructure community decision-making to determine the sectors, sub-sectors, segments, or critical functions that should continue normal operations, appropriately modified to account for Centers for Disease Control (CDC) workforce and customer protection guidance.

The memorandum said essential industries “represent, but are not necessarily limited to, medical and health care, telecommunications, information technology systems, defense, food and agriculture, **transportation and logistics**, energy, water and wastewater, law enforcement and public works.”

Please be advised that **PRECISE TRANSPORTATION**, the bearer of this document, is performing an essential function on behalf of S-2international LLC (Logistics Company) and is thereby covered under this exemption, subject to the stipulations specified in the Emergency Declaration.

Figure 3.3 - Example of the Essential Letter “Memorandum on identification of essential critical infrastructure workers during COVID-19”

This guidance and accompanying list are intended to support State, Local, and industry partners in identifying the critical infrastructure sectors and the essential workers needed to maintain the services and functions Americans depend on daily and that need to be able to operate resiliently during the COVID-19 pandemic response. This document gives guidance to State, local, tribal, and territorial jurisdictions and the private sector on defining essential critical infrastructure workers. Promoting the ability of such workers to continue to work during periods of community restriction, access management, social distancing, or closure orders/directives is crucial to community resilience and continuity of essential functions.

An important document that was added to all Rate Agreements is COVID -19 Contractor and Visitor Screening. This document was mandatory for printing and must be provided by the driver to the consignor / consignee (figure 3.4).

COVID-19 Contractor and Visitor Screening

ENTERGY SITE LOCATION _____

REASON FOR VISIT/TYPE OF WORK BEING PERFORMED: _____

Form Should Be Completed Prior to Allowing Site Access for the First Time Effective for all New Contractors/Visitors as of March 16:

PLEASE DECLARE "YES" OR "NO" (by marking in the appropriate box) TO THE FOLLOWING QUESTIONS:

1. Have you had a fever ($\geq 100.4^{\circ}\text{F}$), a new or worsening cough, and shortness of breath within the last 24 hours?
 YES NO
2. Has a household member had a fever ($\geq 100.4^{\circ}$), a new or worsening cough, and shortness of breath, or tested positive for COVID-19, within the last 2 weeks?
 YES NO
3. Have you had close contact with an individual that had a fever ($\geq 100.4^{\circ}\text{F}$), cough and shortness of breath, or has tested positive for COVID-19, within the last 2 weeks? (*Close contact is considered closer than 6 feet for a prolonged period and/or being coughed or sneezed on*)
 YES NO
4. Have you returned from China, Iran, Europe, or South Korea in the past 2 weeks?
 YES NO
5. Have you returned from a cruise ship within the last 2 weeks?
 YES NO
6. Has anyone with whom you have had close contact, including a household member, returned from China, Iran, Europe, or South Korea within the past 4 weeks? (*Close contact is considered closer than 6 feet for a prolonged period and/or being coughed or sneezed on*)
 YES NO

Figure 3.3 – COVID Contractor and Visitor Screening

The changes we have considered in the activities of the transport company, of course, have a negative impact on the company's activity and require the company to adapt the activity to the working conditions in the coronavirus.

3.2 Development the set of measures for managing gaps in the transport company in coronavirus conditions

In the second part of the thesis, we identified gaps that negatively affect the work of the transport company. Work on eliminating gaps is an important step in the development of the company. The company's management should take care to reduce blind spots in order to improve the quality of service provision, as well as increase the volume of service provision. Clear identification of gaps and development of ways to overcome them is one of the main goals of the company.

Since gaps occur not only in the company's activities, but also in customers - the development of broader requirements for obtaining transactions is the main way to reduce their number.

The global crisis caused by the spread of coronavirus has also led to the formation of a large number of gaps. They appeared at all stages of the cargo - from the moment of its offer and to the delivery zone.

The most characteristic feature of a pandemic is that in order to continue working and be able to work effectively, it is necessary to respond quickly to all changes and failures. Which, in turn, made it possible to retain existing customers and reduce the negative economic consequences of restrictions caused by quarantine.

Develop the set of measure for each identified gap. Start with Gaps - Indefinite opening hours (figure 3.5).

Indefinite opening hours
<ul style="list-style-type: none"> • Creating a common base of working hours of the facilities • Installation of appointment of loading/unloading

Figure 3.5 – Gaps - Indefinite opening hours

Plants / factories that carry out essential work necessary for the life of the country worked during quarantine. In order to ensure the safety of workers, the factory management set a reduced working day. So, the facilitators did not work 24/7 or 8 hours a day, but only 3-4 hours a day. This in turn made direct deliveries impossible due to the impossibility of unloading. Since the working hours of different enterprises were determined personally by their management, there was no clear definition of working hours.

A great solution was to establish equal working hours at all enterprises by issuing a directive of work. The impossibility of establishing this interval for the whole country is quite justified. The possibility of creating a single database of working hours of different facilities could greatly facilitate the activities of transport companies. Also, installation of appointment unloading / loading, previously agreed with the carrier.

The ability to set specific working hours in a single state would synchronize the work of all businesses. This would speed up the activities of all links.

The set of measure for next Gaps – Buffer zones is shown in figure 3.6.

Buffer zones
<ul style="list-style-type: none"> • Definition of the general algorithm of work • Insert clear loading / unloading deadlines • Acquaintance of all subjects with work process of the buffer zone

Figure 3.6 – Gaps – Buffer zones

Buffer zones - zones of limited access of personnel to certain areas of the facility in order to provide the most favorable conditions to avoid the negative consequences of coronavirus disease. This phenomenon is not systematic. Restricted areas are created in case of pandemics, dangers of infection and spread of diseases.

Buffer zones were created to reduce the contact of shippers / consignees with carriers when it is necessary to significantly eliminate contact between people at different stages of delivery.

The most common places to create buffer zones are airports, seaports, huge plants / factories with separate shops dedicated to loading / unloading. The need to create buffer zones at airports, especially in those areas of airports where workers have direct contact with those who have arrived abroad, has led to long delays.

This phenomenon is unregulated, so there are no clear instructions regarding the algorithm of activity.

In Figure 3.7 is shown the next Gaps - Algorithm of the unloading process in buffer zone.

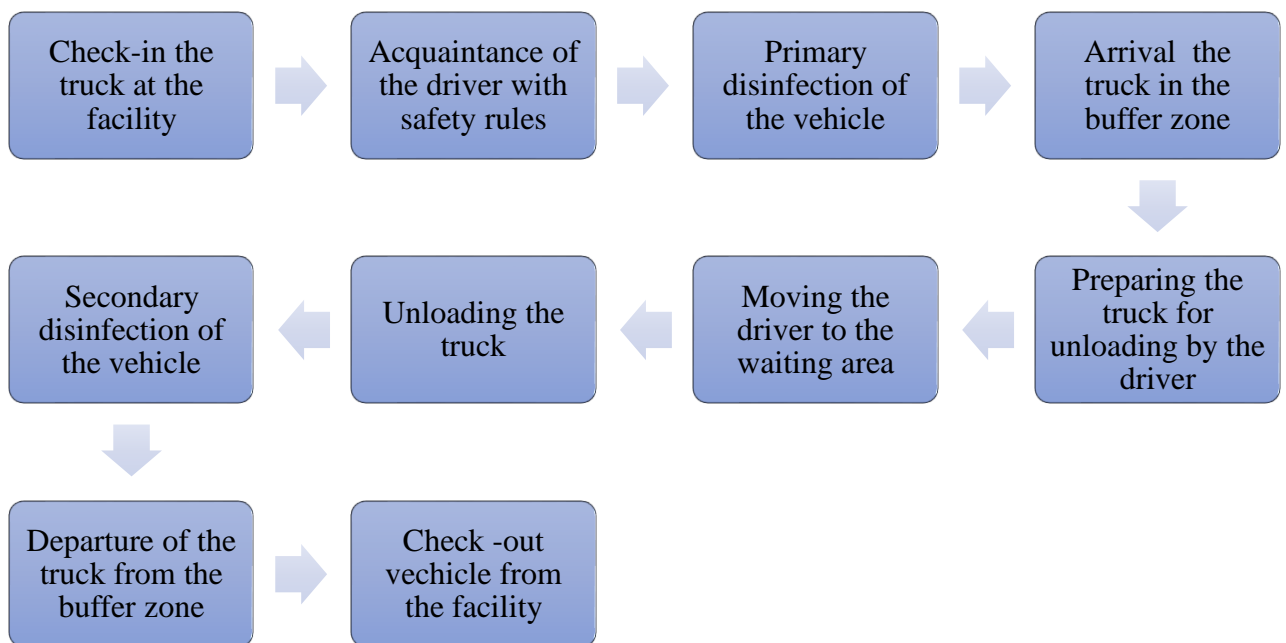


Figure 3.7 – Gaps - Algorithm of the unloading process in buffer zone

Also, an important requirement for the activities of companies during quarantine is the presence of PPE (Personnel Protect Equipment) in all entities involved in the work of the enterprise.

PPE in quarantine is somewhat broader than usual. Required PPE for carriers is shown in figure 3.8.



Figure 3.8 - Required PPE for carriers

Consider next tool to illuminate negative influence on transport activity of the company. The set of measure for next Gap – The presence of the endorsements is shown in figure 3.9.

The presence of the endorsements

- Introduction of the apparatus for issuing permits
- Defining clear requirements for obtaining a permit
- Introduction of online forms of permit extension
- Introduction of permits for all subjects involved in transportation

Figure 3.9 – Gaps - The presence of the endorsements

During the quarantine, was introduced a restriction on movement. Permission to move was granted to vehicles that carried out essential transportation necessary to ensure the viability of the country.

The presence of special permits for activities was the peculiarity of transportation at this stage. These permits were issued by various government agencies.

The spread of coronavirus has led to the need to obtain permits for transportation. Since this phenomenon occurred unexpectedly, there was no developed documentation base to support business activities.

The need to create a state structure responsible for issuing permits for commercial activities was caused by the coronavirus. At the first stage, the introduction of restrictions on movement, forced some authorities divided by mode of transport to issue permits.

The process of obtaining permits also caused some difficulties. Unfortunately, the state structure was not ready to provide this aspect in the online structure. To obtain a permit, it was necessary to submit a separate list of documents depending on the type of transportation.

These permits differed in structure, shape, and content. This led to delays in confirming their validity. Therefore, the structuring and definition of the general form of this permit has greatly simplified the work at all stages.

And the last but not the list Gap is Control of physical health of drivers (see figure 3.10).

Control of physical health of drivers
<ul style="list-style-type: none">• Temperature screening• Availability of a certificate of general health• Certificate of 14-day presence in the country• Rapid test for coronavirus

Figure 3.10 – Gap - Control of physical health of drivers

An important point in the transportation process is the state of health of drivers. The primary check of the driver's health was temperature screening. Widespread distribution of new devices has greatly simplified this stage and reduced the level of contact between the subjects to a minimum.

Each carrier must provide a certificate of general health and confirmation of the possibility of transportation. This item was a necessary requirement for drivers to enter the loading / unloading areas. With the help of online services, you could also get a certificate confirming the 14-day stay in the country. This document was required for institutions with a high level of security.

Summing up, we can say that the tools we have developed for the management of gaps allow the transport company to neutralize the negative impact of the crisis and contribute to the rapid adaptation of the company to work in a coronacrisis environment. Based on this, we can make a forecast of indicators that characterize the transport activity of the company.

3.3 Forecast of the transport company` activities in coronavirus conditions

First of all, we would like to note the last data that characterize the market where the company works.

With all 50 states relaxing COVID-19 shutdown orders to various extents, trucking shipments and rates are heading back up – but don't expect a true recovery until 2021.

For the week of May 18-24, truckload markets continued to follow seasonal trends, and load-to-truck ratios on the DAT network continued to climb as a result, according to DAT Solutions. That put pressure on prices, which rose to go into the long holiday weekend as more and more businesses reopen.

The number of posted loads actually dropped 16.5% during the week ending May 24, which includes the Friday, Saturday, and Sunday of Memorial Day weekend, but truck posts fell 29%. Shippers and brokers paid a premium to secure capacity ahead of the holiday, DAT said [7] (see figure 3.11).



Figure 3.11 – DAT Spot Truckload Rates: Monthly Average Trough May 24, 2020 [7]

The demand for trucks has steadily increased throughout May, following seasonal trends that are typical for this time of year,” wrote Matt Sullivan on the DAT blog May 27.

The upward trends offer plenty of reasons to be optimistic going forward. Last week saw some of the biggest increases since late March, with many shippers paying a premium to get freight moved ahead of the long Memorial Day weekend.

National averages for van and flatbed rates are still below where they were in April, although refrigerated rates were up slightly, reported DAT.

Van: \$1.57 per mile, 6 cents lower than the April average

Flatbed: \$1.88 a mile, 6 cents lower than April

Reefer: \$2.00 a mile, 7 cents higher than April

The rolling national average van, flatbed, and reefer rates were 6, 7, and 8 cents higher, respectively, on May 24 than they were on May 1. Rates are low but trending in the right direction.

There are still many markets where truckload supply outweighs demand, Sullivan said. Hot markets, on the other hand, included Atlanta, Memphis, Houston, Los Angeles, Phoenix and Ontario, California.

Based on this information conduct forecast operational indicators of the company. The initial data for the forecast is shown in table 3.1.

Table 3.1 - Number of owner-operated trucks in the company by types

	2017	2018	2019
Full Truckload	130	150	210
Less Than Truckload	40	57	68
Expedite Tracking	13058	17020	20120
Border Crossing	363	576	685
Cross Docking	7	21	62

By using Excel tools, we conducted forecast of considered above indicator and showed it in figure 3.12-3.16 and in tables 3.2 as example of calculation.

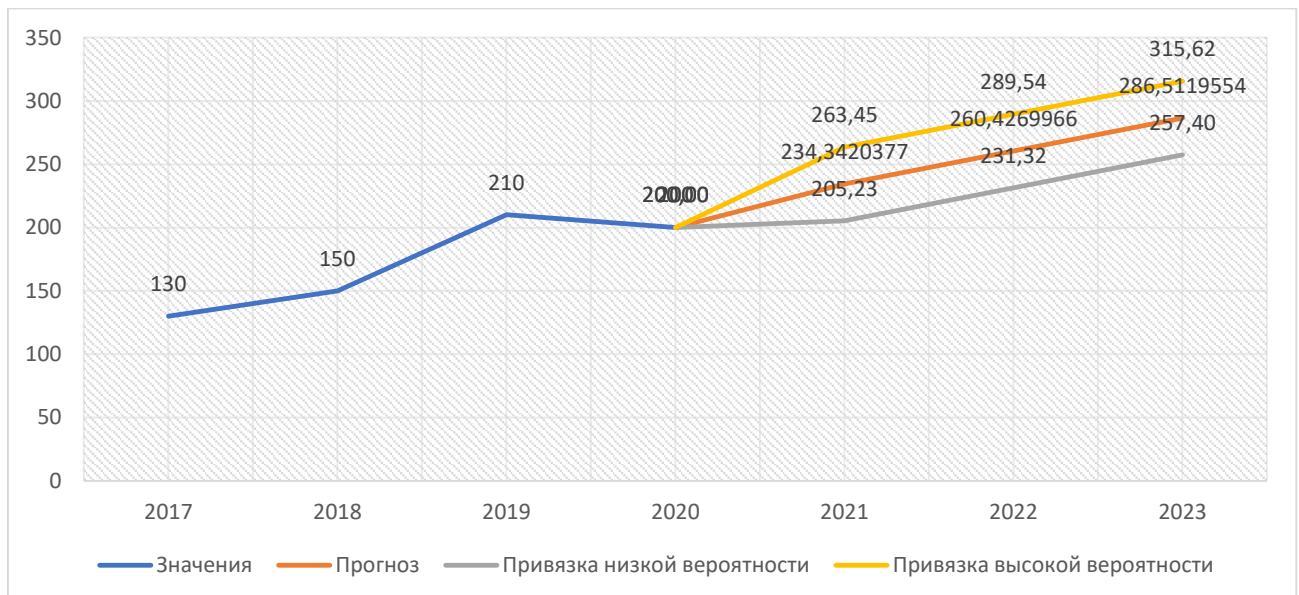


Figure 3.12 – Forecast of Full Truckload

Table 3.2 – Calculation of forecast of Less Than Truckload

Timeline	Values	Forecast	Low probability binding	High probability binding
2017	40			
2018	57			
2019	68			
2020	67	67	67,00	67,00
2021		78,638936	66,72	90,56
2022		87,508772	75,22	99,80
2023		96,378607	83,73	109,03

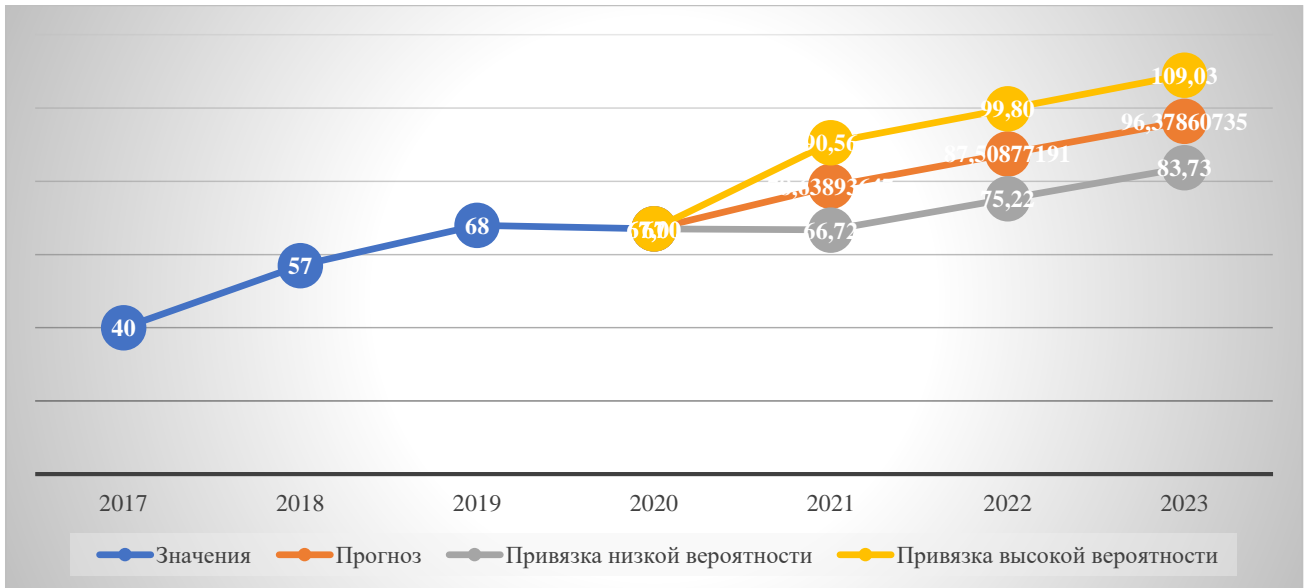


Figure 3.13 – Forecast of Less Than Truckload

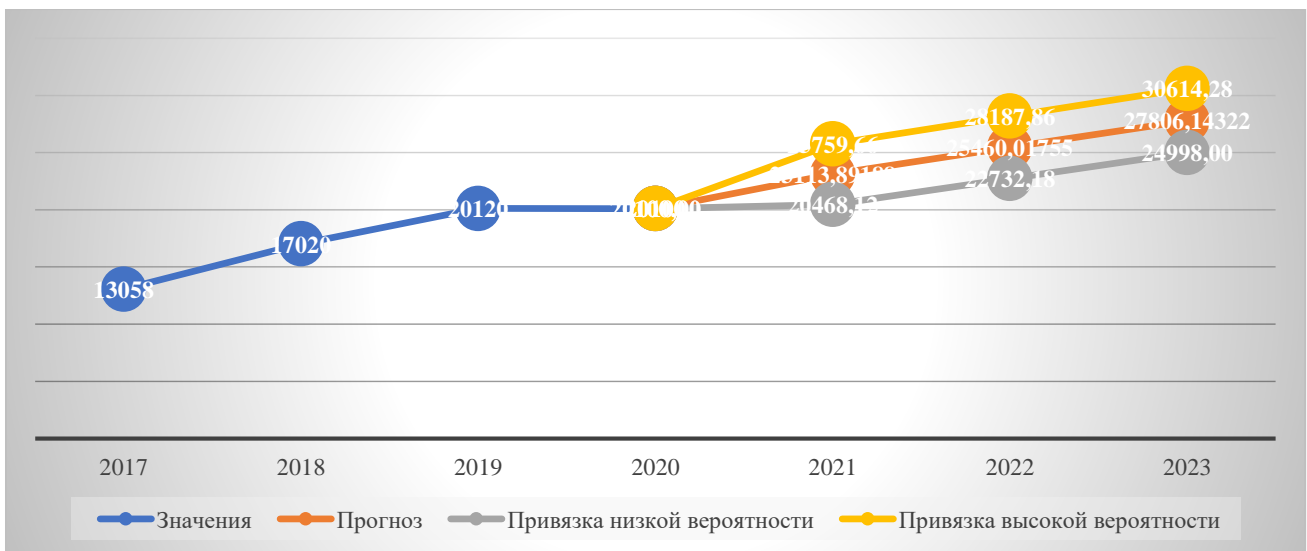


Figure 3.14 – Forecast of Expedite Tracking



Figure 3.15 – Forecast of Border Crossing



Figure 3.14 – Forecast of Cross Docking

The forecast of the number of own vehicles by using extrapolation method showed the company's operating trend for the next few years. This forecast includes two scenarios for the development of the situation - optimistic and pessimistic, that is, with a high and low probability of occurrence. This makes it possible to develop a program of probable actions in advance, and, when these probable events occur, apply a particular scenario to the company.

Using another method of forecasting - correlation and regression analysis, we will forecast the development of the company based on the data shown in table 3.3.

Table 3.3 – Number of operations (orders) in January – April 2019-2020

	2019	2019	2020	2020
	January - February	March - April	January - February	March - April
Full Truckload	35	37	43	21
Less Than Truckload	35	33	38	20
Expedite Tracking	3353	3567	4218	2401
Border Crossing	114	156	181	63
Cross Docking	12	18	18	40

Results of conducted analysis is shown in figure 3.15.

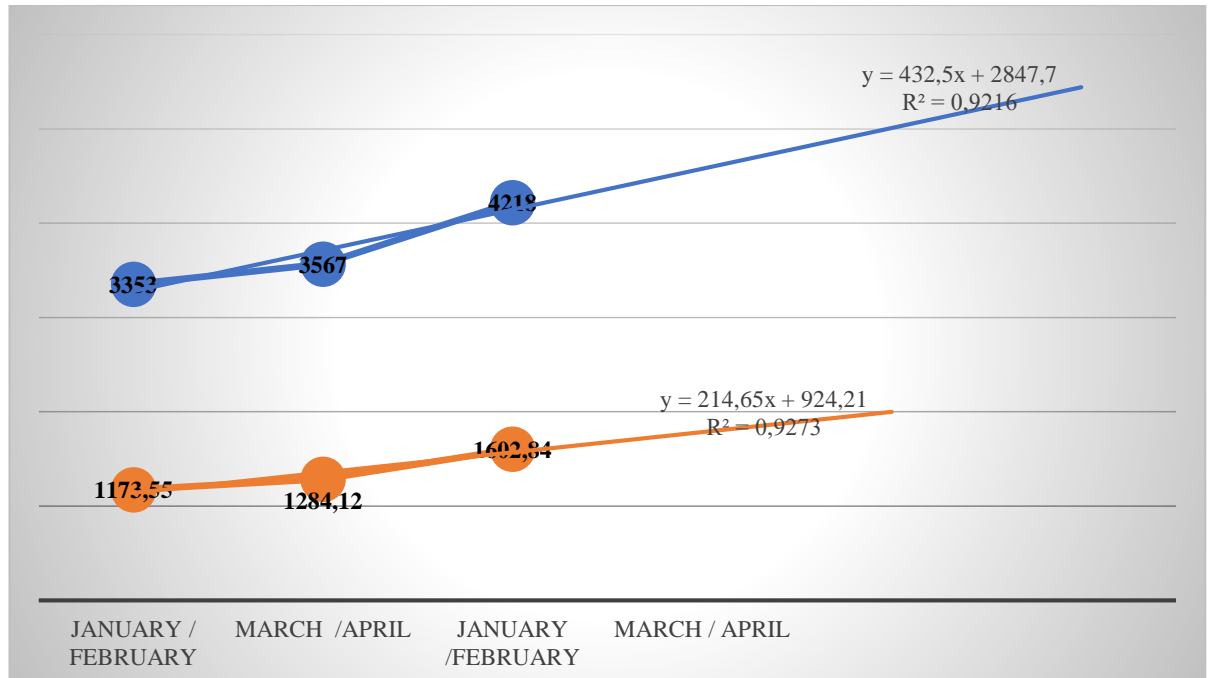


Figure 3.15 – Forecast of number of operations (orders) in January – April 2019-2020 for Full Truckload

Based on the data in table 3.4 and taking into account market trends, we will forecast the numbers of vehicles of the company by types depending on carriers for 2020. The result of this forecast is shown in figure 3.15.

Table 3.4 – Numbers of vehicles of the company by types

Number of carriers	2017	2018	2019
Cargo Van	230	270	320
Sprinter Van	210	258	310
Small Straight Truck	52	60	72
Large Straight	32	24	31
Total	524	612	733

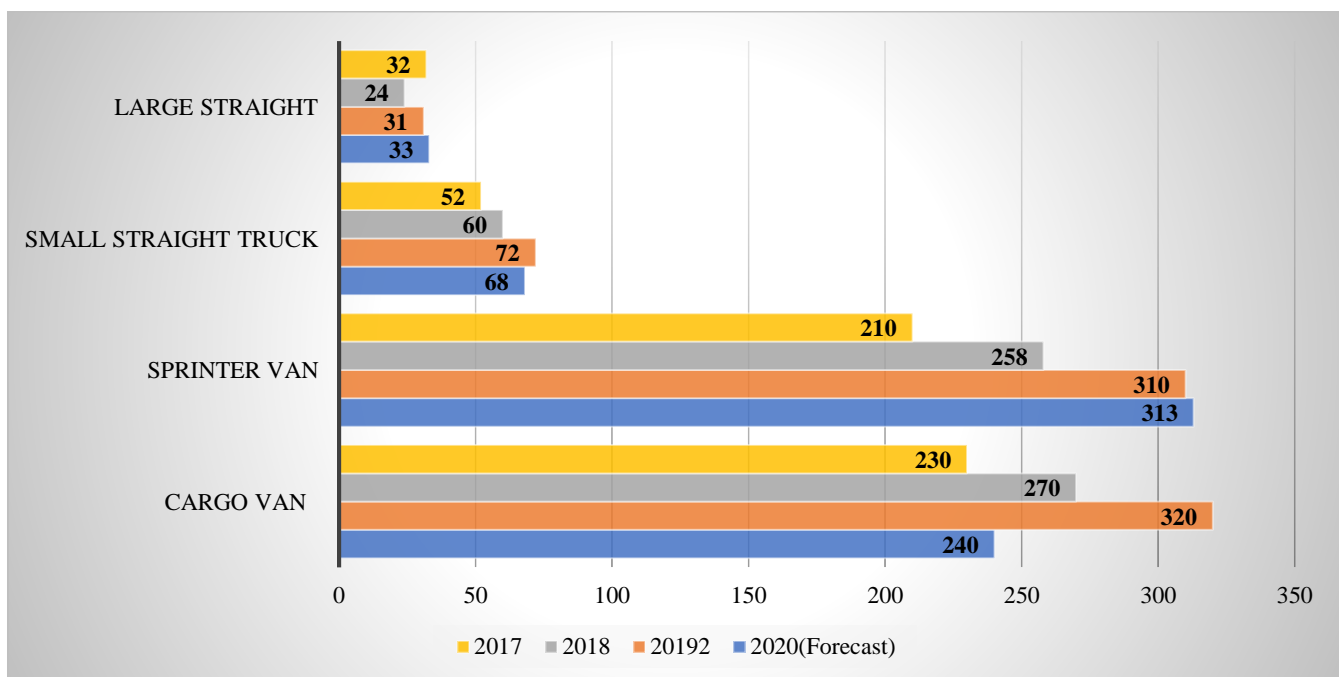


Figure 3.15 - Numbers of vehicles of the company by types

So, based on the use of various forecasting methods, we made a forecast of the development of the situation in the company, taking into account the influence of the coronavirus. Using these forecasts can help the company make management decisions to reduce the negative impact of coronavirus on the activities of a transport company.

3.4 Chapter 3 summary

In the design part of the thesis, the main changes that were caused by global changes, namely the coronavirus, were identified. Identification of factors influencing the activities of the transport company makes it possible to develop a set of measures to adapt the transport company to rapidly changing environmental conditions. Since the world will no longer be the same, transport companies need to be prepared for various changes and work out standards for the company, company personnel and work with other market participants.

The factors highlighted by us are typical of the American market, as they are distinguished by experts in the field of road transport. In our opinion, each market has its own specifics, therefore, there can be no universal standards for work in a coronavirus.

The set of measures we have developed for working with gaps that were identified in the second part of the thesis will help the company in its work and will be able to reduce the negative impact of the crisis caused by coronavirus.

Based on various forecasting methods, namely: extrapolation method, correlation and regression analysis and trend, a forecast was made of the main operating indicators of the transport company. This enables the company to develop a set of preventive measures and implement them, depending on a particular scenario.

According to experts, there will be a slow recovery in the road transport market in 2020 and we can speak of cautious optimism about a full recovery in 2021.

CONCLUSIONS AND RECOMMENDATIONS

Nowadays, an automobile mode of transport is increasingly used to transport goods to main modes of transport, cargo delivery, both long and short distances, as well as the possibility of door-to-door cargo delivery. Over long distances, road transport transports perishable goods, valuable goods, goods requiring quick delivery. In the modern world, the activity of more than one large enterprise, which is engaged in the production and sale of its own products, is impossible without road transport.

In the context of the global crisis, transport companies are struggling to organize - and reorganize - complex routes for transporting goods - and do it remotely. Employees are struggling with delayed production schedules, with violations of routes familiar to carriers. Cargo often needs to be carried over to new routes or modes of transport. The task of the transport company now is to find effective solutions in a rapidly changing environment.

The introduction of quarantine led to the closure of most enterprises and factories in Ukraine and Europe. This, in turn, affected the volume of international road transport. Back in March, there was a demand for transport, and rates were rising, and already in April, demand began to fall. Thus, the decline in the automotive industry is about 20% (according to a pessimistic forecast). At the same time, a situation of gradual restoration of work is now observed. It was in the conditions of the coronavirus that automobile transport became the main link in the supply chain.

An analysis of the activities of the transport company in the analytical department showed that the company cooperates with many entities in the market. The life cycle of the process of providing transport services was analyzed, the main stages of the algorithm of the transport company were identified.

The considered algorithm shows the sequence of processes in the company for interaction with all entities involved in the transport process. A detailed review of the processes makes it possible to distribute responsibilities and responsibilities among all

participants. In addition, it makes it possible to identify “gaps”, that is, crisis situations that may arise in the process of providing transport services.

The main “gaps” in the activities of the transport company were identified. Some types of these gaps are caused by daily operating activities, others have occurred recently, and were caused by the global crisis due to the coronavirus. Identification of these “gaps” enables the company to develop a number of measures to manage them.

The analysis of the financial and economic status indicates a relatively stable financial position of the company. Therefore, it is necessary to develop a set of measures that will neutralize the negative impact of the identified "gaps" that occur constantly in operational activities, and those that were provoked by the coronavirus. Because if urgent measures are not taken, then the company can move from the "gray zone" to the "red zone", where the probability of bankruptcy is very high.

In the design part of the thesis, the main changes that were caused by global changes, namely the coronavirus, were identified. Identification of factors influencing the activities of the transport company makes it possible to develop a set of measures to adapt the transport company to rapidly changing environmental conditions. Since the world will no longer be the same, transport companies need to be prepared for various changes and work out standards for the company, company personnel and work with other market participants.

The factors highlighted by us are typical of the American market, as they are distinguished by experts in the field of road transport. In our opinion, each market has its own specifics, therefore, there can be no universal standards for work in a coronavirus.

The set of measures we have developed for working with gaps that were identified in the second part of the thesis will help the company in its work and will be able to reduce the negative impact of the crisis caused by coronavirus.

Based on various forecasting methods, namely: extrapolation method, correlation and regression analysis and trend, a forecast was made of the main operating indicators of the transport company. This enables the company to develop a set of preventive measures and implement them, depending on a particular scenario.

REFERENCES

1. Authorized site Federal Motor Carrier Safety Administration – <https://www.fmcsa.dot.gov/>
2. Authorized site of Cerasis now put on Globaltrans - <https://cerasis.com/freight-bidding-platforms/>
3. Journal of Sustainable Development of Transport and Logistics. Popovych, P., Shyriaieva, S., & Selivanova, N. [Електронний ресурс]. – Режим доступу : <http://jsdtl.sciview.net>
4. How to Get Trucking Past the Coronavirus Pandemic Rates [Електронний ресурс]. – Режим доступу: <https://www.trucks.com/2020/05/19/how-to-get-trucking-past-coronavirus-pandemic/>
5. Net D [Електронний ресурс]. – Режим доступу: https://en.wikipedia.org/wiki/Net_D
6. 3 Ways COVID-19 May Change the Trucking Industry in the Long Haul [Електронний ресурс]. – Режим доступу: <https://www.truckinginfo.com/10118581/3-ways-covid-19-may-change-the-trucking-industry-in-the-long-haul>
7. Re-Opening Measures Positively Affect Truck Freight, Rates [Електронний ресурс]. – Режим доступу: <https://www.truckinginfo.com/359241/re-opening-measures-positively-affect-truck-freight-rates>
8. Барановський Д.М. Підвищення ефективності вантажних перевезень автомобільним транспортом / Д.М. Барановський // Вісник Донецької академії автомобільного транспорту. – 2010. № 3. – С. 4-12.
9. Білий Д.А. Совершенствование деятельности транспортно экспедиционного предприятия в крупном городе [Електронний ресурс]. – Режим доступу: <http://economy-lib.com/sovershenstvovanie-deyatelnostitransportno-ekspeditsionnogo-predpriyatiya-v-krupnom-gorode>

10. Белозерцева Н.П. Структура и особенности современного рынка грузоперевозок. Территория новых возможностей. /Белозерцева Н.П., Ярайкина М.С. //Вестник Владивостокского государственного университета экономики и сервиса: научный журнал. – 2012. - №1 (14) – С.64- 73.

11. Бондарев С.І. Методичний посібник з дисципліни «Організація міжнародних автомобільних перевезень» для студентів очної форми навчання з напрямку підготовки 6.070101 – «транспортні технології (за видами транспорту)». - К.: НУБіП, 2014. – 402 с.

12. Вельможин А.В., Гудков В.А и др. Грузовые автомобильные перевозки. разное. Учебник для вузов. А. В. Вельможин, В. А. Гудков, Л. Б. Миротин, А. В. Куликов. - М.: Горячая линия - Телеком, 2006 - 560 с: ил.

13. Гаврилов, Л. П. Інноваційні технології в комерції та бізнесі : підручник для бакалаврів / Л. П. Гаврилов. - М: Видавництво Юрайт, 2013. - 372 с.

14. Гапоненко А.Л. Менеджмент: підручник для бакалаврів / під заг. ред. А. Л. Гапоненко. - М: Видавництво Юрайт, 2013. - 396 с.

15. Гребельник О. П. Митна справа: підручник. 4-те вид. оновл. та доповн. / О. П. Гребельник - К.: Центр учбової літератури, 2014. - 472 с.

16. Гречуха В. Н. Міжнародне транспортне право: підручник для бакалаврату та магістратури / В. Н. Гречуха. - 3-е вид., перероб. і доп. - М: Видавництво Юрайт, 2015. - 398 с.

17. Дмитриев А.В. Логистика транспортно-экспедиторских услуг: Учеб, пособие / А.В. Дмитриев, М.В. Афанасьев - СПб.: СПбГУЭФ, 2013. - 104 с.

18. Дмитриев А. В. Современные логистические системы доставки грузов / /Логистические инновации в коммерции и маркетинге / А. В. Дмитриев: науч. сессия проф.-преп. состава, науч. сотрудников и аспирантов по итогам НИР 2010 г.: сб. докл. в 2 ч. Ч. I / под ред. И. Д. Афанасенко. - СПб.: СПбГУЭФ, 2011, - 163 с.

19. Дмитриев А. В. Логистика транспортно-экспедиторских услуг / А. В. Дмитриев, М. В. Афанасьев : учеб, пособие. - СПб.: Изд-во СПбГУЭФ, 2010. - 104 с.
20. Козіна К. Г. Теоретико-методичні основи факторного аналізу конкурентоспроможності міжнародних автотранспортних вантажних перевезень / К. Г. Козіна // Науковий вісник Херсонського державного університету. Сер. : Економічні науки. - 2014. - Вип. 6(2). - С. 203-206.
21. Контролінг: методичні рекомендації до практичних занять та виконання домашнього завдання /уклад.: О. В. Позняк, О. В. Карпунь. – К. : НАУ, 2012. – 40 с.
22. Корпоративная логистика. 300 ответов на вопросы профессионалов / Под общ. редакцией проф. В.И. Сергеева.– М.: Инфра-М, 2004.- 976 с.
23. Кузьмін О.Є. Конкурентоспроможність підприємства: планування та діагностика: монографія / О.Є. Кузьмін, О.Г. Мельник, О.П. Романко // . – Івано-Франківськ: Івано-Франківський національний технічний університет нафти і газу, 2011. – 198с.
24. Логистика. Интеграция и оптимизация логистических бизнес-процессов в цепях поставок: [учебник для студ. вузов] / В. В. Дыбская, Е. И. Зайцев, В. И. Сергеев, А. Н. Стерлигова ; Под ред. В. И. Сергеева. - М. : Эксмо, 2008. - 944 с.
25. Логістика в Україні. Парадокси ринку. [Електронний ресурс]. – Режим доступу:ogist.fm/publications/logistika-v-ukraine-paradoksy-rynka-i-puti-raskrytiya-potenciala
26. Миротин Л.Б. Транспортная логистика: учеб. для транспортных вузов / Л.Б. Миротин, Ы.Е. Ташбаев, В.А. Гудков; под общ. ред. Л.Б. Миротина. – М.: Издательство «Экзамен», 2007. – 512 с.
27. Мирошниченко Л., Сапрыкин Л., Михайленко Е. Автомобильные перевозки:организация и учет. 8-е изд. – Х.: Фактор, 2011. – 688 с.
28. Опис і можливості CRM [Електронний ресурс]. – Режим доступу: <https://www.terrasoft.ua/software/CRM/definition>

29. Оперативное, тактическое и стратегическое управление. Три ступени для руководителя. [Электронный ресурс] - Режим доступа: http://dlearning.ru/articles/?ELEMENT_ID=301.
30. Нагорний Є.В. Транспортно-експедиторська діяльність / Є.В. Нагорний, Д.В. Ломотько, Н.Ю. Шраменко та ін.: підручник. – Х.: ХНАДУ, 2012. – 352 с..
31. Особенности национального аутсорсинга на транспорте [Электронный ресурс]. – Режим доступа: <http://www.ukrlogist.com/article/transport-i-jekspedirovanie/434>
32. Офіційний сайт міжнародної федерації експедиторських асоціацій [Електронний ресурс]. – Режим доступу : <https://fiata.com/>
33. Перебийніс О.В. Методичні основи формування ринку транспортних послуг // Вісник Харківського національного технічного університету сільського господарства ім. П. Василенка: Економічні науки. Ринкова трансформація економіки АПК. – 2004. – Вип. 32. – С. 376–380.
34. Попова С.М. Диверсифікація діяльності підприємств в умовах трансформаційної економіки : автореферат дисертації на здобуття наукового ступеня кандидата економічних наук / С.М. Попова // Харківський національний економічний університет. - Харків, 2004. - с.20.
35. Попович П.В. Економічні аспекти використання послуг 3PL операторів вітчизняними підприємствами. /П.В. Попович. Науковий журнал. – Луцьк: Луцький НТУ, 2016. № 2. С. 125-129.
36. Попович П.В. Дослідження тенденцій розвитку ринку вантажних автомобільних перевезень у сучасних умовах/ Шевчук О. С., Матвіїшин А.Й., Лотоцька В. М. // Вісник ЖДТУ. Серія: Технічні науки. – Житомир: ЖДТУ, 2016. № 2(77). С. 224-228.
37. Система NCTS [Електронний ресурс]. – Режим доступу: <http://sfs.gov.ua/baneryi/mitne-oformlennya/subektam-zed/elektronna-mitnitsya/62607.html>

38. Сток, Дж. Р. Стратегическое управление логистикой / Дж. Р. Сток, Д. М. Ламберт ; пер. с 4-го англ. изд. – М. : Инфра-М, 2005. – 797 с.
39. Структура и особенности рынка логистики и грузоперевозок / Юлэкс [Электронный ресурс]. – Режим доступа: <http://www.uleks.ru/blogs/1/3.html>
40. Сучасні інформаційні технології в логістиці: електронний обмін даними (EDI), автоматична ідентифікація [Електронний ресурс]. – Режим доступу: http://studopedia.com.ua/1_13690_suchasni-informatsiyi-tehnologii-v-logistitsi-elektronniy-obmin-danimi-EDI-avtomatichna-identifikatsiya.html
41. Транспортная логистика: Учебник / Под ред. Л.Б. Миротина. – М.: Экзамен, 2003. – 512 с.
42. Транспортный документ – CMR [Электронный ресурс] – Режим доступа: <https://ua-broker.com/shcho-potribno-znaty/dokumenti-dlya-mitnogo-oformlennya/transportniy-dokument-cmr/>
43. Транспортный документ – CMR [Электронный ресурс] – Режим доступа: <https://ua-broker.com/shcho-potribno-znaty/dokumenti-dlya-mitnogooformlennya/transportniy-dokument-cmr/>
44. Томляк С. І. Шляхи підвищення ефективності перевезення вантажів автомобільним транспортом / С. І. Томляк, А. П. Поляков // Наукові нотатки. - 2014. - Вип. 46. - С. 529-537.
45. Щербаков В. В. Основы логистики / В. В. Щербаков: учеб, для вузов. - СПб.: Питер, 2009. - 432 с.
46. Шершньова З.Є. Стратегічне управління: Підручник. – 2-ге вид., перероб. і доп. – К.: КНЕУ, 2004. – 699 с.
47. Шинкаренко В.Г. Формирование стратегии развития АТП/ Шинкаренко В.Г., Левченко О.П. // Економіка транспортного комплексу: Зб.наук.пр. - Харків: ХНАДУ. – 2004. Вип. 7. – С. 88 - 99.
48. Элларян А.С. Стратегическое планирование логистической деятельности предприятия / Элларян А.С. // Российское предпринимательство. — 2002. — № 9 (33). — С. 9-15.

49. Экономика транспорта : учебник и практикум для академического бакалавриата / под ред. Е. В. Будриной. — М. : Издательство Юрайт, 2016. — 36

50. Яновицька А. В. Правове регулювання міжнародних вантажних перевезень автомобільним транспортом / А. В. Яновицька // Науковий вісник Львівського державного університету внутрішніх справ. серія юридична. - 2013. - Вип. 3. - С. 106-116.

51. COVID-2019: последствия для транспорта и логистики. [Электронный ресурс]. – Режим доступа: <https://seanews.ru/2020/04/07/ru-covid-2019-posledstvija-dlja-transporta-i-logistiki/>

C.A.T. Global Inc. Load: CAT257643

C.A.T. load number MUST appear on ALL billing paperwork

Please contact 1-800-631-1914 or via email

opsdallas@catglobal.ca 24 hours a day



LOAD CONFIRMATION

("Contract of Carriage")

**C.A.T. Global Inc. must be notified in advance of any changes in schedule.
Failure to provide notification could result in fines.**

Date: 05 Jun 2020

Carrier Information	
CARRIER OFFICE LOCATION: Orange Commercial Credit, Olympia, WA 98508-1099	
CARRIER NAME: Precise Transportation Inc	DRIVER NAME:
CONTACT NAME: Max Phillatov	DRIVER PHONE NUMBER:
PHONE NUMBER: 9802851037	TRACTOR:
	TRAILER:
	DRAY CARRIER:

Load Summary	
DISPATCHER:	Annie Robertson
TOTAL MILEAGE:	1232.0
PICKUP NUMBER	
DELIVERY NUMBER	
P/O NUMBER	
EQUIPMENT	Van Only 53 (VO) Code: VO
SERVICES	APPT REQD DELIVERY PERSONAL PROTECTION EQUIPMENT APPT REQD PICKUP MACROPOINT TRACKING
CUSTOMS BROKER	
CUSTOMS BROKER FAX/PHONE NUMBER	

Shipper			
NAME:	TK HOLDINGS MH-DC	EARLIEST PICKUP DATE/TIME:	06/05/2020 14:00
ADDRESS:	4237A HWY 57	LATEST PICKUP DATE/TIME:	06/05/2020 14:00
ADDRESS:			
CITY, STATE, ZIP:	EAGLE PASS, TX 78852		
PHONE:	8307523111		

Pickup Instructions:
DRIVER MUST SIGN IN AS CAT GLOBAL. DRIVER MUST CALL C.A.T. TO DISPATCH. DRIVER MUST ALSO ACCEPT MACROPOINT TRACKING AND MAINTAIN NO EXCEPTIONS. FAILURE TO ACCEPT MACROPOINT OR DECISION TO HIDE LOCATION/TURN OFF LOCATION SERVICES WILL RESULT IN A 50% RATE REDUCTION.
ALL APPOINTMENT TIMES AND WINDOWS ARE FIRM. VARIANCE WILL INCUR HOURLY LATE FEES IN THE AMOUNT OF \$40.00 PER HOUR. ANY CHANGE IN SCHEDULE MUST BE IMMEDIATELY REPORTED TO CAT PERSONNEL. NO SCHEDULING NEGOTIATIONS ARE TO BE MADE WITH SHIPPER/RECEIVER WITHOUT AUTHORIZATION OR INSTRUCTION FROM CAT.

Pieces	Type of Pkg	Haz Mat	NMFC	Class	Dimensions	Description of articles, Special marks and Exceptions (Subject to Correction)	Weight lbs (Subject to Correction)
1.0	pcs			70.0		NON-HAZ	830.0
TOTAL PCS							TOTAL WT
1.0 pcs							830 lb

Receiver			
NAME:	AMERICAN HONDA MOTOR	EARLIEST DELIVERY DATE/TIME:	06/08/2020 08:00
ADDRESS:	17200 HWY 72 N	LATEST DELIVERY DATE/TIME:	06/08/2020 08:00

ADDRESS:	
CITY, STATE, ZIP:	LOUDON, TN 37774
PHONE:	

Delivery Instructions:

DRIVER MUST SIGN IN AS CAT GLOBAL. DRIVER MUST CALL C.A.T. TO DISPATCH. DRIVER MUST ALSO ACCEPT MACROPOINT TRACKING AND MAINTAIN NO EXCEPTIONS. FAILURE TO ACCEPT MACROPOINT OR DECISION TO HIDE LOCATION/TURN OFF LOCATION SERVICES WILL RESULT IN A 50% RATE REDUCTION.

ALL APPOINTMENT TIMES AND WINDOWS ARE FIRM. VARIANCE WILL INCUR HOURLY LATE FEES IN THE AMOUNT OF \$40.00 PER HOUR. ANY CHANGE IN SCHEDULE MUST BE IMMEDIATELY REPORTED TO CAT PERSONNEL. NO SCHEDULING NEGOTIATIONS ARE TO BE MADE WITH SHIPPER/RECEIVER WITHOUT AUTHORIZATION OR INSTRUCTION FROM CAT.

Pieces	Type of Pkg	Haz Mat	NMFC	Class	Dimensions	Description of articles, Special marks and Exceptions (Subject to Correction)	Weight lbs (Subject to Correction)
1.0	pcs			70.0		NON-HAZ	830.0
TOTAL PCS							TOTAL WT
1.0 pcs							830 lb

Service Bill Summary	
Charge Item	Charge Amount
Total Line Haul	\$1,400.00
TOTAL AMOUNT	USD \$1,400.00

TOTAL PIECES	1.0
TOTAL WEIGHT	830.0

Terms and Conditions of this Contract of Carriage

1. Unless the prior written consent of C.A.T. Global Inc. ("CAT") has been obtained, Carrier shall not, in any manner, sub-contract, broker or tender to any third party for transportation, any goods tendered to carrier by CAT pursuant to this Contract of Carriage. Any double brokering by Carrier will forfeit its right to compensation for the shipment, and accordingly any and all claims will be denied by CAT.
2. Carrier must issue a bill of lading prior to picking up the entrusted goods and name CAT as the load broker. He must also insert CAT's inscription number (NI) and/or operating number (MC) on all shipping documents.
3. Carrier hereby waives its right to seek payment of its freight charges from the shipper, the consignee or from any of CAT's customers, and further agrees not to contact said parties for any reason and in any manner whatsoever.
4. Carrier must contact CAT should any problem occur during transport, including without limitation any overages, shortages and damages.
5. Unauthorized breaking of the seal without written consent will result in a claim
6. All detention must be reported no later than ninety (90) minutes after arrival, failing which detention costs will not be approved.
7. All extra charges must be approved in writing by CAT's representative via a revised load confirmation.
8. No payment will be made until proof of delivery of the goods accompanied by the bill of lading and all related and signed documents have been provided to CAT, to its total satisfaction, which documents shall be faxed or emailed to CAT within twenty-four (24) hours of delivery.
9. For a period of one (1) year following the execution of the transport movement, Carrier undertakes not to solicit for transportation, arrange for, or accept, directly or indirectly, loads from CAT's customers, the shipper and the consignee named in this Contract of Carriage.
10. This Contract of Carriage shall be governed by the laws and regulations of the Province of Quebec.
11. In case of discrepancies between this Contract of Carriage and the bill of lading to be issued by the Carrier, the terms and conditions of this Contract of Carriage shall prevail.

1. This Contract of Carriage will also be subject to the Motor Transportation Agreement entered into between CAT and the Carrier (the "**Transportation Agreement**"). In case of discrepancies between this Contract of Carriage and the Transportation Agreement, the latter will prevail.
2. Should Carrier fail to sign and return the Contract of Carriage to CAT prior to the execution of the transport movement, Carrier agrees and covenants that by taking possession of the entrusted goods, it will be bound by the terms and conditions of this Contract of Carriage.

Please sign and return this document by fax or email to CAT:

Carrier agrees to the terms and conditions of this Contract of Carriage and undertakes to be bound by them. Carrier also certifies that it holds the appropriate operating authorities and/or licences as well as the appropriate insurance coverage to perform the transportation services, as requested by CAT.

Date: _____

Carrier's
signature:

Authorized to bind the corporation

Print Name



COMPREHENSIVE LOGISTICS.
SUPERIOR RESULTS.
 www.logikor.com

Straight Bill of Lading • Short Form • Original • Not Negotiable
 Phone : 513-725-4633 Fax : (623) 209•0093

Shipper Lorik Tool & Address: 19 Copernicus Blvd BRANTFORD, ON N3P 1N4 Country: CANADA Contact Name: Phone No: 519-758-8660 Fax No:		Carrier: Carolina Logistics Inc. Est Distance: 595.74 Origin Terminal: Destination Terminal:		BOL # C459133 PO # 601188, 605079 Shipper Ref # 601188, 605079 Carrier PRO # Shipment Date: 05/04/2020 Office Use Only within this box FREIGHT CHARGES ALL FREIGHT CHARGES ARE PREPAID				
Consignee Toyota Boshoku Address: 100 Trim Masters Dr LAWRENCEVILLE, IL 62439 Country: USA Contact Name: Phone No: 618-943-7166 Fax No:		Third Party Billing Information All charges prepaid to : Logikor LLC 463 Ohio Pike, Suite 105 Cincinnati, OH 45255 Billing inquiries: (844) 622-8400 Ext. 2						
Comments/Special Instructions:								
INDICATE "X" FOR DANGEROUS GOODS (Material as defined in Title 49 CFR)								
NO. OF PCS.	DG / MD	DESCRIPTION OF ARTICLES	CLASS	DIMENSIONS			PALLET/ CTN / BOX	WEIGHT LBS / KGS
				L	W	H		
1		Assembly Convyer Jigs	70.0	0.0 in	0.0 in	0.0 in	PLT	150.0 lb
TOTAL NO. PCS.: 1		TOTAL WEIGHT: 150.0 LB		Notes / Special Instructions: Driver must have appropriate PPE including steel toe shoes, safety vest, and safety glasses.				
				Driver must arrive on the time agreed upon for pickup and delivery. Being late to either pickup or delivery without communication will result in fines up to \$1000 depending on the situation. If driver runs out of hours and is not going to be able to make delivery and does not communicate to Logikor, fines will be applied..				

Any Problems with Delivery please call Luke Poynter, team-poynter@logikor.com at 513-725-4633

The authorized signatories signing this document on behalf of its company consents and bind its company to the terms and conditions found on www.logikor.com

Shipper Certification : I hereby certify that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled and in proper condition for carriage by land/air according to applicable national governmental regulations.

Shipper's Signature: _____ Date: _____ Trailer#: _____

Driver's Signature: _____ Date: _____ Trailer#: _____

Drivers Certification : Carrier acknowledges receipt of packages in good order, condition and quantity unless otherwise stated hereon. Carrier certifies emergency response information and required placards were made available and/or carrier has the D.O.T. emergency response guidebook or equivalent in the vehicle.

Consignee Signature: _____ Print Name: _____

Company Name: _____ Date: _____



ASSOCIATION OF AMERICAN RAILROADS

Thomas L. Farmer
Assistant Vice President – Security

March 16, 2020

Christopher Bennett
Director, Public Safety Communications Center
CSX Transportation
6425 Southpoint Parkway
Jacksonville, FL 32216
Office: 904-366-5648 / Cell: 904-540-6001
Email: Christopher_Bennett@csx.com
Emergency Response Center (24/7) – 1-800-232-0144

LETTER OF ACCESS: COVID-19 RESTRICTED AREAS **CONTRACTORS OF CSX TRANSPORTATION**

This Letter of Access is prepared, disseminated, and used by the railroad industry in accordance with best practices and recommended preparedness measures for access and re-entry in the Crisis Event Response and Recovery Access (CERRA) Framework, produced in a joint government-industry effort led by the Department of Homeland Security (DHS) and the Emergency Services Sector Coordinating Council (SCC) and issued and approved for usage in March 2018.

On matters relating to critical infrastructure protection and resilience, the Association of American Railroads (AAR), as manager of the Rail SCC established pursuant to the National Infrastructure Protection Plan (NIPP), works in concert with DHS and its components, including the Federal Emergency Management Agency (FEMA), as well as the Department of Transportation (DOT) and Federal Railroad Administration (FRA), on preparedness for timely and effective protective and response measures.

The rapid spread of coronavirus disease 2019 (COVID-19) in the United States since late January 2020 has necessitated a range of actions by federal, state, and local authorities to contain the virus and mitigate its effects.

- Assessments by medical experts with the Centers for Diseases Control and Prevention (CDC) and the Department of Health and Human Services (HHS), briefed to representatives of industries across sectors in recurring teleconferences held by DHS's Cybersecurity and Infrastructure Security Agency (CISA), project sustained expansion of community spread during the next several months – in scope of geographic areas affected and volumes of confirmed infections.
- On March 13, 2020, President Donald J. Trump declared a national emergency to support containment and mitigation of COVID-19 and address the significant public health and national and economic security implications. This declaration engages the full authorities and resources of FEMA for emergency preparedness and response.