



**Flanders**  
State of the Art



**LOGISTICS**

**IN HOUSTON**

**FLANDERS INVESTMENT & TRADE MARKET SURVEY**

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**LOGISTICS IN HOUSTON**

August 2018  
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## Introduction

This study is made to provide more information about logistics in Houston. Not only will it detail types of transport, but it also compares information with countries in Europe. After discussing the modes of transport this study provides a list of the top logistics companies in Houston, explains different factors affecting the cost of transport, and points to the future of distribution. In the conclusion we highlight unique opportunities for Flemish companies.

The first big thing to notice about Houston is that in 2013, the city was ranked number one among the top U.S. manufacturing cities by Manufacturers' News Inc. The Houston region is an extremely important industrial base and home to the largest medical complex in the world, the Texas Medical Center. The first words spoken from the moon and the typical phrase "Houston, we have a problem" also define its industry, with NASA's Johnson Space Center as its trademark. Furthermore, Houston is growing its presence as the Energy Capital of the Future with both traditional and renewable forms of energy technology.<sup>1</sup>

In addition, Houston's multi-modal transportation system (railways, highways, ports and airports) makes the city an excellent distribution network. There are three railways, with over 2.000 trains traveling in the Houston area each week, 16 interstate highways and six ports, the largest being Port of Houston. The top distribution centers serviced by 1.400 trucking firms are Amazon, UPS, FedEx, Red Bull, Walmart and Home Depot. Houston is situated in the middle of the East coast and West coast, making it a perfect central location for distribution.<sup>2</sup>

In 2012, the U.S. Department of Commerce's International Trade Administration (ITA) showed that thanks to the excellent transportation system, the Houston metropolitan area has become number one for exports. In 2016, Houston was the second largest exporter in the U.S.<sup>3</sup> The total value of exported goods was \$84,1 billion. That's \$30.8 billion more than in 2006. On average, the exports from the Houston area have increased by 4.7% every year. Exports from Houston accounted for 42% of the total exported goods in Texas.

The top 5 trade partners in 2015 for Houston (imports and exports combined) are China with \$18.5 billion, Mexico with \$17.7 billion, Brazil with \$10.5 billion, Germany with \$10.0 billion and The Netherlands with \$8.4 billion<sup>4</sup>. Belgium is ranked number 12 with \$4.8 billion. The total imports from Europe in 2015 accounted for \$28.9 billion, while the export was valued at \$25.9 billion. Goods exported from Houston to Belgium were valued at \$3.6 billion, with the most exported products being organic chemicals, plastic, plastic products, mineral fuels and refined products. Goods imported from Belgium to Houston were valued at \$1.2 billion, with the most imported products being mineral fuels, refined products, organic chemicals and industrial equipment and computers.

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<sup>1</sup> Houston.org; <https://www.houston.org/business/industry-sectors.html> ; March 12, 2018

<sup>2</sup> Houston.org; <https://www.houston.org/assets/pdf/opportunity/Logistics-General-Info.pdf> ; March 12, 2018

<sup>3</sup> ITA; <https://www.trade.gov/mas/ian/metroreports/Houston.pdf> ; March 29, 2018

<sup>4</sup> Houston.org; [https://www.houston.org/assets/pdf/economy/Global%20Houston\\_web.pdf](https://www.houston.org/assets/pdf/economy/Global%20Houston_web.pdf) ; April 10, 2018

# 1. LOGISTICS INFRASTRUCTURE BY TYPE OF TRANSPORT

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## 1.1 WATER AND PORTS IN AND NEAR HOUSTON

This is primarily an international business. Generally, goods are shipped either in containers or in bulk. Container cargo mostly consists of finished goods, while bulk cargo includes raw materials such as oil, liquefied natural gas, coal, minerals or grain.

According to the International Trade Administration (ITA), in 2014, 92% of the Houston goods exporters shipped manufactured products overseas.

### **Containerized shipping**

Containerized shipping has significant overcapacity, creating an advantageous rate environment for U.S. shippers. In 2015, container carriers increased their twenty-foot equivalent unit containers (TEU) capacity by 8.5 percent.<sup>5</sup>

The Port of Houston handles about two thirds of the containerized shipping in the U.S. Gulf of Mexico. 63% of the cargo in Port of Houston is containerized shipping. The two container terminals are Barbour's Cut and Bayport.

### **Dry bulk**

Dry bulk cargo or dry trade is unpackaged cargo in large quantities that is not in a liquid form, like coal or grain.

Overcapacity is undermining rates in the dry bulk as well. Bloomberg reports that dry bulk carriers have added more than 2.8 million deadweight tons since December 2015, even though water shipping demand for bulk commodities declined.<sup>5</sup>

### **Liquid bulk**

Liquid bulk cargo or wet trade is unpackaged cargo in large quantities that is in a liquid form, like oil and chemicals.

In contrast to containerized cargo and dry bulk, liquid bulk rates are holding up better as the capacity build-up has been much more modest. However, the capacity is likely to grow faster than demand in 2016.<sup>5</sup>

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<sup>5</sup> CSCMP's annual state of logistics report; <https://www.lee-associates.com/logistics/wp-content/uploads/sites/11/2017/05/cscmp-sofl-report-2016.pdf>; March 19, 2018



In addition, the Port of Houston is the top trading partner of the Port of Antwerp in North America in tonnage, with a total of 6,476,082 tons in 2017. The second one is Montreal with 3,177,023 tons, then New York with 2,769,887 tons, Norfolk with 1,777,230 tons and Savannah with 1,216,646 tons<sup>7</sup>. So, in tonnage, Houston is a larger trading partner for Port of Antwerp than Montreal and New York combined. In TEU, Houston is the 3<sup>rd</sup> largest trading partner with 206,667 containers in 2017. Montreal is first with 283,441 containers, followed by New York with 271,104 containers. But 8% of Houston container exports goes to the Port of Antwerp, which makes Belgium their second largest export destination. At the same time, almost 5% of Port Houston container imports come from Port of Antwerp, making Belgium the number six importer for Houston, before Spain, France, the UK and the Netherlands.

The ports did not close down entirely because of labor issues, but contract disagreements disrupted service enough to make shipping through those ports inconvenient. This drove more container traffic to other ports, like the Port of Houston. Here is some extra background information from the Los Angeles Times about the labor issue:

“The wait at the Los Angeles and Long Beach ports has gotten longer and longer, eroding their share of international trade. The ports are scrambling to respond to rapid changes in global shipping, most notably the advent of giant cargo ships now clogging the docks with massive loads. Labor strife – including the recent longshoremen’s contract impasse and the lasting effects of a 2002 lockout – has also played a role in the ports’ shrinking market share.” (<http://www.latimes.com/business/la-fi-big-ships-ports-20150602-story.html>)

In the next figure, you can see the different terminals of the Port of Houston. Each terminal is uniquely designed to handle a wide range of cargo types and customer needs.

Figure 2: Terminals of Port Houston; Source: Port of Houston



<sup>7</sup> Filip Vandenbussche, Port of Antwerp presentation 2017





provide 6,000 feet of continuous quay, and the facility also includes 230 acres of paved marshaling area and 255,000 square feet of warehouse space.<sup>9</sup>

### 1.1.7 Bayport Terminal

The Bayport terminal is the second container terminal of the Port of Houston. This facility is considered the most modern and environmentally sensitive container terminal on the U.S. Gulf coast. When this terminal is fully developed, it will have seven berths ready with a capacity to handle 2.3 million TEUs, 376 of container yard and a 123-acre intermodal facility.

### 1.1.8 Top U.S. import and export container carriers<sup>10</sup>

The top five container carriers for U.S. import and export are the same, but just in a different order for both. These five companies all have an office in Houston. The top five carriers for U.S. import are the following:

		2016 U.S. imports in TEU	2017 U.S. imports in TEU	% change
1	CMA CGM/APL	2,725,476	2,977,695	9.3%
2	Maersk Group	2,760,042	2,841,049	2.9%
3	MSC	2,478,213	2,790,389	12.6%
4	Hapag-Lloyd	1,904,571	1,920,290	0.8%
5	Evergreen Line	1,778,708	1,844,293	3.7%

The U.S. imports of these top five carriers account for 54 percent of the total U.S. import from container carriers. These are the top five carriers for U.S. export:

		2016 U.S. exports in TEU	2017 U.S. exports in TEU	% change
1	Maersk Group	1,912,168	1,816,883	-5.0%
2	MSC	1,568,412	1,664,534	4.9%
3	CMA CGM/APL	1,438,800	1,558,250	8.3%
4	Hapag-Lloyd	1,053,656	1,005,074	-4.6%
5	Evergreen Line	787,393	817,364	3.8%

The U.S. imports of these top five carriers account for 55.2% of the total U.S. export from container carriers.

<sup>9</sup> Port of Houston; <http://porthouston.com/container-terminals/barbours-cut-container-terminal/> ; April 10, 2018

<sup>10</sup> Dustin Braden, The export slide, The Journal of Commerce, April 16, 2018



1.1.9 Port Houston 2040<sup>11</sup>

An initial draft of the Master Plan entitled “Port Houston 2040” is to be completed this year. If the current and estimated growth of Port Houston continues, this plan will be critical. Continuing growth requires preparation and well-planned investments.

By 2040, the region is expected to have a total of 9.6 million residents, or nearly four million more residents. Increases in population means increases in cargo, particularly consumer goods and other imports. Meanwhile, the petrochemicals renaissance is driving exports, particularly plastic resins. The main focus of the master plan of Port Houston is what the port needs to look like not only in the near term, but also in the medium and long term. “The impacts of the port area on the economy are about \$600 billion nationwide, 2.4 million jobs related nationwide and 1.2 million jobs related in Texas alone. So we need to make sure that the port is doing the right thing to sustain that economic engine that supports the economy”, says Port Houston Chief Infrastructure Officer Rich Byrnes.

This masterplan will also focus on container facilities. The threshold of 2.4 million TEUs was surpassed in 2017 and estimates say that the three million level is not far off. Port Houston is already the fastest-growing container port in the U.S. In addition to preparing for the extra cargo, Port Houston 2040 will also look at other priorities, like continued development of the Houston Ship Channel and the Port’s connections to our community and broad range of stakeholders. This includes improving public awareness and looking beyond the port gates as well. The Port is working with the Texas Department of Transportation, Houston-Galveston Area Council (H-GAC) and federal grant sources, to focus on increasing capacity in the rail and road networks.

The capital plan over the next few years will exceed \$2 billion, and similar amounts will be needed to support innovation and sustain growth through 2040. “These are large investments, but the dividends they pay in driving the economy are well worth it, just as our city founders knew 100 years ago,” Byrnes added.

## 1.2 MOTOR CARRIERS

Motor carriers is the largest transportation mode, employing more than seven million people in the U.S. and with a revenue of \$583 billion.

The main characteristic of motor carriers is overcapacity, which drove rates down after several years of rising prices. Furthermore, it is becoming increasingly difficult and expensive to recruit and retain truck drivers, because the labor market tightens, regulations become stricter, and the trucking lifestyle loses its appeal.

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<sup>11</sup> Port Houston 2040, Port Houston Navigator Spring 2018



Dry van spot market rates declined 15 percent between Week 1 in 2015 and Week 1 in 2016, and they continued to fall in the early part of the year. “Dry van” refers to the trailer you see connected to trucks. They’re essentially big rectangular containers. Truck tonnage held steady in 2015 after a significant rise of more than seven percent just one year earlier. This could be explained by the addition of capacity and the fact that trucking companies were pushing lower-yield traffic such as intermodal and LTL traffic.

However, despite softening demand and lower rates, competition for drivers is intense. According to the Bureau of Labor Statistics (BLS), in 2010, the demand for drivers dropped to slightly more than 1.5 million, while in 2016, the demand is approaching 1.7 million drivers. Although the wage has been increasing with two percent every year between 2010 and 2015, industry interviews suggest that truckload carriers tend to pay higher wages than reported and are subject to greater annual increases than the average.

### Specialized trucking segments <sup>12</sup>

**Dedicated fleets** shippers are using dedicated fleets to drive efficiently in complex networks, secure capacity, and ensure service requirements are met. Dedicated fleets are a primary growth area for many of the largest carriers.

The Less Than Truckload (LTL) market has seen mixed results over the past year. Some large LTL carriers declined in revenue and tonnage, and others, who were more focused on e-commerce or retail, were able to maintain or even slightly grow their business volume.

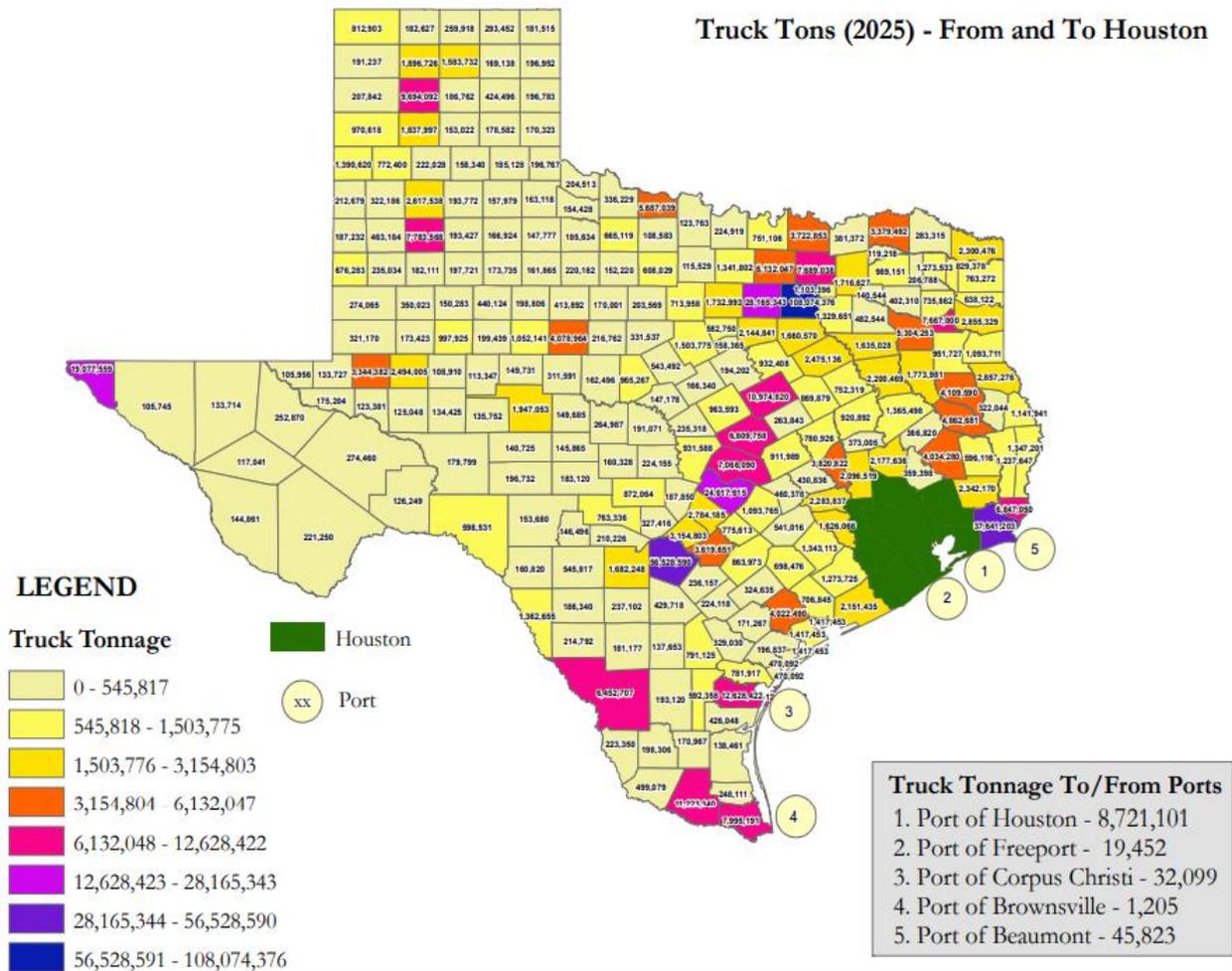
According to Truckstop.com, flatbed rates have declined 11 percent from January 2015 to April 2016. The rates for other specialized equipment, like dry and liquid bulk, have also fallen consistently. Only the Flatbed rates may be rising again, as they increased nearly 13 percent between February 2016 and April 2016.

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<sup>12</sup> CSCMP’s annual state of logistics report: <https://www.lee-associates.com/logistics/wp-content/uploads/sites/11/2017/05/cscmp-sofl-report-2016.pdf>; March 19, 2018



Figure 3: 2025 Truck Movements within Texas to and from Houston; source: CSCMP's annual state of logistics report



Brokerage services have been doing well in the current environment, as they seek to earn margins by improving both the shipper and the carrier experience. Key to their success has been the development of improved load-matching algorithms and the investment in systems to improve load visibility.

Texas has a tool to determine future truck and rail freight activity in the state, called Statewide Analysis Model (SAM). The model includes roadway improvements through the year 2025, which represent anticipated roadway improvements based on future growth and mobility needs.

Within Texas, large numbers of trucks are moving between Houston, Laredo, the Lower Rio Grade Valley, El Paso and the Dallas/Fort Worth Metroplex. In future plans, other areas along the I-35 and the future I-69 will offer additional challenges and opportunities. These plans focus on the need for new



corridors for trucks along the major freeway corridors both inside and outside major urban centers, to ensure mobility and economic opportunity.

As for truck movement from outside of Texas to the Houston area, as well as truck movement from Houston to other states, the major movements can be seen from Louisiana, Oklahoma and Arkansas. In the future, they expect a dramatic increase in truck activity, especially from and to the states mentioned above. This illustrates the need for additional truck allowances on the freeway system. Some thought must be given to the use of exclusive truck lanes and new freeway opportunities. Or maybe the possibility to shift long haul movements to rail cars.

By 2025, SAM has estimated that seven percent of truck tonnage is to stay within Houston, while 46 percent is going to travel between 100 and 300 miles from the area. So nearly 60 percent will travel within 300 miles of the Houston region. Nine percent is distributed to an area within Texas outside of the 300 miles radius. And the remaining percentages are split between Mexico (six percent), Western US (one percent), Northern US (six percent) and Eastern US (22 percent).

The leading products moving by truck in Houston are chemicals and petroleum products, building materials, food products and wood products. Secondary materials are an exception to the low-value tendency among the top commodities (by weight). Secondary materials consist of re-handled freight from warehouse or distribution centers, and the truck drayage portions of truck/rail or truck/air intermodal trips.

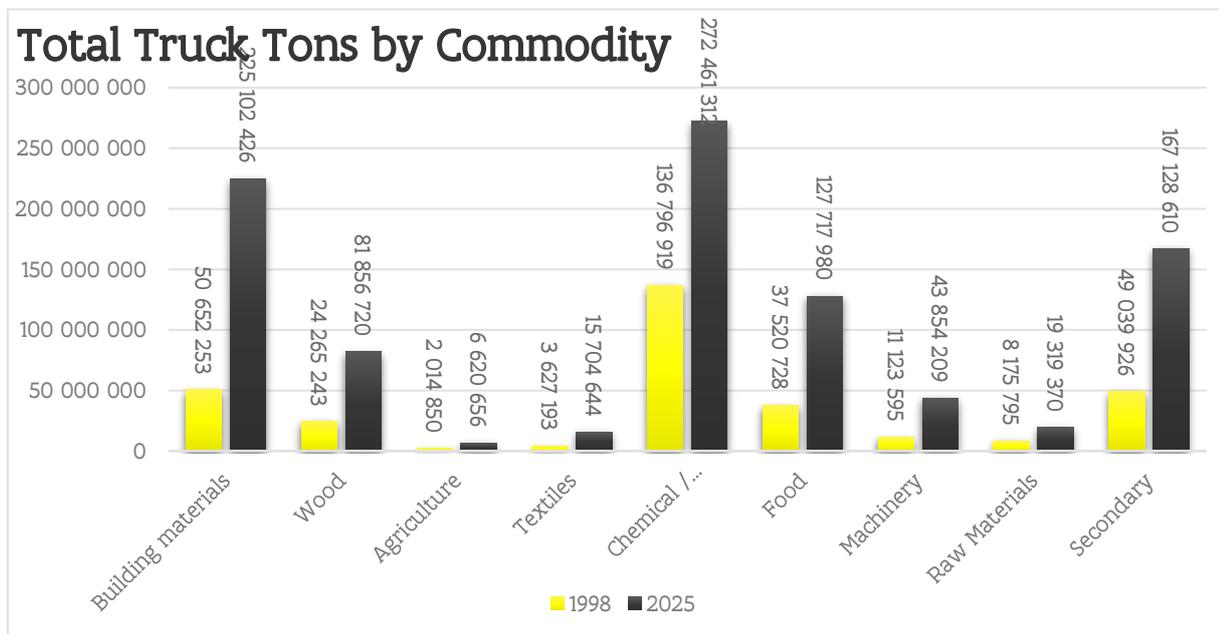


Figure 4: Total Truck Tons by Commodity; source: Houston region freight study by HNTB Corporation



### 1.2.1 Parcel and Express: Fueled by B2C

This is an \$82 billion industry in the U.S.<sup>13</sup> The largest transportation companies and the most dominant players are FedEx, UPS and U.S. Postal Service. They provide complete network and last-mile delivery infrastructures. The smaller participants, like regional and local carriers, base their competitive advantage on lower operating costs.

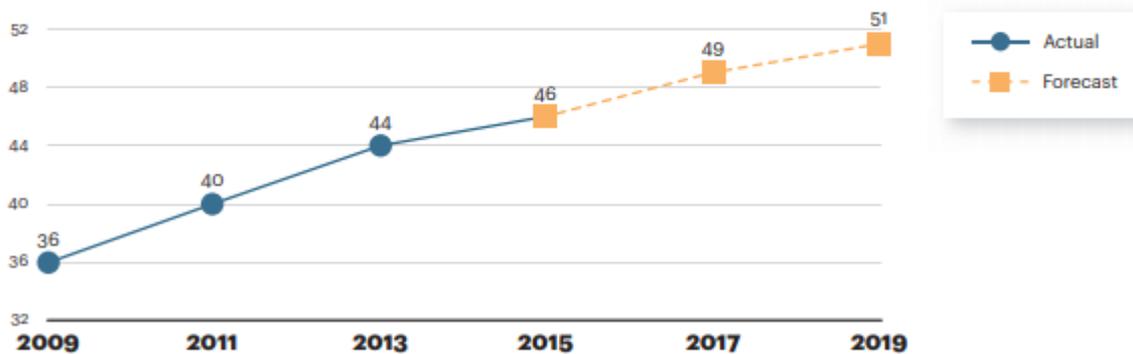
The parcel and express industry offers two broad types of service: time-definite delivery (e.g. next-day air express) and deferred (ground). In 2015, the ground services revenue at FedEx grew by nine percent, while UPS ground gained around three percent.

In 2015, B2C e-commerce shipments accounted for a significant and growing share of parcel and express carriers' ground business. E-commerce is likely to double in size by 2020, and UPS projects that rising e-commerce volumes will have a proportional effect on its parcel business.

#### UPS projects significant growth in B2C parcels

##### UPS B2C parcel growth

% of US domestic shipments



Source: UPS Overview Investor Relations (May 11, 2016)

Figure 5: UPS B2C Parcel growth; source: CSMP's annual state of logistics report

<sup>13</sup> CSMP's annual state of logistics report: <https://www.lee-associates.com/logistics/wp-content/uploads/sites/11/2017/05/cscmp-sofl-report-2016.pdf>; March 19, 2018

## 1.3 RAIL TRANSPORTATION

### 1.3.1 The Port Terminal Railroad Association

The U.S. freight rail transportation system is the largest in the world, with 140,000 miles (Germany has the largest European rail transportation system with 27,000 miles<sup>14</sup>) and revenues of more than \$80 billion in 2015.<sup>15</sup> Within the U.S., rail transportation employs 185,000 people. Freight railroads are responsible for the maintenance and capital projects of the networks on which they operate.

Established in 1924, the Port Terminal Railroad Association (PTRA) is an association of the Port of Houston Authority (PHA) and three Class 1 railroads: Union Pacific Railroad (UP), BNSF Railway and Kansas City Southern Railway (KCS)<sup>16</sup>. As of January 2006, Class 1 railroads are those that generate revenues of \$289.4 million or more each year. Class 2 railroads have annual revenues between \$20.5 million and \$289.4 million. Class 3 railroad are those with annual revenues of less than \$20.5 million.<sup>17</sup>

PTRA is a switching railroad that delivers inbound cars from the main line railroads to local industrial customers, picks up cars from local industrial customers to the main line railroads, delivers local cars between PTRA served facilities and performs switching operations for the main line railroads. The association services 226 local customers from seven serving yards, maintains 180.44 miles of track and 20 bridges, operates on 436.74 miles of track, handles about 50,000 cars per month and receives and departs 15 trains each day.

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<sup>14</sup> Laenderdaten; <https://www.laenderdaten.de/verkehr/schienenetz.aspx> ; April 23, 2018

<sup>15</sup> CSCMP's Annual State of Logistics Report; <https://www.lee-associates.com/logistics/wp-content/uploads/sites/11/2017/05/cscmp-sofl-report-2016.pdf> ; March 21, 2018

<sup>16</sup> Port of Houston; <https://chambermaster.blob.core.windows.net/userfiles/UserFiles/chambers/2574/File/PortofHouston.pdf> ; April 11, 2018

<sup>17</sup> Trains Magazine; <http://trn.trains.com/railroads/2006/06/class-1-railroads> ; April 12, 2018



The following table shows that there is and will be a large increase in the influx of rail tonnage to the Ports of Houston and Freeport, not only from other states and Mexico but also from Texas in 2025.

<b>Annual rail tons - Port of Houston and Freeport</b>				
<b>Origin</b>	<b>Termination</b>	<b>2004</b>	<b>2025</b>	<b>% change</b>
<b>Internal to External</b>				
Ports	Houston Region	2,577,658	5,401,172	110%
Ports	Other Texas Counties	6,050,690	15,880,064	162%
Ports	Western US	2,980,295	4,785,906	61%
Ports	Northern US	3,522,167	5,656,071	61%
Ports	Eastern US	7,044,334	11,312,142	61%
Ports	Mexico	3,522,167	5,656,071	61%
<b>Total</b>		<b>25,697,311</b>	<b>48,691,426</b>	<b>89%</b>
<b>External to Internal</b>				
Houston Region	Ports	1,718,439	2,908,323	69%
Other Texas Counties	Ports	13,660,428	29,491,548	116%
Northern US	Ports	3,904,916	10,504,132	169%
Eastern US	Ports	7,809,831	21,008,263	169%
Western US	Ports	3,304,159	8,888,111	169%
Mexico	Ports	3,904,916	10,504,132	169%
<b>Total</b>		<b>34,302,689</b>	<b>83,304,509</b>	<b>143%</b>

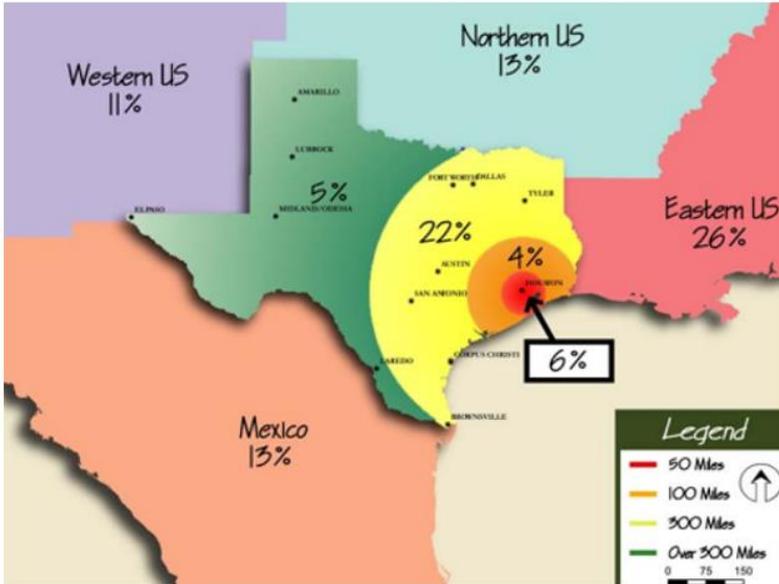
Figure 7: Rail Freight Movements To/From Ports of Houston and Freeport Only; source: Houston region freight study by HNTB Corporation

Unlike truck freight, rail transport is limited in its ability to deliver door-to-door service. Intermodal centers, rail yards and ports of entry are the primary locations in which rail freight can be either sent or received. The majority of Houston rail movements are from and to Austin, San Antonio, Dallas-Fort Worth, Laredo and Brownsville. By 2025, additional locations along the IH 35 corridor will be added to that list. Therefore, providing these locations with freight rail service will be crucial to the future of Texas in terms of economic growth.

Rail freight movements from outside of Texas in 2004 were mostly occurring from Louisiana, Oklahoma, New Mexico, Colorado and more moderately from Mexico. By 2025, these regions will be the same, but the tonnage will have increased enormously.



**Houston rail tonnage distribution**



The overall rail tonnage movement from and to the Houston region by 2025 was summarized by dividing the area within the state into specific areas of different distances from Houston as well as separate regions of Texas. Six percent of rail tonnage is projected to stay within the Houston Region, while 22 percent will travel between 100 and 300 miles from the area. About five percent is to be distributed to an area within Texas outside of the 300-mile radius. The remaining percentages are divided between Mexico (13 percent), Western US (11 percent), Northern US (13 percent) and Eastern US (26 percent).

Figure 8: Rail Tonnage Distribution for Houston Region; source: Houston region freight study by HNTB Corporation

### Rail and truck freight comparison

The following figure shows the total truck and rail tons in Houston, including internal movements as well as freight tonnage imported to and exported from the Houston region.

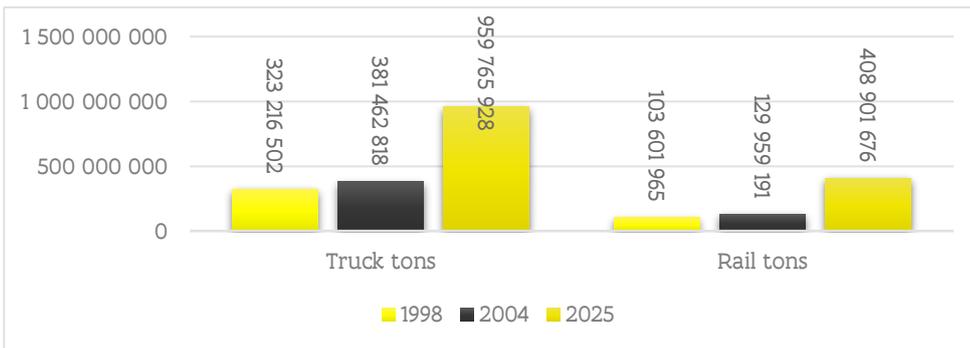


Figure 9: Total Rail / Truck Tons; source: Houston region freight study by HNTB Corporation

## 1.4 AIRFREIGHT

### 1.4.1 Houston Airport System <sup>20</sup>

The Houston Airport System offers a safe and dynamic air services network that fosters economic vitality for the transportation and facilitates a strong level of global connectivity for diverse and growing population living throughout the greater Houston Region. Their system consists of three airports: the George Bush Intercontinental Airport (IAH), the William P. Hobby Airport (HOU) and the Ellington Airport (FED) /Houston Spaceport. In 2016, these three airports served a total of almost 55 million passengers. They form one of North America's largest public airport systems and position Houston as the international passenger and cargo gateway to Latin America and the south central United States.

### 1.4.2 George Bush Intercontinental Airport (IAH)

IAH is named after George H. W. Bush, the 41<sup>st</sup> president of the United States and is headquarters of United Airlines. It is located 23 miles north of downtown Houston, between interstate 45 and interstate 69. With more than 30 destinations in Mexico, IAH offers service to more Mexican destinations than any other U.S. airport. The airport is ranked 9<sup>th</sup> busiest airport in the World.

In 2015, cargo activity at IAH accounted for 429,000 metric tons of freight and about \$15 billion in trade, supporting 38.000 Texas jobs and generating \$5.4 billion in GSP - Gross State Product (same measurement as GDP, but for the State of Texas, not the entire U.S.). It ranked 18<sup>th</sup> in the U.S. and 59<sup>th</sup> in the world for trade tonnage.<sup>21</sup> The airport serves a dozen all-cargo airlines and receives 22 regularly scheduled all-cargo international flights each week. IAH cargo operations include:

- the IAH Perishables Center, for time- and temperature-sensitive freight.
- A full-service U.S. Department of Agriculture Animal/Plant Health Inspection Service center.
- 60.000 square feet of apron space, enough for up to 20 Boeing 747 cargo aircraft.

IAH has two separate cargo areas. One of them is the original IAH Central Cargo facility. The other one is the newer 120-acre IAH CargoCenter. This one opened in 2003 and is nearly the size of three American football stadiums, measuring close to 540 000 m<sup>2</sup>.

### 1.4.3 William P. Hobby Airport (HOU)

The William P. Hobby Airport is the second busiest airport of Houston, after IAH. It is located seven miles southeast of downtown Houston, just west of interstate 45. Because of the location near to downtown, the airport is convenient for business travelers. In 2016, they completed a new international passenger terminal, adding additional loading gates, customs facilities and a new parking garage.

<sup>20</sup> Fly 2 Houston; <http://www.fly2houston.com/biz/about/> ; April 23, 2018

<sup>21</sup> Comptroller.Texas.gov; Port of Entry: George Bush Intercontinental Airport (cargo); <https://comptroller.texas.gov/economy/economic-data/ports/iah.php> ; April 23, 2018

1.4.4 Ellington Airport (FED)

The Ellington Airport was acquired by the City of Houston in 1984. Now, it supports the operations of the U.S. military, NASA and a variety of general aviation tenants. It is also home to the annual Wins Over Houston Airshow and the Houston Spaceport. Many astronauts from the world-renowned Johnson Space Center receive their ongoing space training at the Ellington Airport.

1.4.5 Air freight numbers in metric tons (2017)<sup>22</sup>

- George Bush Intercontinental Airport

Year	Domestic	International	Total	% Change
<b>2016</b>	Import: 120,673 Export: 100,086 Total: 220,760	Import: 107,453 Export: 103,695 Total: 211,148	Import: 228,127 Export: 203,782 Total: 431,908	Import: 8.8% Export: -7.4% Total: 0.5%
<b>2017</b>	Import: 127,087 Export: 100,136 Total: 227,223	Import: 116,940 Export: 106,676 Total: 223,616	Import: 244,027 Export: 206,812 Total: 450,839	Import: 7.0% Export: 1.5% Total: 4.4%

- William P. Hobby Airport

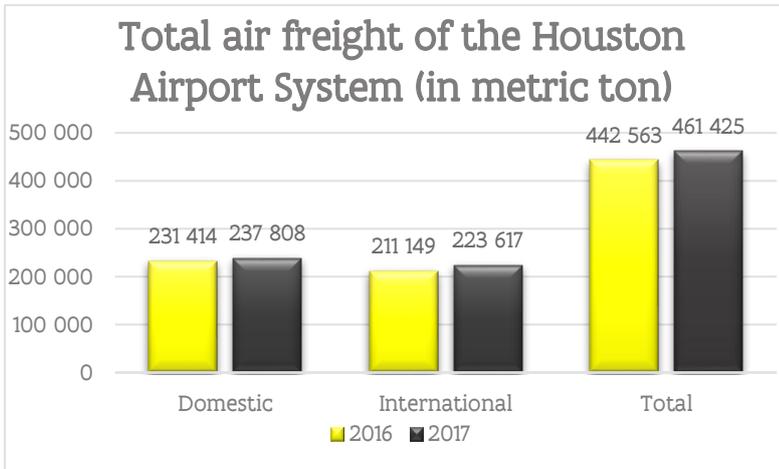
Year	Domestic	International	Total	% Change
<b>2016</b>	Import: 4,821 Export: 5,822 Total: 10,643	Import: 0 Export: 1 Total: 1	Import: 4,821 Export: 5,823 Total: 10,644	Import: -11.9% Export: -7.7% Total: -9.6%
<b>2017</b>	Import: 4,806 Export: 5,761 Total: 10,567	Import: 0 Export: 1 Total: 1	Import: 4,806 Export: 5,762 Total: 10,568	Import: -0.3% Export: -1.1% Total: -0.7%

- Ellington Airport

Year	Domestic	International	Total	% Change
<b>2016</b>	11	0	11	0.0%
<b>2017</b>	18	0	18	100%

<sup>22</sup> Houston Airport System Statistical Report calendar year 2017; [https://d14ik00widmhq.cloudfront.net/media/filer\\_public/6f/28/6f28c41d-b124-482e-bc55-f672475a4d4c/cy17\\_report\\_final.pdf](https://d14ik00widmhq.cloudfront.net/media/filer_public/6f/28/6f28c41d-b124-482e-bc55-f672475a4d4c/cy17_report_final.pdf); April 23, 2018





## 2. FOREIGN TRADE ZONES (FTZ)

Foreign Trade Zones are the U.S. version of the internationally known Free Trade Zones. An FTZ is an area within the U.S. under U.S. Customs and Border Protection (CBP). These areas are legally considered outside of the national customs territory. These zones are governed by the Foreign Trade Zones Board under the Foreign Trade Zones Act of 1934. This is a program that streamlines, reduces and sometimes even eliminates import tariffs for U.S. importers and exporters.<sup>23</sup>

The advantages of Foreign Trade Zones are:

- While in the zone, merchandise is not subject to U.S. duty or excise tax. Goods may be exported from the zone free duty and excise tax.
- CBP security requirements provide protection against theft.
- When imported goods are exported afterwards, no duty is charged.
- If imported goods are discharged for domestic consumption, no duty is charged until the goods leave the FTZ.
- When imported components are processed, blended or used in manufacturing inside the FTZ and the finished products are used for domestic consumption, the duty charged is based on the duty rate of the product discharged from the FTZ rather than the duty rate of the imported components.

FTZ 84 in Harris County, Texas, is one of the largest in the county. It includes most of the Greater Houston Area and has convenient access to the Port of Houston. FTZ 84 is growing quickly. In 2015, 11 new authorizations were added<sup>24</sup>. Popular activities inside FTZ 84 are general purpose warehousing, liquid bulk storage and blending, steel product storage, steel pipe end finishing and heat treating.

<sup>23</sup> U.S. Customs and Border Protection; <https://www.cbp.gov/border-security/ports-entry/cargo-security/cargo-control/foreign-trade-zones/about> ; April 10, 2018  
<sup>24</sup> Port of Houston; <http://porthouston.wpengine.com/wp-content/uploads/2016/08/PHA-FTZ-Booklet-2017.pdf> ; April 10, 2018



### 3. TOP 20 LOGISTICS COMPANIES WITH AN OFFICE IN HOUSTON<sup>25</sup>

Revenues are in millions of US dollars

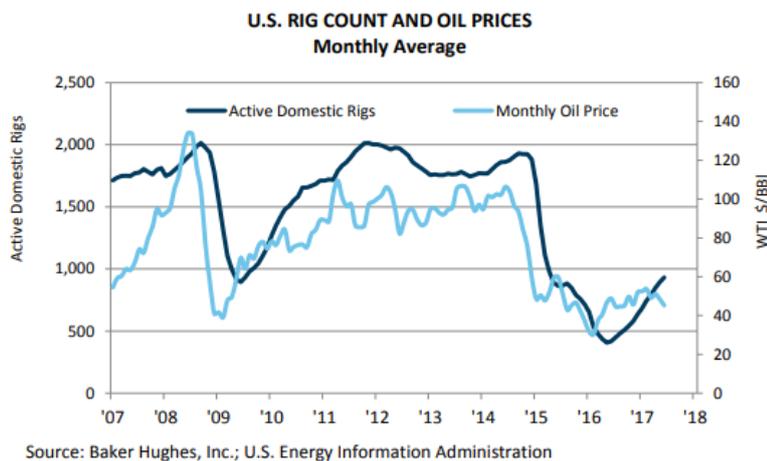
	Company name	2016 revenue	2017 revenue	growth
1	DHL Logistics	\$29,162	\$30,775	5.5%
2	Kuehne & Nagel	\$20,283	\$22,572	11.3%
3	DB Schenker Logistics	\$16,028	\$17,783	10.9%
4	C.H. Robinson Worldwide	\$11,705	\$13,503	15.4%
5	DSV	\$10,063	\$11,355	12.8%
6	XPO Logistics	\$9,408	\$10,352	10.0%
7	UPS Supply Chain Solutions	\$6,793	\$7,981	17.5%
8	CEVA Logistics	\$6,646	\$6,994	5.2%
9	Expeditors International	\$6,097	\$6,920	13.5%
10	J.B. Hunt	\$6,181	\$6,828	10.5%
11	Dachser	\$6,315	\$6,826	8.1%
12	SNCF Geodis	\$5,552	\$5,761	3.8%
13	Panalpina	\$5,273	\$5,620	6.6%
14	Kintetsu World Express	\$4,362	\$4,747	8.8%
15	Gefco	\$4,675	\$4,495	-3.9%
16	Yusen Logistics	\$4,018	\$4,183	4.1%
17	Agility Logistics	\$3,577	\$3,909	9.3%
18	Toll Group	\$3,509	\$3,790	8.0%
19	Bolloré	\$3,441	\$3,704	7.6%
20	Hellmann Worldwide Logistics	\$3,318	\$3,437	3.6%
21	FedEx	\$2,943	\$3,294	11.9%
22	Ryder	\$2,659	\$3,065	15.3%
23	TQL	\$2,380	\$2,900	21.8%
24	Schneider Logistics	\$2,484	\$2,699	8.7%
25	Damco	\$2,507	\$2,668	6.4%

<sup>25</sup> Alan M. Field, A 3PL growth spurt, Journal of Commerce, April 16, 2018

## 4. FACTORS AFFECTING THE COST OF TRANSPORT & LOGISTICS

June 20, 2017 was the third anniversary of the collapse in oil prices. Three years ago, the West Texas Intermediate (WTI) sold the oil for at least \$100 per barrel. In 2017, they traded as high as \$54.48 and as low as \$42.38 per barrel. Although the worst is over, the stability remains elusive.<sup>26</sup>

The oil price collapse from June 2014 triggered a wave of cost reduction among upstream businesses. Global oil and gas companies slashed capital expenditures by about 40% between 2014 and 2016.<sup>27</sup> This caused a cutdown on about 400,000 jobs, and major projects that did not meet profitability criteria were either canceled or deferred. These steps, coupled with efficiency improvements, are beginning to show results for the industry. More and more projects are able to go break even at oil prices in the high \$20s.



Global oil markets suffering from this is also important to logistics companies. While the low price of oil has reduced fuel costs for logistics companies, a large portion of those costs was being passed on to shippers through fuel surcharges. More importantly, low oil prices have drastically reduced activity in the burgeoning U.S. domestic energy industry, with knock-on effects in auxiliary industries and on spending by consumers employed by those industries – all of which affects freight volumes.

Figure 10: U.S. Rig Count and Oil Prices

It is possible that we might see a spike in oil prices sometime in the next five to ten years, if the industry finds it difficult to meet increasing demand because of the gap of investment in major projects since 2014. This uncertainty would definitely be welcomed by traders, who have mostly avoided the oil market during the price plunge. This little boost in itself could drive up oil prices significantly.

<sup>26</sup> Houston.org; [https://www.houston.org/pdf/research/narratives/Oil\\_and\\_Gas/Oil\\_and\\_Gas.pdf](https://www.houston.org/pdf/research/narratives/Oil_and_Gas/Oil_and_Gas.pdf) ; March 15, 2018  
<sup>27</sup> Strategy&; <https://www.strategyand.pwc.com/trend/2017-oil-and-gas-trends#nav> ; March 15, 2018



## 5. THE FUTURE OF DISTRIBUTION

Houston is key to trade with Mexico, Canada and the expanding markets of Latin America. The city is also a transportation hub to the U.S. heartland due to its equal distance between the U.S. East and West coasts, and has access to 40 million U.S. consumers within 500 miles.

With 240,000 industrial co-workers, over 100 trade and business schools and 60 colleges, universities and other degree-granting institutions, Houston is ranked the number one Manufacturing City in the nation.

\$ billion	2015	YoY 15/14	5-yr. CAGR
<b>Transportation costs</b>			
Full truckload	278.8	3.0%	7.1%
Less-than-truckload	63.7	7.0%	3.4%
Private or dedicated	240.1	1.0%	5.3%
<b>Motor carriers</b>	582.6	2.6%	5.9%
<b>Parcel</b>	82.2	8.0%	6.7%
Carload	60.8	-12.0%	4.4%
Intermodal	19.9	2.0%	2.1%
<b>Rail</b>	80.7	-8.9%	3.8%
<b>Airfreight (includes domestic, import, export, cargo, and express)</b>	67.4	2.1%	4.6%
<b>Water (includes domestic, import, and export)</b>	47.6	2.1%	3.9%
<b>Pipeline</b>	29.5	-11.8%	2.7%
Subtotal	889.9	1.3%	5.5%
<b>Inventory carrying costs</b>			
<b>Storage</b>	141.0	2.5%	4.7%
<b>Financial cost (WACC x Total Business Inventory)</b>	158.1	7.4%	0.9%
<b>Other (obsolescence, shrinkage, insurance, handling, others)</b>	128.2	5.1%	2.6%
Subtotal	427.3	5.1%	2.6%
<b>Other costs</b>			
<b>Carriers' support activities</b>	45.7	2.0%	6.3%
<b>Shippers' administrative costs</b>	45.3	6.3%	4.8%
Subtotal	91.0	4.1%	5.5%
<b>Total US business logistics costs</b>	<b>1,408.2</b>	<b>2.6%</b>	<b>4.6%</b>

Figure 11: Total U.S. Business Logistics Costs; source: CSCMP's annual state of logistics report

The excellent infrastructure and central location of Houston, with four important ports in the region, 16 interstate highways and about 2,200 trains per week travelling within Houston, allows your business to easily access both international and domestic markets.

Between 2010 and 2014, the U.S. business logistic costs grew by an average of 4.6 percent every year, fueled mainly by 5.5 percent annual growth in transportation costs. This trend, however, slowed significantly to just 2.6 percent between 2014 and 2015. The transportation costs grew by only 1.3 percent in 2015. One reason for this slower growth is that the drop in energy prices lowered fuel surcharges, affecting nearly all freight modes. Also, the overcapacity in full truckload drove down rates in this important submarket, while revenue growth was limited to 3.0 percent.

2015 marked a turning point in U.S. transportation costs. Energy-sensitive transportation modes such as rail and pipeline saw decreased revenue, while consumer-centric modes such as parcel and express and less-than-truckload accelerated their growth.

Right now, the logistics system is doing well. Desired services and features are generally available, and a system designed for cost efficiency is delivering pricing favorable to shippers. However, gaps in infrastructure and accelerating trends for speed will increasingly pressure a system that was not designed for e-commerce-driven “last mile, last minute”. Addressing the state of the U.S.’s infrastructure will be critical to a productive logistic system. The December 2015 Fixing America’s Surface Transportation (FAST) Act holds the promise of speeding the flow of logistics by investing in badly needed repairs and expanding infrastructure capacity at critical choke points. The FAST Act provides \$305 billion in funding for surface transportation through 2020. \$226 billion will go to the Federal Highway Administration and 10 percent will be dedicated to rail, port, and intermodal projects.

Over the next decade, the logistics industry will reach a new era. Disruptive forces such as technology (including analytics, robotics, 3D printing and more) and operational constraints such as regulations, driver shortages and infrastructure bottlenecks, will evolve at breakneck speed and threaten to change the rules of the game. The companies that build the skills to adapt to these changes will likely come out ahead.

## 6. OPPORTUNITIES FOR FLEMISH COMPANIES

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As a conclusion, there are multiple opportunities in Houston for Flemish companies. First of all, Houston is in the middle of the East and West Coasts, which makes it a perfect location for trade and further distribution to the U.S and North America. Houston’s central location allows you to easily reach over 40 million consumers.

Belgium is Houston’s number 12 trade partner. The products that are exported the most to Belgium are organic chemicals, plastic, plastic products, mineral fuels and refined products. Companies working with those products will benefit from opening an office in Houston.

Our Houston office advises Flemish companies interested in learning more about entering the Houston market to contact us for help with specific market questions.



