

# "Door to door "Rail Freight Transportation Process Optimization

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**Abstract.** During the railway freight reform, through making principle by the customer oriented and setting the goal of “service and cost”, rail tries to provide the best service for the customers. So in the transportation process, rail has the responsibility in the entire logistics of railway transportation. Based on door-to-door transport freight processes, this paper designs the new transportation organizations to optimize the old one. Through checking and analysis of the railway freight business, according to the characteristics of the door-to-door transportation, the paper analyses the cargo business process and has the process optimization in the view of railway enterprise.

## Introduction

There are three parts of the rail freight transportation organization: Sending operation, transporting in route, arriving operation. Generally stock and acceptance are the handovers of goods and information in rail transportation. The shipper checks at the station. The station confirms the cargo plan and gives the permission for the carriage. After the goods are carried into the freight station, rail is responsible for all the rest affairs including storing, loading and transportation, etc.

## Discussed problems

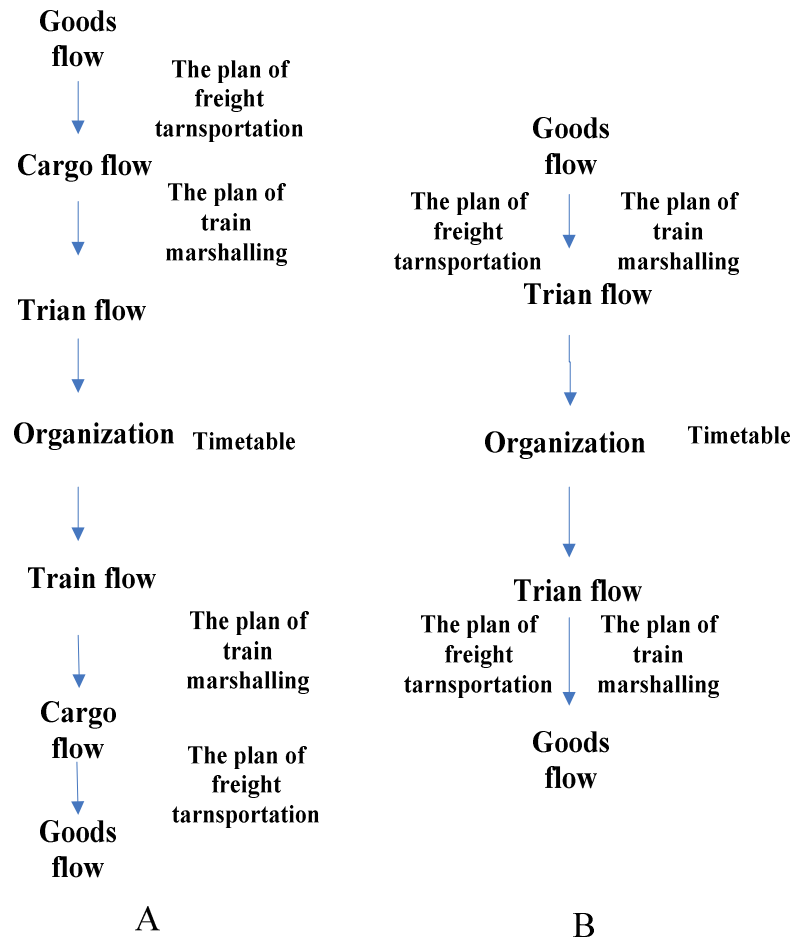
### Operation mode of freight transportation:

i) Multimodal transportation.

Multimodal transport refers to a transport system usually operated by a carrier with more than one mode of transport under the control or ownership of one operator. Through the multimodal transport, the freight transport can implement a check, a document, a billing, a customs declaration in all the way achieving the purpose of door-to-door transport. Nowadays there are water and rail, road and railway, highway, water and railway combined forms of multimodal transportation in China.

ii) Railway-Enterprise Direct Transportation.

This operation mode is by railway locomotive traction, it broke the boundaries of management between railway and enterprise. Meanwhile it also cancels the locomotive changing in the station. The railway-enterprise direct transportation is a creative mode which helps railway to deep the connotation of the organization, dig its own potential and improve the level about management.



**Fig.1** The comparison of two freight organization processes  
(A Traditional transportation organization B Railway-Enterprise Direct Transportation)

### Analysis of freight transportation process optimization

The traditional model in “door to station” and “station to door” process

The goods are delivered mostly by manual works lacking of the application of computer technology. The paper of waybill is transmitted through different departments in process as the certificate.

The traditional operating process is one- way path. Though it's easy to handle and management for railway by a process of dealing must wait the end of the before one, the customer will waste more time in waiting if something's wrong in a process. Meanwhile, railways need to set up multiple departments to complete the different business which leads to the low efficiency of work.

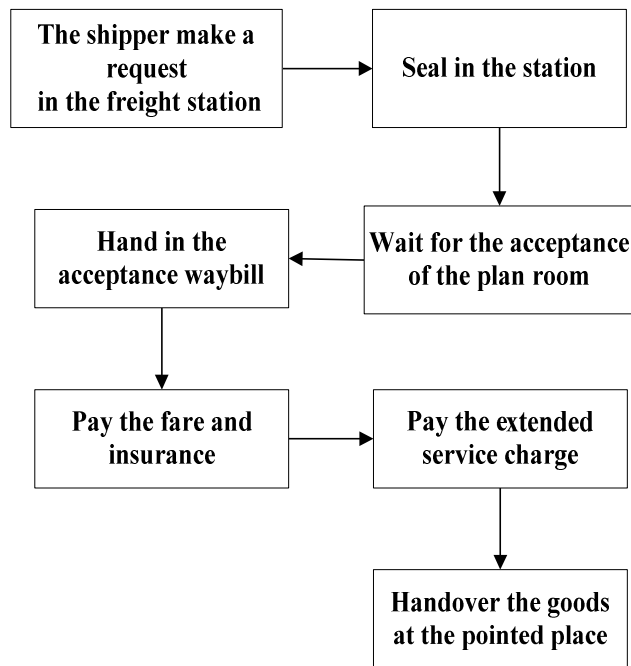


Fig.2 “door to station” process

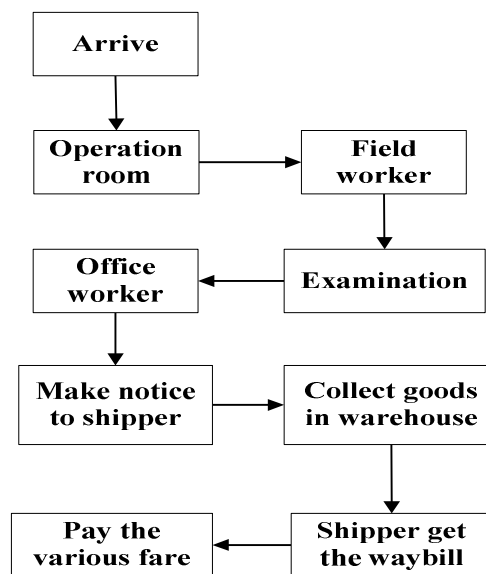


Fig.3 “station to door” process

### Problem solved

(1) The main method of process optimization in this paper is ESIA which is a common method in enterprise to optimize the process itself. The purpose is to create new process based on understanding and integrate the old process.

“E” means eliminate, “S” means simply, “I” means integrate and “A” means automate.

(2) There are some keys should be paid more attention during designing the process of optimized:

i) Strengthening the application and popularization of electronic waybill in railway. The detail information is transited from station of departure to final station under the dispatch of railway management system by the internet and the internal network which enhances the efficient. Freight waybill use in the form of electronic freight waybill in instead of traditional pattern which one copy is saved by the departure station, other copies is saved and updated by the Internet.

The freight waybill will be printed only when customer have to pay the extra fee or sign for the goods. It's a way to avoid the freight waybill transmit on the railway internal circulation which simplifies the business procedure and improves the efficiency of the railway business.

ii) Handover in the station is between railway and road transport. The last handover is between road transport and customer. So, delimiting the main range of responsibility in different processes is significant for all the parts in case of the situation of goods loss.

In the process of handover in station, customer found the goods or poor cargo damage accident phenomenon, according to the NO ① way to the station related personnel to make the necessary payment and accident responsibility identification, etc.

In customized distribution services, it's the responsibility of the third party of distribution to finish the inspection and handover of goods with freight station. If the client find cargo damage or shortage problem, they should negotiate with the third party of distribution for the payment and accident responsibility identification according to the NO ② way

iii) Pay attention to the customer service and feedback of complaints. Based on customer complaints about damage or quality of service, railway should find out the facts and shall investigate for relevant departments to seriously and personal fault. Meanwhile trying to establish a good punishment system is necessary. It's significant for railway to attach importance to the shipping order return visit and satisfaction survey work to raise their service quality.

(3)The optimized model in “door to station” and “station to door” process.

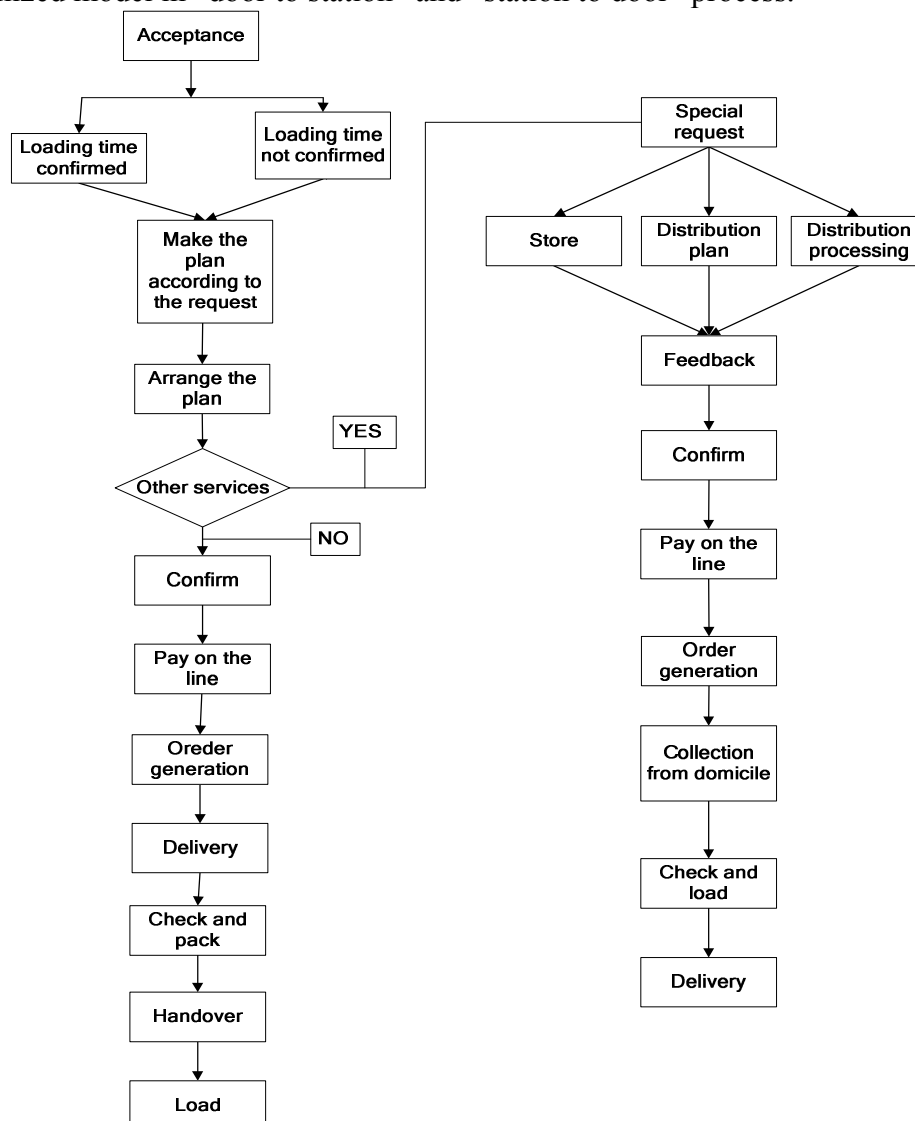


Fig.4 “door to station” process

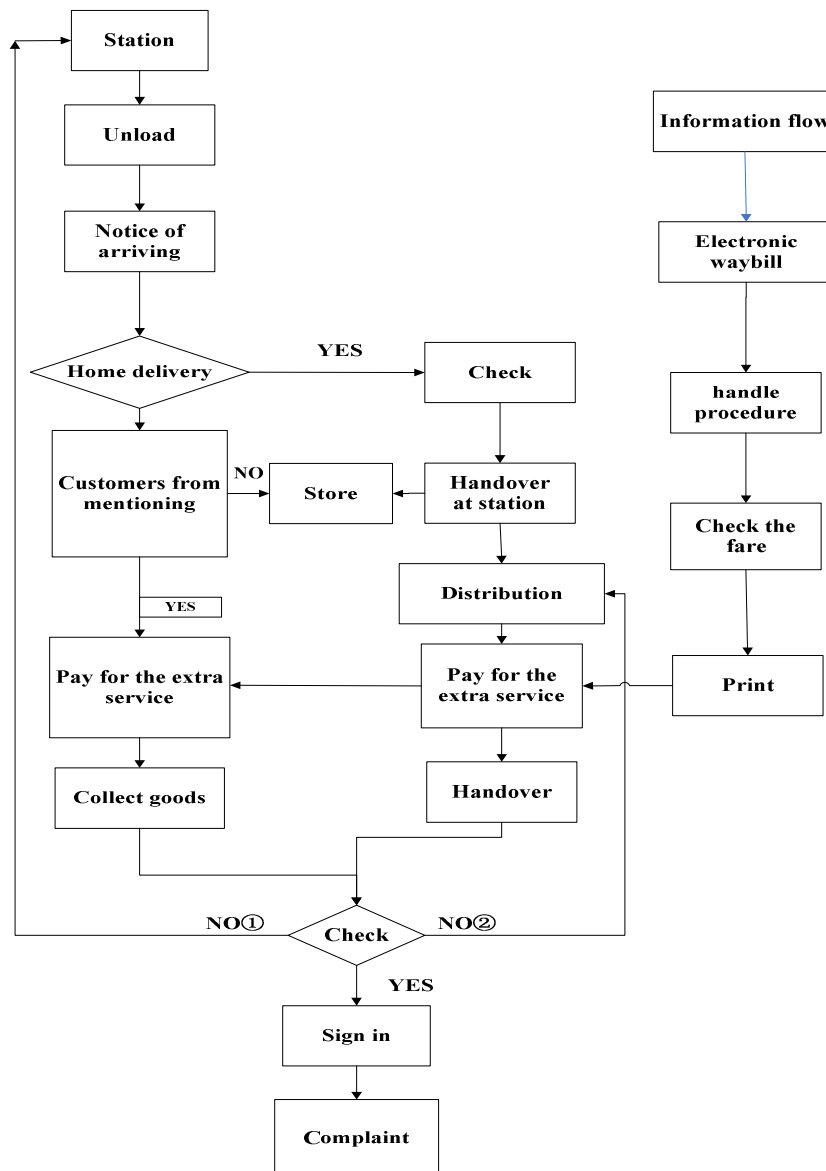


Fig.5 “station to door” process

## Conclusions

Firstly, the paper introduces and analyses the operation modes of freight transportation. Secondly, referred to the processes of “door to station” and “station to door”, the paper resolve the displacement process of freight from warehouse to railway station in ESIA and graphic method. Meanwhile, the paper optimizes the segment of the whole procedure reasonably.

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