

MA CONTEMPORARY DIALOGUES

Confirmative Praxis Report

M7X02024

2110324

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MA Transportation Design

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Unfolding the New Traditional

1. Introduction

India Post, the government-operated postal system in India, plays a vital role in connecting people and businesses in the country by providing essential mail and parcel delivery services. It is the largest postal-network organization in the world. The most frequent medium of delivering parcels is by road through delivery vans contributing to approximately 60% of the freight movement in the country. Since transportation plays a crucial role here, minimizing its shortcomings can holistically improve the quality of logistics. However, the current fleet of delivery vehicles used by India Post is the same red truck with obsolete boxy design, largely outdated technology and hence, may not be able to effectively meet the growing demands and expectations of customers.

My praxis aims at designing a cargo vehicle that is modernistic, aesthetically appealing, and technology-rich when it comes to functionality. The vision is to have an electric post van that can facilitate last-mile delivery across the country.

1.1 India Post

India Post, also known as the Department of Posts, is a government-operated postal service in India. It is the largest postal network in the world, with over 150 thousand post offices and more than 562 thousand employees. India Post has a long history, with the first post office being established in the country in 1764 during the British colonial period. It is responsible for providing a variety of services, including the delivery of letters, packages, and money orders within India and to other countries. India Post is known for its extensive reach, with post offices located in even the most remote parts of the country.

The country is divided into 23 postal circles, each having its own Chief Postmaster General. Each circle is divided into regions, each of which is led by a Postmaster General and is made up of Divisions. These divisions are then further subdivided. Aside from the 23 circles, there is a base circle that provides postal services to the Indian Armed Forces and is led by a Director General. At an elevation of 14,567 feet, India Post operates one of the world's highest post offices at Hikkim, Himachal Pradesh. (*India Post - Wikipedia*, n.d.) It plays a crucial role in connecting people and businesses and is an important part of the country's infrastructure. Despite the rise of digital communication, India Post remains an important means of communication and connection for people in India and will likely continue to play a significant role in the country's development in the future.

1.2 Need for upgrade

A modern delivery van would offer several benefits over the current vehicles used by India Post. For one, it would be more fuel-efficient, which would help reduce operating costs and decrease the environmental impact of the postal service. Additionally, a modern delivery van would be equipped with advanced technologies that would allow India Post to better monitor and manage its fleet, leading to more efficient and reliable delivery services.

Another benefit of a modern delivery van is that it can support larger cargo capacity and with better loading facilities, which would allow India Post to handle more parcels and packages per trip, thus increasing their delivery efficiency and speed. Furthermore, a modern delivery van also would have a better design which is suited to deliver in difficult terrains in India.

In order to keep up with the demands of the 21st century and to ensure that it remains a vital and relevant service for the people of India, it is essential that India Post invest in a fleet of modern delivery vans. This investment will not only improve the efficiency and reliability of the postal service, but also help India post to move ahead with time and become more competitive in the market.

2. E-commerce in India

E-commerce in India refers to the buying and selling of goods and services over the internet in India. The e-commerce industry in India has grown significantly in recent years, driven by a number of factors such as the increasing use of smartphones, the expansion of internet connectivity, and the growth of the middle class. There are several major players in the e-commerce market in India, including Flipkart, Amazon, and Myntra. These companies offer a range of products and services, including clothing, electronics, and home goods. In addition to these large companies, there are also a few smaller e-commerce firms operating in the market. The e-commerce industry in India has faced a number of challenges, including inadequate infrastructure, limited access to credit, and difficulties in logistics and delivery. However, the industry is expected to continue to grow in the coming years, driven by increasing internet and smartphone penetration, as well as the government's efforts to improve the business environment.

E-commerce has been growing rapidly in India in recent years, and this trend is expected to continue in the future. There are many key factors that are driving the growth of e-commerce in India. Firstly, as more and more people in India gain access to the internet and smartphones, the number of people shopping online is also increasing. Also, shopping online is often more convenient than shopping in physical stores, especially for people living in remote areas or for those with busy schedules. Another reason being the wide range of products and competitive prices. E-commerce platforms offer a wide range of products at competitive prices, making it easy for customers to find what they are looking for. Moreover, increasing trust in online payments has also boosted the e-commerce market. There has been a significant increase in the number of people using online payment methods in India in recent years, which has helped to increase the overall trust in e-commerce. Overall, the future of e-commerce in India looks very bright, and it is likely that we will see continued growth in the number of people shopping online in the coming years. (*E-Commerce in India: Industry Overview, Market Size & Growth* | IBEF, n.d.)

2.1 Indian Logistics scenario

The logistics industry in India has undergone significant growth in recent years, driven by the country's economic development and increasing trade with other countries. The government has also taken steps to improve the logistics sector, including investing in infrastructure and implementing regulatory reforms. As a result, the logistics industry has become an important contributor to India's economy, with a range of companies offering services such as transportation, warehousing, and distribution. However, the industry still faces a number of challenges, including inadequate infrastructure, limited use of technology, and inefficient customs clearance processes. Despite these challenges, the logistics

industry in India is expected to continue to grow in the coming years, driven by increasing e-commerce activity and the government's efforts to improve the business environment.

The Indian government has been investing in infrastructure improvements, including the construction of new roads and highways, which will make it easier for logistics companies to transport goods across the country. Also, as the middle class in India continues to grow, so too will the demand for a wider range of goods and services. This will create more demand for logistics services to transport these goods. Lastly, The Indian government has implemented a number of policies to support the growth of the logistics industry, including the creation of special economic zones and tax incentives for logistics companies. Overall, the future of logistics in India looks very bright, and it is expected that the industry will continue to grow significantly in the coming years.

2.2 Freight Transportation in India

Freight transportation by road in India is a crucial part of the country's transportation infrastructure. The road network in India is extensive, with more than 5.5 million kilometres of roads, of which around 96% are paved. However, the quality and condition of these roads can vary widely, with many rural and mountainous areas having poorly maintained roads. Road transport is the most popular mode of freight transportation in India due to its accessibility and flexibility. It is used to transport a wide range of goods, including agricultural products, manufactured goods, and construction materials. Road transport is also used to transport goods to and from ports and airports, as well as for the final delivery of goods to customers.

However, there are also several challenges associated with road freight transportation in India. One of the main challenges is the poor infrastructure, which leads to slow movement of goods and frequent delays. Congestion on the roads is also a common problem, which can lead to long delays and increased costs. Additionally, there is a lack of coordination and cooperation between different government agencies and private companies, which can make it difficult to streamline transportation and logistics operations. (Sahu et al., 2022)

Despite these challenges, the Indian government has been making efforts to improve the road freight transportation infrastructure. The government has been investing in the construction of new highways and the upgrading of existing roads. The introduction of electronic toll collection systems and the development of dedicated freight corridors have also helped to improve the efficiency of road transportation. Furthermore with the push towards "Make in India" and "Atmanirbhar Bharat" which aims to promote domestic manufacturing and self-reliance. The government also adopted a National Logistics Policy in 2019 which aims to integrate different modes of transport and logistics services to make transportation more efficient. Overall, the freight transportation by road in India is an important part of the country's economy, and despite the challenges, it is showing signs of improvement with government's effort. There are quite a number of trends that are expected to shape the future of freight transportation in India. For example, the use of technology, such as automation, data analytics, and the Internet of Things (IoT), is expected to increase in the freight transportation industry. This will help to improve efficiency, reduce costs, and increase safety. The continuously growing e-commerce demand and quicker delivery times expected by the consumers would force the freight companies to up their game in the future.

Also, There is a growing focus on sustainability in the freight transportation industry, with a greater emphasis on reducing greenhouse gas emissions and using environmental-friendly transportation methods. The electrification of the delivery vehicles to reduce the carbon footprint would not only

promote safeguarding of the environment but also encourage the freight industry for the eco-friendly movement of goods across the country with more effectiveness.

2.3 Global fleet electrification

The use of electric delivery vehicles has been growing in popularity in recent years, as more companies look to reduce their carbon emissions and operating costs. There are a number of companies around the world that are using electric delivery vehicles for their operations, including:

UPS: UPS has a fleet of more than 10,000 electric delivery vehicles, including electric trucks and vans, which it uses for package delivery in a number of countries around the world. Arrival is one such British firm which is going to deliver their electric vans for delivery services to UPS. (*UPS Vans to Get the Electric Treatment*, n.d.)

DHL: DHL has a fleet of electric delivery vehicles, including electric vans and tricycles, which it uses in a number of cities around the world.

FedEx: FedEx has been testing the use of electric delivery vehicles in a number of pilot programs and has announced plans to purchase thousands of electric delivery vehicles in the coming years.

Amazon: Amazon has a fleet of more than 20,000 electric delivery vehicles, which it uses for package delivery in a number of countries around the world. It has recently ordered a fleet of electric delivery vans manufactured by RIVIAN. (*Amazon's New Electric Vans Will Be Making Deliveries in over 100 U.S. Cities This Holiday Season*, n.d.)

Overall, the use of electric delivery vehicles is estimated to continue to grow in the coming years as companies look to reduce their environmental impact and operating costs.



Fig 1. Felix Page, 2020. *Arrival Van*



Fig 2. Amazon staff, 2022. *Rivian Van*



Fig 3. Cologne/Bonn, 2022. *Ford Transit*

3. Transportation design in India

The design scenario in India is diverse and dynamic, encompassing a wide range of disciplines. While traditional designs and techniques continue to play a role, there is also a growing interest in contemporary and international design styles. With the growth of the design industry, the design scene in India is becoming increasingly influential in the global arena.

The automobile or transportation design industry in India is relatively young, but it is growing rapidly and becoming increasingly important. Many global automakers have design centres in India, where they work on designing cars for the Indian market and other emerging markets. The Indian automobile market is one of the largest and fastest growing in the world, and it is becoming increasingly important for global automakers to design cars that are specifically tailored to the needs and preferences of Indian customers. This has led to the development of smaller, more fuel-efficient cars that are better suited to the Indian market. Designers in India are also taking into consideration the factors such as the traffic congestion, limited parking spaces and the need for affordable and functional vehicles. Indian automobile designers are also starting to make their mark on the global stage. Several Indian automobile designers have been recognized for their work and have won awards in international competitions. Additionally, many Indian designers are working at design centres of global automakers, where they have the opportunity to work on designs for cars that are sold around the world. (*The Indian Automotive Industry: From Resilience to Resurgence?* | McKinsey, n.d.)

In recent years, Indian automotive companies are also working towards creating unique designs and differentiated brands. Mahindra and Mahindra, Tata Motors, and Bajaj Auto are some of the examples of Indian companies which are taking initiative in creating unique and innovative designs. Overall, the automobile design industry in India is still relatively young, but it is growing rapidly and becoming increasingly important.

With the growth of the Indian automobile market, the demand for Indian automobile designers will likely continue to increase. Infact with the rise of globalization, Indian companies are facing increasing competition from international companies and hence, upgrading their designs can help them stay competitive in the market. Another need for upgradation in the design market is because of the continuous change in customer preferences and expectations. As people's tastes and supposition change over time, it is important to keep up with the global design trends. Overall, when the design process evolves, it also improves the functionality and user experience of the products and services which leads to the increased customer satisfaction. Upgrading design can also allow companies to take advantage of new technologies and materials that may not have been available in the past, which can lead to more efficient and effective products and services.

3.1 India Post current Delivery Truck

India Post operates a fleet of delivery trucks that are used to transport mail and packages to various locations throughout the country. These are typically red coloured trucks with quite banal boxy design and outdated technology which are in use since many years. These trucks are typically owned and operated by India Post and are used to make deliveries to homes and businesses. The types of trucks used for deliveries include light commercial vehicles, medium commercial vehicles, and heavy commercial vehicles, depending on the volume of mail and packages to be transported. The trucks are used for both urban and rural areas and are equipped with necessary safety features and tracking

devices. The vehicles are used to transport letters, parcels, money orders and other postal articles to different parts of the country. India Post also uses motorcycles, scooters, and bicycles for the last-mile delivery of mail in remote and hard-to-reach areas, where it can be difficult for larger vehicles to access. (*India Post Is Grappling with E-Tail Shift - Rediff.Com Business*, n.d.) Although, it is also in the process of updating their fleet of vehicles by introducing new technologies in their delivery process like RFID, GPS, and barcoding to improve the efficiency and speed of their delivery services.



Fig 4. Pixabay. *Postal van India*



Fig 5. Mansi Taneja, 2016. *India Post van*

3.2 HEDGE: First Design Proposal

My first design proposal was based on the idea of creating something fresh which breaks the monotony of the design language used for delivery vans in the past. As most of the vans existing currently are boxy in shape, I wanted to deviate in terms of its design form. While surfing through the ideas, I found HEDGEHOG as an inspiration for my project. A calm animal with a sturdy and streamlined stance which suited perfectly for vision that I had in my mind. I sketched a few curvy shaped concepts and got some interesting shapes as well to further develop it into something of a vehicle.

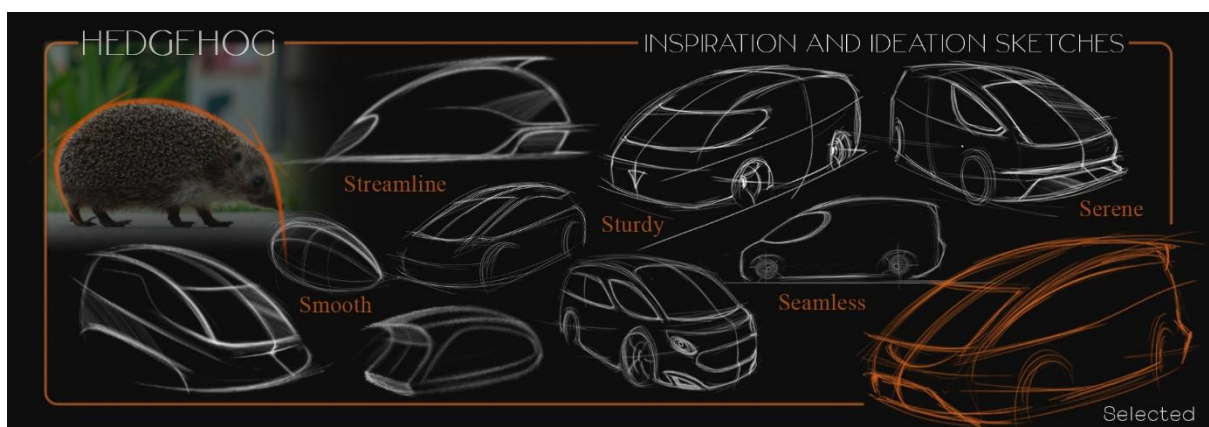


Fig 6. Ankur Atulkar, 2022. *Hedgehog as inspiration*



Fig 7. Ankur Atulkar, 2022. *Front and rear views*

The final design came out to be exactly as I wanted but it was lacking the feasibility somewhere. The form was something unique, but it wasn't following the functionality I intended. For example, because of the curvy shape of the roof, the cargo space available was lesser than it could have been if it was flat.

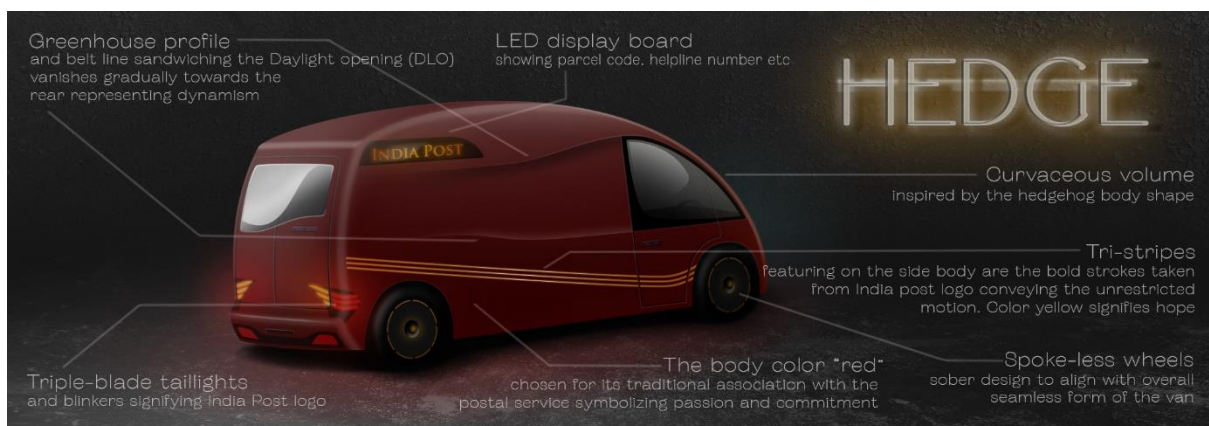


Fig 8. Ankur Atulkar, 2022. *Hedge; The final design*

3.3 DAAKIA: Second Design Proposal

This second design concept had the functionality of the project as its primary focus while remaining conventional. The key words taken for this proposal were simple, heritage, appealing and modern. The idea was to design something basic but yet aesthetically novel for a delivery vehicle which in turn would develop a connect with the customers who are waiting for their deliveries. It was a daunting task to replace the current delivery van which had been in operation for India Post since its inception. As a result, I attempted to create something which grabs the attention of people of India in a novel way while honouring the legacy of a 150-year-old organisation.

The sketches were made with some conventional boxy shapes for the overall volume. Additionally, I tried to reflect on some of the values of India post through the DLO and flowing character lines on the van.

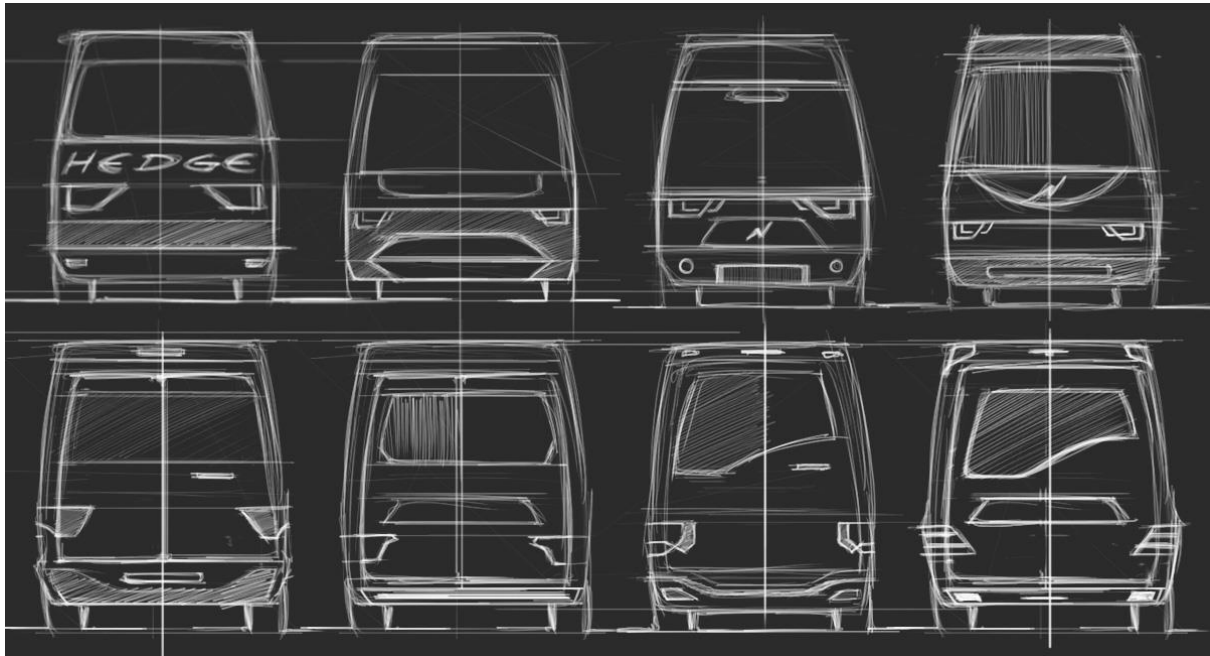


Fig 9. Ankur Atulkar, 2022. *Possible views*

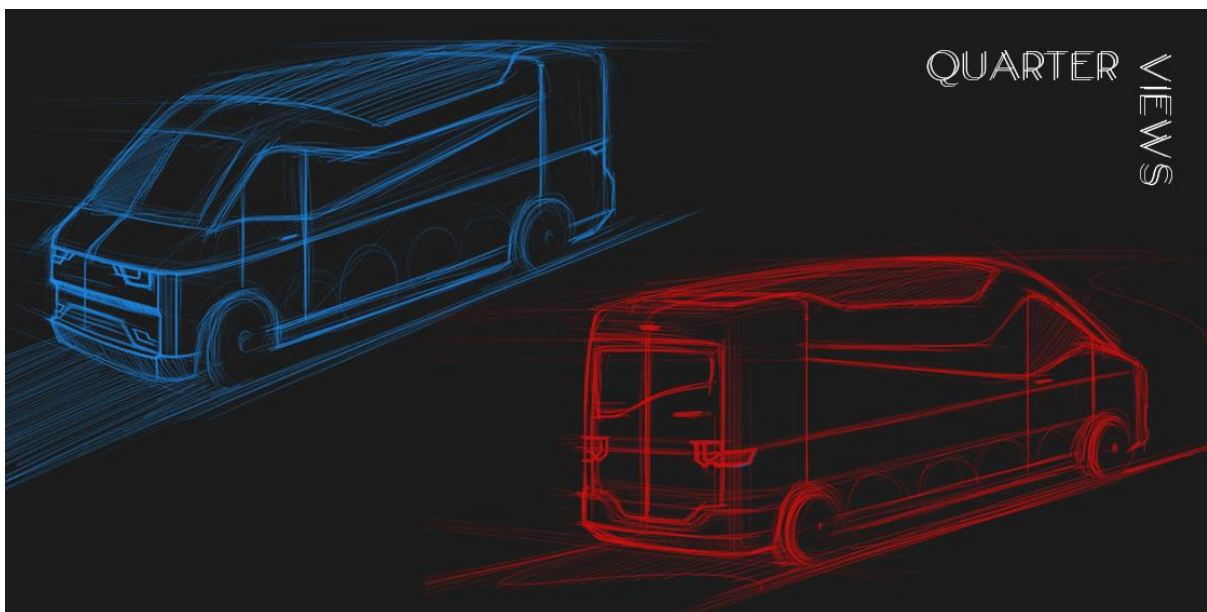


Fig 10. Ankur Atulkar, 2022. *Quarter views*



Fig 11. Ankur Atulkar, 2022. *Daakia side render*



Fig 12. Ankur Atulkar, 2022. *Daakia final design*

4. Closure

Daakia is an electric delivery van designed to facilitate the last-mile delivery of goods and parcels across the country especially for India Post. “Daakia” is a Hindi-language word meaning ‘*the one who Delivers*’. It is the physical manifestation of the feeling that your parcel has arrived.

It has 4 individual electric motors mounted on each wheel with the batteries spread on the vehicle bed. Besides the electric charging as its primary power source, there are solar cells mounted on the vehicle as another source as well. In general, the roof of a vehicle is covered with solar panels but here, I sought to utilize the side walls of the van as well for solar power storage. This increased the solar panel area of the vehicle and will act as a range extender of the vehicle in case of any emergencies. Moreover, the yellow-coloured line leading from the van’s side window is a LED indicator displaying the remaining electric charge in the vehicle.

As the van is semi-autonomous with level 2 autonomy features, there is only one seat in the center of the cabin for the driver. Therefore, the cabin interior is fully designed for the driver’s safety and comfort. The van is loaded with ADAS features like lane change and highway assist, Adaptive cruise control, automatic braking, blind spot warning, etc. to assist the driver so that he is able to do some other crucial work in the van, if necessary.

When you order something for yourself or someone sends you a present, that feeling before it reaches you is indescribable. Some people feel a sense of accomplishment or satisfaction knowing that they have ordered something, and it is on its way to them. Many people feel anticipated and curious about what is inside the package. It’s a joyful feeling for children and adults as well when they receive a package from their loved ones who are living far off in some other corner of the country. To convert that feeling into something tangible, the color tone of the van has been modified as well. The old truck was painted a bright red similar to Rossa Corsa with cadmium yellow stripes signifying the logo on the side of the truck. I have changed the new colors into more subtle tints which gives a calming sense to your eyes. The new color of the delivery van is Old Brick Red with Saffron Mango Yellow curvy stripes on the side. The red color signifies the depth of reach of the India Post across the country. Also, it symbolizes the traditional association with the organisation since it was found and embodies passion, power, and commitment. The flowing strokes on the side of the van are taken from the India post logo itself to give an identity of the organization to the vehicle. It also represents the unrestricted motion of the services. Also, the yellow tint of the strokes communicates hope, joy, and happiness.

Ultimately, the parcel tracking software would notify the receiver as soon as the van is arrived at the delivery destination. The recipient will have to just scan the QR code displayed on the digital screen on the side of the vehicle and the package would be handed over to them by the driver.

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