

Airspace's Role in Reducing GHG Emissions and How New SEC Reporting Requirements Impact that Role

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Section 1 - Industry Overview: The emissions impact of the broader Time-Critical Logistics industry

Airspace is a freight forwarder and logistics solutions platform focused on Time-Critical Logistics. Time-critical shipments often involve a single package being carried by a driver from its origin either directly to the destination or to an airport, flown, and then picked up and driven to its final destination. Because a shipment requires an entire new vehicle or set of vehicles to complete a delivery (instead of the package being consolidated alongside other packages on a vehicle already en route), these movements are inherently amongst the most carbon-intensive means of shipping. An average time-critical shipment produces a footprint 20-50x greater per package than a typical non-critical package that's shipped by air (~35 kgs vs. ~1 kg of CO₂e per package), and exponentially more than a package shipped via a traditional ground or ocean mode, which would consolidate many packages into a single trip.

This disparity exists for several reasons:

1. **No time for consolidations in ground transport**

Time-critical shipments are primarily optimized for speed rather than cost or space efficiency and utilization. Such shipments are often created with just a moment's notice. These two factors combined mean that consolidation (e.g., FedEx & UPS' strategy) is very difficult: you can't wait for a truck to finish its existing route and, even if you could, it's difficult to calculate the optimal route to consolidate real-time shipping needs. Thus, a single small package is often transported using a dedicated car or truck, 'causing' an entire vehicle's worth of carbon emissions to get it to the Airport, as compared to a slower-moving package which could be added to an existing vehicle's space. This means a small package causes a net new vehicle's worth of emissions instead of shouldering a fraction of the emissions of an existing vehicle run.
2. **Use of air travel in general (vs ground)**

Additionally, because these packages must move so quickly, most of them require air transport (70% of Airspace packages are flown to their destination). Air travel is 5x+ more [emissions-intensive](#) than trucking (0.815 kg of CO₂e/metric ton/km for Air Freight vs 0.144 kg for trucking) and 55X more emissions-intensive than rail (0.015 kg for rail).

3. **Emergencies cause elevated air travel**

In the vast majority of cases, time-critical shipments are placed in the belly of passenger aircraft, simply adding a small amount of weight to an existing scheduled passenger flight (thereby causing modest net new emissions). However, in extreme emergencies, the criticality of a package will necessitate an entire aircraft to be chartered that normally wouldn't need to fly. A less-sensitive package very easily could have fit into the existing space of a cargo plane or even into a truck. This can result in multiple metric tons of net-new CO₂e for a single shipment which might weigh only a few pounds.

Section 2 - Our Current Impact: How Airspace is already reporting on and reducing emissions, raising the bar for other time-critical shippers

Given the intense level of emissions on a per-kg basis and the lack of transparency and optimization in the industry, there is a significant opportunity for Airspace to reduce emissions on time-critical packages. Airspace is tackling emissions in time-critical logistics in three different ways: improved visibility on emissions, faster routing to avoid delays (and thus emergency flights), and creating optionality to choose environmentally friendly routes.

A. Airspace Insights: Providing Visibility & Accountability

- a. Reducing the carbon footprint of a supply chain starts with accurate reporting to understand and quantify the emissions across each step of the journey. From there, businesses can identify opportunities for carbon reduction. Airspace quantifies the emissions produced by its transportation network by precisely calculating miles traveled across different vehicle types using mobile GPS tracking for drives and airline data APIs for flights.
- b. From inception, Airspace prioritized building a technological infrastructure that allows for robust data aggregation, analysis, and insights. Airspace has a culture rooted in data and a digital platform built to offer customers access to information; it is the first truly digital provider in an analog industry.
- c. All Airspace customers have access to the Airspace Insights platform, a solution that provides easy access to comprehensive information for all of a customer's shipments. Part of that reporting includes emissions data. Airspace provides customers with access to all their emissions information at the push of a button, creating accountability and transparency unrivaled in the industry.

B. Delay (and Emergency) Avoidance: Faster, More Accurate Routing Avoids Delays Which Can Lead to Climate Emergencies

- a. As discussed, in some cases, time-critical shipments are so critical that they will need a new aircraft to be chartered if the package is not able to be shipped on an available already-scheduled passenger plane. These instances are to be avoided if possible: they are incredibly carbon-intensive (multiple metric tons of net-new CO₂e) and incredibly expensive for the customer.

- b. To avoid an unnecessary charter, you need to pick up the package as soon as possible (providing enough cushion to arrive at the Airport), route the package to the right airport, and then react to or even predict (and thus avoid) actions that could cause delays (e.g., flight cancellations, weather, traffic, etc.).
- c. Airspace's business model provides several advantages to help increase speed and reduce delays:
 - i. Airspace has a proprietary network of on-demand drivers that can accept jobs as soon as they are 'pinged' via the app. Faster access to drivers (driver acceptance occurs **82% faster**: 10 mins avg. vs 56 mins industry avg.) means packages are more likely to get to the airport faster, and therefore more likely to arrive in time to get on an earlier passenger flight
 - ii. Airspace's proprietary technology platform is able to instantly generate the optimal route between points via machine learning. This optimal routing saves time, makes fewer errors, and can identify routing more effectively
 - iii. Airspace's error prediction software 'Canary' identifies risks that have elevated potential to cause delays (e.g., weather events, driver behavior, etc.). This can help prevent, reduce, and avoid delays. A delay later in the day can be particularly problematic because if a later flight gets delayed or canceled, there may not be any other options leaving that same day - forcing the need for a charter
- d. **As a result, Airspace shipments are much less likely to need a charter.** Airspace experiences 'Catastrophic Delays' (defined as delays of over 3 hours) for only 10% of its shipments vs. 24% of competitor shipments on average (a 58% reduction). Of the shipments that do experience a catastrophic delay, it's estimated that roughly 2% require a charter. That means for every 1,000 critical flight shipments, Airspace requires 3 fewer net-new charters than its competitors.
- e. While the frequency and length of chartered flights can vary drastically, assuming average emissions of **4-10 metric tons of CO2e per chartered plane flight**, Airspace estimates that it reduces its probability-weighted average emissions across each air shipment by 8-20 kg of CO2e.

C. Green Routing: Giving Shippers the Power to Choose Lower Emissions Options

- a. In addition to generating a more accurate and **FASTER** route, Airspace's driver and airline routing optimization technology empowers shippers to generate a variety of route options that can optimize routes for any number of different business priorities, including:
 - i. **Cost:** Airspace identifies a route that still arrives quickly but might choose lower-cost airlines or drivers that are willing to take a lower price to pick up the package a bit later, so long as it still arrives on time
 - ii. **Safety / Security:** Airspace offers a route that features airlines with the lowest failure rates, airports that have less uncertainty around schedules, drivers with the best track records (even if they are more expensive)

- iii. **Emissions:** Since 2022, Airspace has allowed customers to select a route that arrives on time (still often faster than the competition) but which selects the partners that have the lowest carbon footprint. We call this our 'Green Routing Option'
- b. Airspace's routing tool is the **first of its kind** to allow customers to search for and select a lower-carbon option. Due to the complexity of routing, human calculations even just to optimize for a straightforward 'speed' calculation are incredibly difficult (or even impossible). Layering in an understanding of the emissions profiles of all possible vendors only exacerbates the impracticality of such a calculation done by hand. However, Airspace's machine-learning-powered technology coupled with direct access to its supply network allows Airspace to make such a decision in a matter of seconds, giving customers the CHOICE to go green and still arrive on time.
- c. **A 'Green-routed' shipment has 35% lower emissions (on average 12 kg of CO2e less per package) as compared to a package optimized for speed**

Section 3 - Changing Regulatory Landscape: How recent legislation may directly and indirectly affect the industry in the near term, and looking to the future

A company's different business activities each impact its carbon footprint in varying ways. These activities are bucketed into three spheres of influence or 'Scopes' which differentiate between direct and indirect emissions, considering both the upstream and downstream effects of a company's core operations:

- **Scope 1** covers direct emissions from sources that a company owns or controls
For example, If you have machines that manufacture an item or trucks that move items, the fuel and emissions these machines produce qualify as 'Scope 1' emissions.
- **Scope 2** covers indirect emissions from purchased energy
For example, if you are buying electricity to heat or cool your buildings, even if you are not producing emissions on site, the emissions from the creation of that electricity are considered 'Scope 2' emissions.
- **Scope 3** covers indirect emissions from the value chain
For example, if you purchased inventory from a supplier, or if you paid someone else to transport an item to your business or from it, the emissions they create in the course of completing that service for you are considered 'Scope 3 emissions'.

Historically, with limited exceptions, most US-based companies were not required at the Federal level to publicly track and / or report on emissions at any level. On March 6th, 2024, the SEC [announced](#) a new set of required disclosures for **all** companies listed on US-based public exchanges (e.g., NYSE). These rules require businesses to accurately report on several emissions-related metrics including climate-related risks to the business, costs incurred around select climate activities, as well as **Scope 1 emissions and Scope 2 emissions** that the company was responsible for.

This does NOT mean Airspace customers will be reporting on Airspace activities

This will affect many of Airspace's customers as they must begin reporting emissions from their direct operations and energy usage, requiring both internal and third party data. However, it will not directly impact the reporting requirements for the services that Airspace and many other asset-lite logistics companies provide. From the perspective of the companies soliciting the service of a logistics provider, the emissions generated via transportation and shipping would more accurately be considered 'Scope 3': Airspace is completing a service for them in their value chain (moving parts from A to B), but the companies themselves are not creating direct emissions nor purchasing energy from Airspace.

This DOES signal change in an approach to emissions accountability

Airspace believes this momentous decision signals a general push across the board for transparency and will raise the bar for disclosures. Many businesses have long reported on these metrics (Scope 1 & 2) voluntarily often due to pressure from climate-focused constituents. While this requirement does not directly apply to Scope 3 emissions, the fact that the new required minimum is to report on Scope 1 and 2 leads us to believe that those constituents will pressure partners to be more transparent about Scope 3 emissions even if not required. This move sets a new, higher standard for conscientiousness, transparency, and accountability in the way corporations approach and reckon with their climate impact. Companies must be ready for this pending wave of change both for their own businesses and for the businesses in the ecosystems they influence.

So what does it mean for Airspace?

Airspace's business model is unique in the world of logistics and singular in TimeCritical Logistics. Airspace provides order-level transparency thanks to a direct connection to each transportation provider at each segment of the segment. We are able to offer this granular and comprehensive transparency via IoT devices attached to the package, a mobile application utilized by the driver, and direct integration with global airline fleets. No matter where a package is or what partner Airspace uses, Airspace is built to be able to track its movement and the characteristics of the vehicle that moved it, enabling incredibly granular and accurate data on the nature of those moves.

Competitors in time-critical logistics that need rapid access to driver partners and that lack Airspace's proprietary on-demand driver network & partner integrations are instead forced to get on the phone and broker out transportation requests through layers and layers of 3rd parties until someone's partner's partner finally accepts the order mandate and agrees to pick up the package. These layers create a disconnect between the shipper and the delivery partner, making it difficult or even impossible for them to know exactly what route was taken and what vehicle was used. Therefore, it is nearly impossible to provide real-time transparency or data on the activities of the end party actually completing that transportation request.

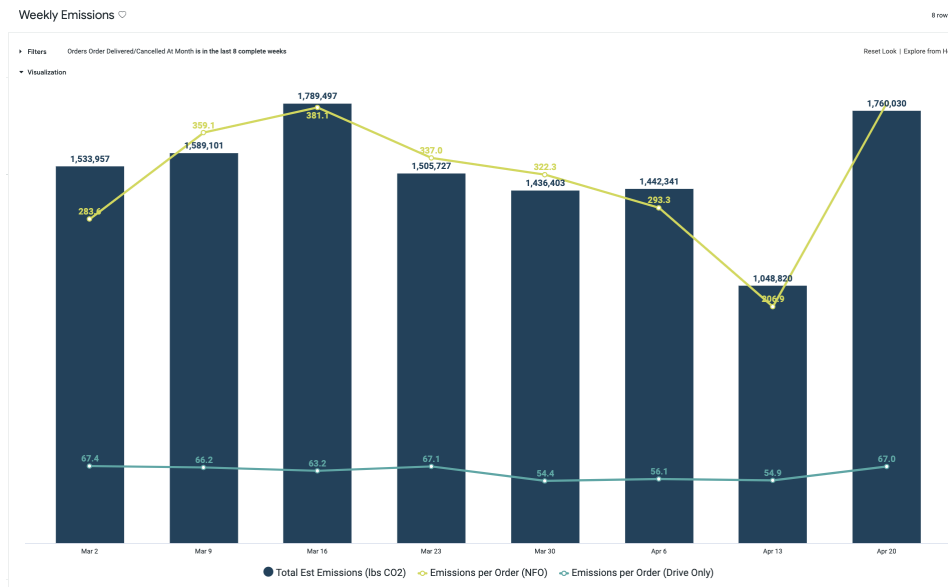
Thus, Airspace is the only time-critical logistics provider in the world that is able to accurately report near-real-time emissions for all shipments. This unique business model is coupled with Airspace's aforementioned foundation of accurate and easy-to-access data to give Airspace an incredible moat in reporting. As investors and regulators push harder for transparency and accountability in emissions reporting, Airspace is uniquely positioned to provide its shippers with reliable information about Scope 3

emissions generated by their time-critical shipments, and potentially beyond time-critical into other logistics services. With the SEC raising the bar, we expect reporting to be an increasingly significant request, a major component of the ‘Airspace Pitch’, and even a requirement from shippers seeking transportation services, and only Airspace can seamlessly and accurately offer it.

Section 4 - Our Future Impact: Quantifiable progress Airspace has made to date and what we are building as we look to the future

- **Visibility & Disclosures:** Airspace continues to set itself apart as a leader in data transparency and accountability. With constant investment in improved tooling *Airspace Insights* is an incredibly valuable part of the Airspace experience

- Below is a screenshot of customer visibility on Green Reporting generated by Insights



- Airspace is extending this focus on accountability and disclosure: As of Q3 2024, Airspace will be verified as a disclosing partner of the Carbon Disclosure Project (CDP)!
- **Giving shippers the power of choice via Green Router:**
 - To date, Green Router adoption has been negligible to non-existent. While marketing and messaging could always be improved to drive increased usage, we have observed that ultimately the carrying cost of a late shipment is so high that, when presented with a choice, customers will almost always optimize for performance over impact. This truth extends beyond environmental impact: very few customers select routes optimized for dollar savings either.
 - This is not to say that customers don't value choice. A huge portion of them actively make decisions around when to optimize for speed and where to optimize for safety. Aerospace customers are much more likely to take higher-speed, riskier routes, while Healthcare customers depend on assurance of on-time delivery.

- **48%** of orders selected routes that adjusted away from the ‘standard’ optimization to instead optimize more heavily for safety and speed
 - Meanwhile, less than **5%** of orders selected routes that were optimized for cost or emissions
- While the actual utilization of the Green Router solution is low, the concept of the Green Router has resonated heavily with shippers. The option to ship in a way that is more carbon-friendly, coupled with Airspace’s capabilities in carbon disclosures and focus on environmental accountability have been key elements and differentiating factors in the company’s proposals to many global potential customers. This is especially true of customers in the Automotive Sector. Recent RFPs where Airspace focused heavily on emissions include Bosch and Mahle.
- **Charters saved by better routing, better service, and faster access to supply**
 - This has been and will continue to be an area where Airspace stands out from the competition and drives meaningful \$ and emissions savings.
 - It is estimated that each month, Airspace prevents roughly 30-40 charters that would have been needed had those orders been placed with a different vendor, translating to 160-400 metric tons of CO2e prevented monthly. See below for an overview of LTM estimates by month:

Month	Total Air Shipments	Charters Prevented	Low CO2e Est.	High CO2e Est.
Apr-24	12,858	36	144 mt	360 mt
Mar-24	14,169	40	159 mt	397 mt
Feb-24	13,325	37	149 mt	373 mt
Jan-24	14,987	42	168 mt	420 mt
Dec-23	13,543	38	152 mt	379 mt
Nov-23	12,576	35	141 mt	352 mt
Oct-23	11,627	33	130 mt	326 mt
Sep-23	10,310	29	115 mt	289 mt
Aug-23	10,564	30	118 mt	296 mt
Jul-23	9,293	26	104 mt	260 mt
Jun-23	9,354	26	105 mt	262 mt
May-23	8,989	25	101 mt	252 mt

- Going forward, Airspace will be reporting on this statistic in our monthly BoD reporting pack

- **Route optimization technology results in the elimination of unnecessary mileage (and thus both logistics spend and emissions)**
 - In the vast majority of Airspace's historical use cases, customers have asked Airspace to get a single package from point A to point B as fast or as securely as possible. As Airspace excelled at delivering these ultra-critical packages, two trends emerged:
 - Customers in general increasingly began to trust Airspace with a broader scope of work, expanding beyond the initial niche. They have come to appreciate and even depend on the visibility and command of their packages which Airspace's technology provides and seek to apply those same characteristics to other parts of their supply chain.
 - Customers, especially in healthcare, have experienced and outsized push for both digitization and cost reduction over the past 3 years.
 - As a result, Airspace's healthcare customer base has transformed from primarily life sciences applications (e.g., delivering an organ for transplant) with smaller businesses (regional organ procurement organizations), to global opportunities including more all-encompassing bids to digitize entire supply chains.
 - Tactically, this means managing shipments with multiple packages and multiple stops along the way as the primary provider for a region or a distribution site
 - The hectic still-critical nature of these high-value shipments, with many of them coming in on-demand with little to no warning but still a high need for delivery, means that orchestration of these shipments by hand is fraught with inefficiencies. Incumbent providers overstaff drivers who routinely drive to areas where there **MIGHT** be a need for a pickup just to avoid a 'false negative' scenario where a single high-value package doesn't get picked up because they have no visibility - which means no route optimization.
 - Said more succinctly, it's difficult to plan and very costly to miss a package so they drive more miles than they should just to cover all possible bases
 - Airspace is developing a solution that acts as a command center for these customers, giving them the technology to distribute to their drivers (which provides visibility) AND providing route optimization software which uses that visibility to identify & eliminate wasted / unnecessary routes.
 - Demand for this solution is very high with customers in the Medical Device, Laboratory, and Hospital Systems sectors all seeking to increase the control over their multi-package critical deliveries.
 - Airspace is currently in the pilot phase, working with a limited number of companies in select regions, providing Airspace's technology to their existing drivers and/or supplanting them with Airspace drivers
 - Initial estimates from pilots run across regions are that customers are driving 20% fewer miles using Airspace's route optimization software, reducing both cost and emissions
 - More to come as this program rolls out

There is significant global demand for time-critical logistics, which is estimated to cover \$20 Billion in annual spending across 40-50 million shipments, and it is growing at an estimated 8-15% annually. Airspace believes there is an opportunity to make a meaningful impact in reducing the industry's GHG emissions. We estimate that with a 10% market share, improving the efficiency and footprint of the industry by just 10-20% will allow us to remove upwards of 30,000-50,000 metric tons of CO₂e annually with significant upside via other levers, ultimately raising the bar for sustainability expectations amongst the industry's customers and competitive service providers.

