

Email Communication in Your System: A User Guide

1. Executive Summary

This guide introduces the Email feature within your system's Communication module, designed to simplify and streamline your official correspondence. It empowers you to send, receive, and manage emails efficiently with various roles such as Administrators, Transport Managers, Drivers, Delivery Persons, and Fleet Managers. You'll gain practical insights into composing messages, searching for specific emails, understanding automated processes, and ensuring your communications are secure and reliable. The goal is to provide a clear, easy-to-understand overview, helping you leverage this powerful tool for effective communication and improved operational efficiency.

2. Introduction

In today's fast-paced environment, clear and timely communication is crucial. You might find it challenging to keep track of important messages, send quick updates to your team, or retrieve past conversations related to specific trips or vehicles. This is where the **Email** feature in your system comes in.

The purpose of this module is to provide a dedicated, reliable, and organized channel for all your official correspondence directly within the system. It helps you avoid switching between different applications, ensuring that all vital communications are logged, searchable, and accessible to authorized personnel. Whether you need to send an urgent message to a driver about a trip change or a routine update to a transport manager, this feature makes it easy and efficient.

Key Terms Defined:

- Communication Module:** The main section of the system dedicated to all forms of internal and external communication.
- Email Sub-module:** The specific part of the Communication module that handles sending, receiving, and managing structured mail.
- Recipient:** The person or role (e.g., Driver, Administrator) you are sending an email to.
- Compose Email:** The process of writing a new email message.
- Email Queue:** An internal list of emails waiting to be processed and sent by the system.
- Cron Job (or Email Updater):** An automated process that runs periodically in the background to handle tasks like sending queued emails, retrying failed ones, and ensuring the email system runs smoothly. You don't interact with this directly, but it ensures your emails get delivered.

3. Main Content (User-Focused Sections)

What This Means for You

- Streamlined Communication:** Send emails directly from the system to key personnel like Drivers, Transport Managers, and Delivery Persons, eliminating the need for external email clients.
- Improved Organization:** All sent and received emails are logged and easily searchable within the system, making it simple to find past communications.
- Quick Information Retrieval:** Easily search for emails by recipient name, subject, vehicle, or trip name, saving you time when you need specific information.
- Reliable Delivery:** Automated processes ensure that your emails are indexed, prioritized, and sent, even retrying failed attempts.
- Enhanced Accountability:** A clear history of communication helps in tracking decisions and actions.

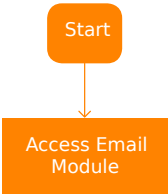
- **Reduced Errors:** By linking emails directly to trips and vehicles, you ensure the right information reaches the right people at the right time.

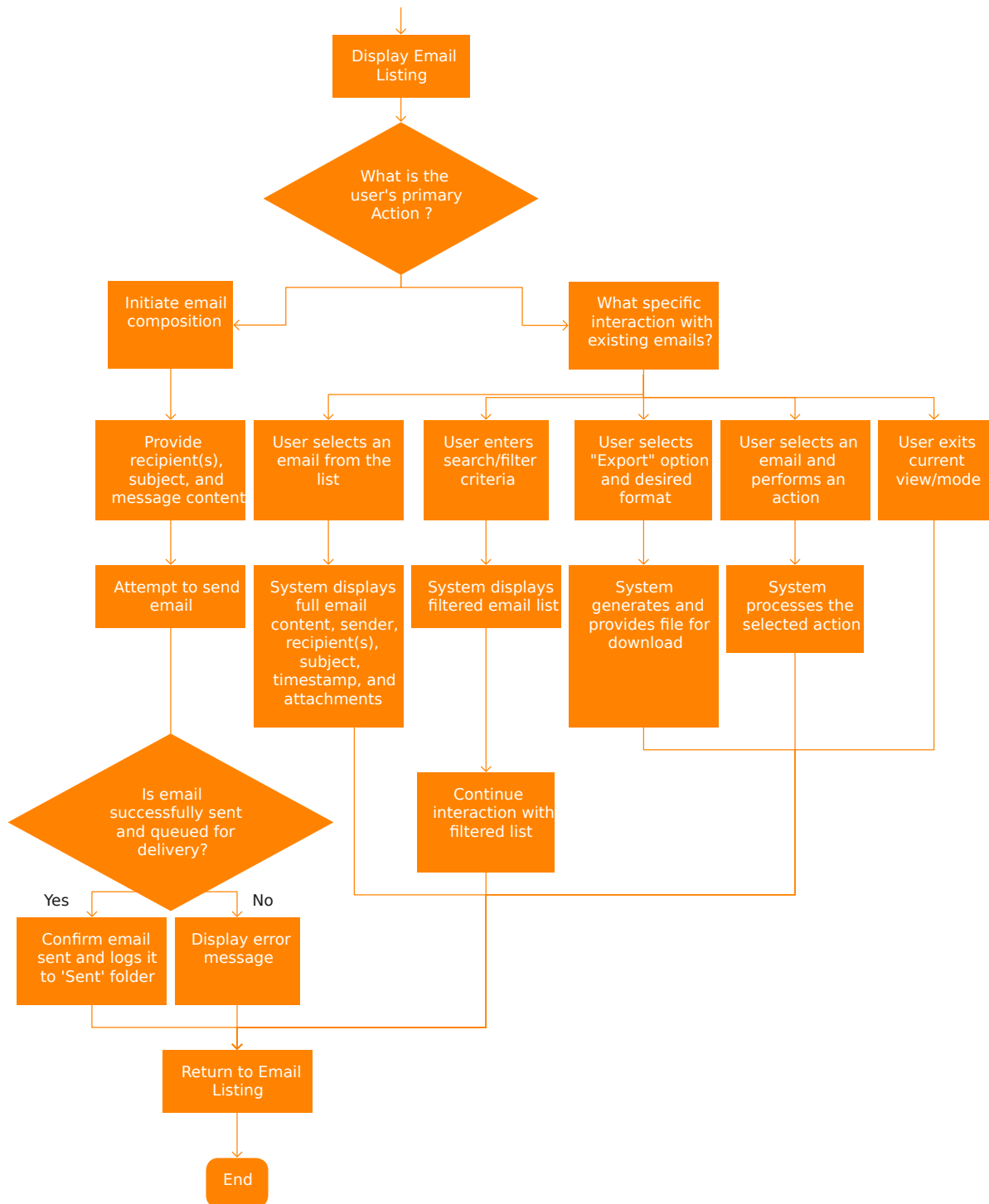
How It Works

The Email module provides a central hub for all your internal and system-generated communications. You can access various tabs (e.g., Driver, Administrator, Transport Manager, Delivery Person) to view emails relevant to specific roles. When you want to send a new email, you'll use the "Compose Email" function, select your recipient(s), add a subject, write your message, and hit send. The system then processes this email, adds it to a queue, and sends it out, providing you with a confirmation. You can also view detailed information about any email, search through your communications, and export lists for record-keeping.

Here's a visual representation of the email workflow:

Email Flowchart





Getting Started

To effectively use the Email module:

1. **Login** to your system and navigate to the **Communication** module.

2. Click on the **"Email"** sub-module.

3. To **Compose a New Email**:

- Click the **"+"** sign button on the Email page. This will take you to the "Compose Email" page.
- **Select your Recipient Type** (e.g., **Administrator, Transport Manager, Driver, Delivery Person, Fleet Manager**) from the available options.
- If sending to a **Driver** or **Delivery Person**, you might also need to **Select a Trip** and a **Vehicle** to associate the email.

- **Enter a Subject** for your email.
- **Type your message** in the message box.
- Click the **"Send"** button to dispatch your email.

4. To **View an Email's Details**:

- On the Email page, select the relevant tab (e.g., **Administrator, Transport Manager, Driver**).
- Locate the email you wish to view.
- Click the **"Action" eye icon** associated with that email. This will open a detailed view showing the Name, Subject, and Message.

5. To **Search for Emails**:

- On any email listing page (e.g., Driver, Administrator, Transport Manager), look for a **search box**.
- **Type keywords** related to the **Administrator's name, Driver's name, Vehicle name, Trip name, or Subject**.
- The email list will dynamically update to show relevant results.

6. To **Export Email Records**:

- On an email listing page, click the **"Export"** button.
- **Select either "PDF" or "Excel"** format to download the email records.

Key Features You'll Use

- **Compose Email:** Create and send new emails to specific roles within your organization. You can select recipients, subjects, and write detailed messages.
- **Email Listing & Tabs:** View organized lists of emails filtered by recipient type (e.g., Administrator, Driver, Transport Manager) for easy navigation.
- **Search Functionality:** Quickly find specific emails by typing in keywords related to sender name, vehicle name, trip name, or subject line.
- **Detailed View:** Access the full content of any email, including sender, recipient, subject, and message, by clicking the "eye" icon.
- **Export Options:** Download email lists in PDF or Excel format for record-keeping or further analysis.
- **Confirmation Messages:** Receive immediate feedback when an email is successfully sent.
- **Cancel Button:** Easily discard a draft email and clear all fields if you decide not to send it.

Common Scenarios

- **Sending a Trip Update to a Driver:** You've just assigned a new trip to a driver and need to send them an email with specific instructions. You would go to "Compose Email," select "Driver," then the "Trip" and "Vehicle," add your subject, type the instructions, and send.
- **Finding an Administrator's Past Communication:** You need to review an email sent by an administrator about a particular policy. You would go to the "Administrator" tab, use the search box to type their name or the subject keywords, and then click the "eye" icon to view the full message.
- **Confirming Email Delivery:** After sending an important email to a Transport Manager, the system will display a confirmation message like "Email sent successfully" to assure you it was delivered.
- **Checking Transport Manager's Emails:** You want to see all correspondence related to Transport Managers. You would navigate to the "Email" module, click the "Transport Manager" tab, and view the list, potentially using the search or export options.
- **Exporting Driver Email Logs:** For audit purposes, you might need to download all driver-related emails from a specific period. You'd use the "Driver" tab, apply any necessary search filters, and then click "Export" to get a PDF or Excel file.

What to Expect

After successfully using the Email feature, you can expect the following:

- **Email Sent Confirmation:** A clear message, such as "Email sent successfully," will appear, confirming your message has been dispatched.
- **Emails in History:** Your newly sent email will appear in the relevant email history list (e.g., Sent Items, or specific tab for the recipient type), showing details like recipient, subject, and timestamp.
- **Filtered Search Results:** When you search, only emails matching your criteria (e.g., specific trip name, subject, or recipient) will be displayed, making it easy to find what you need.
- **Complete Email Details:** Clicking on an email will show you its full content, including sender, recipient, subject, and message, displayed accurately.
- **Exported Files:** If you use the export function, a PDF or Excel file containing the email data will be downloaded to your device, complete and without corruption.
- **Cleared Fields after Cancel:** If you click "Cancel" while composing an email, all fields will be cleared, and you will be returned to the previous screen.

Business Rules & Constraints

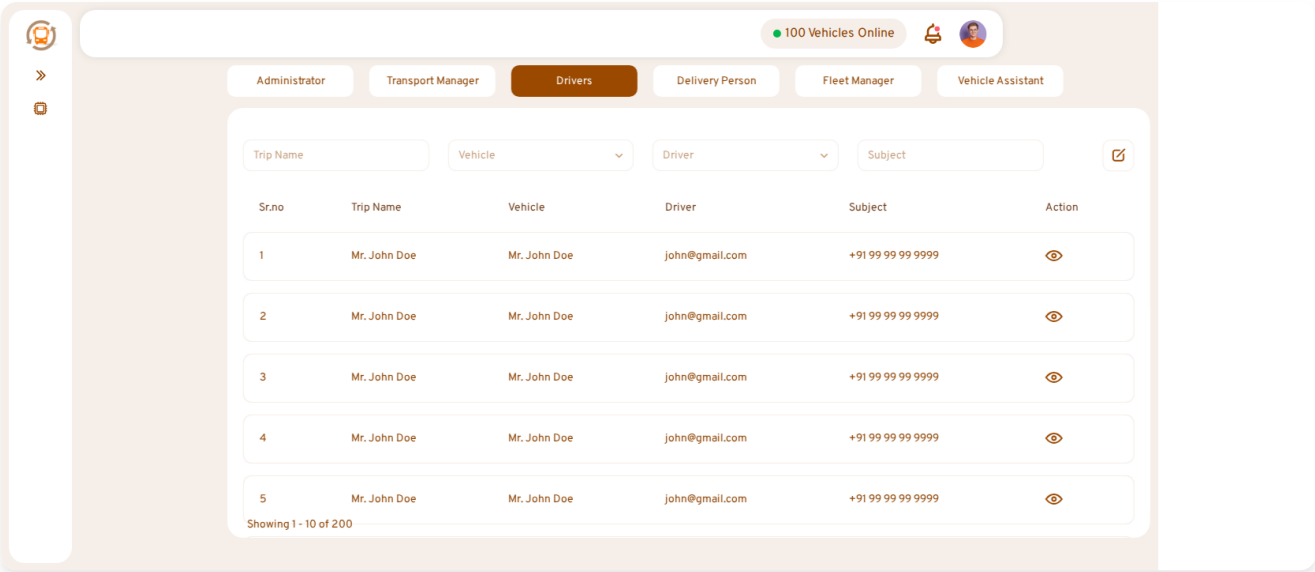
The Email module operates under several automated processes and security measures to ensure efficiency and reliability:

- **Automated Email Dispatch (Email Updater / Cron Job):**
 - **Queue Processing:** An automated "email updater" regularly checks the internal email queue. It indexes and sorts all pending emails, preparing them for sending based on their priority and scheduled dispatch time. You can be confident that your emails will be processed promptly.
 - **Retry Policy for Failed Emails:** If an email fails to send initially (e.g., due to a temporary network issue), the system will automatically identify it and attempt to resend it according to a predefined retry policy. This minimizes the chance of emails being lost.
 - **Graceful Handling of Service Issues:** If the email dispatch system temporarily goes offline, the updater logs the issue and gracefully pauses. It will automatically resume processing once the service is back online, ensuring no emails are lost.
 - **High Volume Efficiency:** The system is designed to handle large volumes of emails efficiently, ensuring that indexing and sorting are completed within acceptable timeframes, even with thousands of emails.
 - **Boundary Time Processing:** Emails scheduled at specific times, including "edge times" like midnight, are handled correctly without timing errors.
 - **Invalid Email Handling:** Emails with missing recipients, invalid formatting, or corrupted content are automatically skipped, logged, as errors, and the rest of the queue continues to be processed normally. This prevents a single bad email from stopping all other communications.
 - **Duplicate Prevention:** The system identifies and processes only unique email entries, preventing accidental duplicate sends.
 - **System Load Resilience:** The email updater prioritizes its critical tasks, continuing to process emails efficiently even when the system is under heavy load (high CPU or memory usage).
 - **Security:** Access to trigger or modify the email processing is strictly restricted to authorized users (administrators) through roles-based access control (RBAC). Unauthorized attempts are blocked and logged.
 - **Logging:** The system maintains detailed logs of all email processing activities, including timestamps, number of emails processed, and any errors encountered, providing a clear audit trail.
- **Display Limits:** By default, email lists may display a certain number of emails per page (e.g., 10). You can use pagination controls to view additional pages of emails.

- **Unauthorized Access:** If an unauthorized user attempts to access the email section or module, the system will restrict access and display an error or restricted access notification, prompting for appropriate authorization.
- **Blocked Users:** If a user (e.g., a Driver) is blocked in the system's User module, their email will automatically be hidden from other users' (e.g., Administrator's) contact lists within the Email module, preventing communication with blocked individuals.

4. Visual Elements & Supporting Information

Driver Search Page



This page allows you to search for driver-related emails using various keywords, such as a driver's name, vehicle, or subject. This helps you quickly locate specific conversations in a large list of emails.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Search Keyword	No	Text	String	Varies (e.g., 255)	Yes	Enter keywords to find driver emails by driver name, vehicle, or subject.

Administrator Email View

100 Vehicles Online

Administrator

Transport Manager

Drivers

Delivery Person

Fleet Manager

Vehicle Assistant

Administrator Name

Subject

Sr.no	Administrator Name	Subject	Action
1	VTs	Inform	
2	VTs	DELIVER	
3	VTs	Inform	
4	VTs	regarding test	
5	VTs	Inform	

Showing 1 - 10 of 200

This section displays a list of emails related to Administrators. You can use the search bar to filter emails by the administrator's name, making it easier to find specific communications.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Administrator Name Search	No	Text	String	Varies (e.g., 255)	Yes	Enter the administrator's name to filter the list of emails.

Transport Manager Subject View

100 Vehicles Online

Administrator

Transport Manager

Drivers

Delivery Person

Fleet Manager

Vehicle Assistant

Trip Name

Vehicle

Driver

Subject

Sr.no	Transport Name	Subject	Action
1	Mr. John Doe	+91 99 99 99 9999	
2	Mr. John Doe	+91 99 99 99 9999	
3	Mr. John Doe	+91 99 99 99 9999	
4	Mr. John Doe	+91 99 99 99 9999	
5	Mr. John Doe	+91 99 99 99 9999	

Showing 1 - 10 of 200

Here, you can view all emails sent to or from Transport Managers. The page allows you to specifically search by the email subject, helping you quickly locate messages on a particular topic.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Subject Search	No	Text	String	Varies (e.g., 255)	Yes	Enter keywords to filter Transport Manager emails by their subject.

Compose Email to Transport Manager

100 Vehicles Online

Transport Manager

Transport Manager *

Select Trip...

Subject *

Select Driver...

Message *

Enter your message here...

Cancel

Send

This is the "Compose Email" screen specifically tailored for sending messages to a Transport Manager. You can select the recipient, add a subject, and write your message before sending.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Recipient	Yes	Dropdown/Selection	String	N/A	No	Select the specific Transport Manager to send the email to.
Subject	Yes	Text	String	Varies (e.g., 255)	Yes	Enter the subject line for your email.
Message	Yes	Textarea	String	Large text area	Yes	Type the content of your email message here.

Trip Name Search



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100 Vehicles Online



Administrator

Transport Manager

Drivers

Delivery Person

Fleet Manager

Vehicle Assistant

Trip Name

Vehicle

Driver

Subject



Sr.no	Trip Name	Vehicle	Driver	Subject	Action
1	Mr. John Doe	Mr. John Doe	john@gmail.com	+91 99 99 99 9999	
2	Mr. John Doe	Mr. John Doe	john@gmail.com	+91 99 99 99 9999	
3	Mr. John Doe	Mr. John Doe	john@gmail.com	+91 99 99 99 9999	
4	Mr. John Doe	Mr. John Doe	john@gmail.com	+91 99 99 99 9999	
5	Mr. John Doe	Mr. John Doe	john@gmail.com	+91 99 99 99 9999	

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This page enables you to search for emails that are associated with a specific trip. By entering a trip name in the search box, you can quickly filter emails relevant to that trip.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Trip name	No	Text	String	Varies (e.g., 100)	Yes	Enter a trip name to find emails related to that specific trip.

Compose Email to Delivery Person



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100 Vehicles Online



Transport Manager

Subject

Select Trip...

Select Driver...

Message

Enter your message here...

Cancel

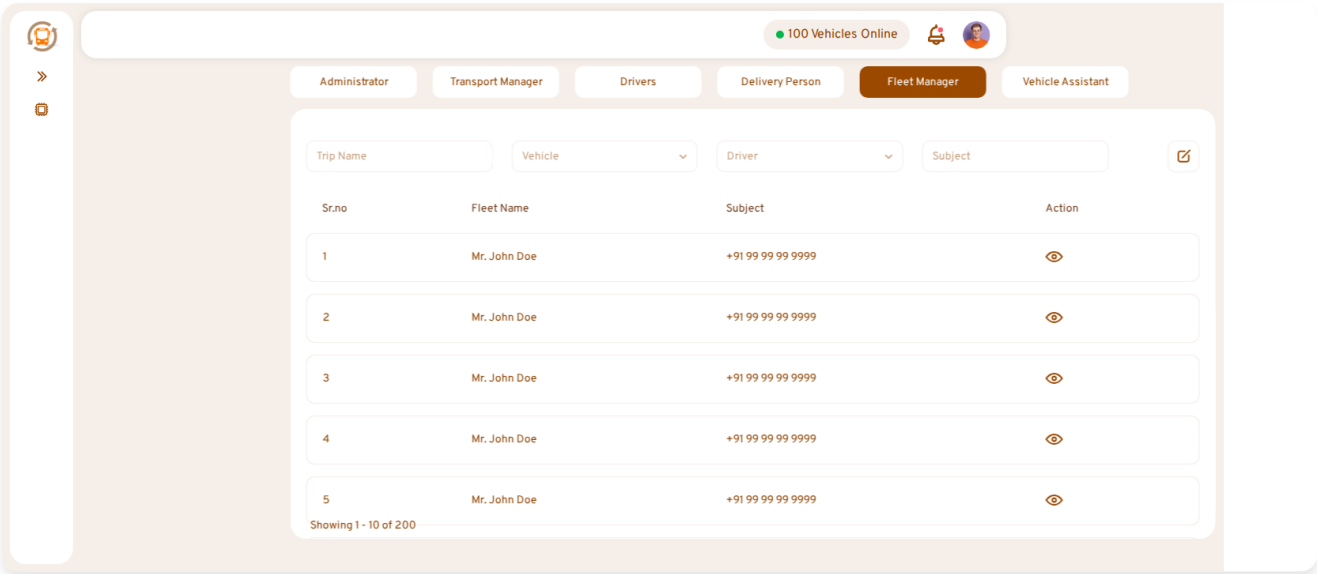
Send

This is the "Compose Email" screen designed for sending messages to a Delivery Person. You can specify the Delivery Person, link the email to a particular trip and vehicle, add a subject, and write your message.

Field Validation Table:

Field Name	Mandatory	Field Type	Data Type	Field Size	Is Editable	Description
Recipient	Yes	Dropdown/Selection	String	N/A	No	Select the specific Delivery Person to send the email to.
Trip	Yes	Dropdown/Selection	String	N/A	No	Link this email to a specific trip.
Vehicle	Yes	Dropdown/Selection	String	N/A	No	Associate this email with a particular vehicle.
Subject	Yes	Text	String	Varies (e.g., 255)	Yes	Enter the subject line for your email.
Message	Yes	Textarea	String	Large text area	Yes	Type the content of your email message here.

Email Confirmation After Sending



This page serves as a confirmation display after you have successfully sent an email. It typically shows a success message, assuring you that your email has been processed and dispatched by the system. There are no interactive input fields on this page, as its primary purpose is to inform.

5. Summary & Benefits

The Email feature in your Communication module is a powerful tool designed with your needs in mind. It moves beyond just a simple messaging service, integrating deeply with your operational workflows. By providing a secure, reliable, and easily searchable communication channel, it helps you:

- **Stay Connected:** Effortlessly reach critical personnel like drivers, managers, and administrators right from your system.
- **Boost Productivity:** Spend less time tracking down conversations and more time focusing on core tasks thanks to centralized and searchable email histories.
- **Enhance Operational Clarity:** Link communications directly to trips and vehicles, ensuring that relevant information is always in context.
- **Maintain Control:** Easily manage email records, export data for auditing, and rely on automated processes for efficient delivery.

This module is not just about sending messages; it's about fostering clear, traceable, and impactful communication across your entire operation, giving you peace of mind and supporting better decision-making.