MRICF – Users Manual

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The MRICF

What is it?

The MRICF is an application for the management of model railroad related waybills for the purpose of generating virtual interchange traffic between geographically diverse model railroads. The MRICC2 group which the application is built for has been in existence for quite some time and it's members interchange cars 'virtually' between each others model railroads.

Why was it built?

When the James Stanford (the application developer), became the group owner in 2009 he decided to build an application to manage his own waybills. Originally he built a FreeBASIC application which used various data files to manage the different aspects of waybill management. After a computer crash which resulted in most of the code and data for the FreeBASIC program being lost, he decided to build a web based application instead.

After becoming group owner, the application developer opened up access to the MRICF to all group members. While he did all the coding for the application himself, other members of the group acted in an advisory capacity, providing a lot of interesting ideas many of which were implemented into the application. So the fact that the application exists and is widely used by members is testament to the team work of all the members who offer suggestions and ideas, and the implementation of those ideas into the application by the application developer.

How does it work?

It is a web based application which uses HTML, Javascript, AJAX, PHP and MySQL web technologies. The MySQL database system handles all the data exchange, while the HTML, Javascript, PHP and AJAX are used to display the relevant interfaces for the user to interact with the data. The application is built in a modular design, which makes troubleshooting the code easier and also often makes the implementation of new functions quicker .The application is located at: http://www.stanfordhosting.net/interchangecars . The password is available to members upon request through the MRICC group.

What if something doesn't work?

As the application is internet based and is available through any standards compliant web browser, most problems relating to being able to access the application are because of settings in the user's browser. The most common problem experienced is not being able to log in, which is normally because of a saved password in the browser which the application is is thinking applies to it. The reason why this happens is because the password field identifier is a common identifier, which may be used by other web sites. If you experience problems logging in, try re-typing the password for the application. If that still doesn't allow you to log in you may need to clear out your temporary internet files / browsing history, and saved passwords.

Another common problem is that certain functions wont work. This is often due to the browsers settings blocking that type of web request, or that the browser being used does not have any support for the function.

If you have come across a problem with the application that seems like a program bug, please contact the application developer through the Virtual Ops group at https://groups.io/g/MRICC-Virtual-Interchange-Ops1 or by direct email to james@stanfordhosting.net .

What if I don't understand how to use the MRICF even after reading this manual?

Don't worry! The Virtual Ops group at https://groups.io/g/MRICC-Virtual-Interchange-Ops1 is available to post questions regarding the MRICF, the general concepts of virtual interchanging, interchanging protocol, etc.

What do I need to know before I use the MRICF?

A basic understanding of how real railroads and model model railroads use waybills for the management of the shipment of freight is a definite advantage. Basic web surfing skills are essential. Apart from those two things, there is not really much else you need to know that you won't be able to learn through posting interchange related questions to the Virtual Ops groups at https://groups.io/g/MRICC-Virtual-Interchange-Ops1 .

Terms of Use

Use of the application is governed by the MRICC Groups.io group. Before a user can log in to the application, they must join the MRICC Groups.io Group, where the log in details are available upon request.

System Requirements

The MRICF tested successfully in IE8, Firefox 3.x, Google Chrome 8.x and Safari 5.x or equivalent browsers. If you find some functions do not work properly, try upgrading your browser to the latest version. Some functions will not work with IE6 or earlier browsers!

Availability of functions

When Logging In Is Required

A large percentage of the viewing and editing functions are only allowed while logged in to the application. There are a number of functions available which do not require logging in:

- Current waybill list
- Viewing waybills on a map
- Closed waybills list

- Train Sheet views
- Charts and statistics
- Search and viewing of the OpSig 40K Industry Database

All editing functions require the user to be logged in to the application.

Display of Navigation Menu

The application's Navigation Menu is available on most pages. Where the menu is not displayed, a link to a specific area of the application is provided instead.

There are certain conventions which the application employs:

- Most entry fields save the data entered as UPPER CASE. This is done for data consistency and readability.
- When a record can be edited or created there is always a “Save” or “Save Changes” button, which when clicked will update the database record.
- If a specific manageable record is not allocated to an owning railroad then it will display in that list of records so that it can be allocated to a specific railroad.

Conventions in this Manual

Form Field Types

The following terms are used throughout this manual:

- Checkbox – A form field type that displays as a small square which is either empty or has a tick in it. Eg. 
- Select Box – A select box is a type of form field that has a list of options, which can be selected. Eg. 

- Link – A way of jumping to another page by clicking on it. Links 

look like this:
- Button – A form element that when clicked submits the information on the form it is connected to. Eg. 

Getting Started

Creating Your Railroad in the MRICF

When you first view the MRICF, your railroad will not exist in the application. To create your railroad, select the '(New RR)' in the 'Login to RR' select box (near the top right of the application) and enter the correct password in the 'Password' field then click the 'Select' button.

Then click the 'New Railroad' link in the menu, which will open the New RR entry form. Enter the relevant information. This is the same form used for editing your railroad, so refer to the Editing Information for your Railroad section of this manual.

Once you have added your railroad, click the 'Logout' button near the top right of the application. Then log back in as the railroad your just set up by selecting your railroad in the 'Login to RR' select box and entering the correct password in the 'Password' field then clicking the 'Select' button.

Setting Up Your Railroad's Details

Following the setting up of your railroad and logging in to the application as that railroad, do the following steps, in the order indicated:

- Add at least 1 car to the Car Pool for your railroad. See the Managing the Cars Pool section of this manual for more details.
- Add at least 1 industry for your railroad. See the Managing Industries section of this manual for more details.
- Set up at least 1 train for your railroad. See the Managing Trains section of this manual for more details.

Waybills vs Purchase Orders

At this point you are ready to start creating waybills and purchase orders. What is the difference between a Waybill and Purchase Order?

- A Waybill is a shipment that has been confirmed by both the originating and destination railroads as indicted in the waybill maintenance facility.
- A Purchase Order is a request by one railroad to have a shipment whose origin or destination has not been confirmed by the other railroad.

Views

The Waybills List

When the user goes to the application using the address indicated in the 'What is the MRICF' section of this document, the page displayed is the Waybills List (also called the Home page). This Waybills List is available from other places in the application by clicking the 'Home' link in the menu.

The Waybills List gives a summary of all the waybills currently open. Before a user logs in the list shows all the open waybills with limited functions available (eg, viewing the waybill, viewing on a map, etc) in the Options selector at the top right of the Waybill List.

Above the list of waybills themselves, there are one or two selectors – one called **Options** and one called **Affiliated RRs** which only displays when a user is logged in as a railroad.

The **Options** selector allows various viewing options for the waybill list to be set, including some which set the view properties for the RR the user is logged in as. It also has some other actions which are useful for better management of waybills, such as viewing cars on a map, and sending a general message to the group.

When a user logs in, a number of data management functions for the waybills listed become available:

- **Edit WB** – Allows editing of the Waybill record, including train the waybill is allocated to, origin and destination information, Car numbers, Lading, Routing.
- **Edit progress** – This allows for the entry of a progress report for the waybill. Progress reports give a history of movements for a waybill. The latest progress entry also shows on the Waybill List view.
- **Send Email** – Allows the sending of an email to the MRICC group regarding the waybill. Note that as most traffic to the MRICC is generated through the MRICF application, it may take some time for the email to be responded to by the appropriate railroad. This function is there to ask for clarification or questions regarding the waybill. It does not change any data.
- **Hide (for 24 hours)** – When this link is clicked the waybill will be hidden from the list for 24 hours. This function uses a cookie to remember all the hidden waybills for the user.

The other Management and Creation functions in the menu also become available for use once a user logs in successfully. There are also a number of functions for waybills that when selected will execute the change without the user needing to edit the waybill. These function are located in each waybill's content rather than in the column to the right of each waybill, and are described below :

- **Currently on / allocated to** railroad selector – This select box allows for quick selection of the railroad the car/s on the waybill are on.
- **In Train** selector – This select box allows for quick allocation of a waybill to a specific train. Note that this selector DOES NOT include auto trains (trains the automatically move and spot cars on a waybill to another location).

Other options inside the waybill's content are:

- Ability access a car listed for a waybill if it is one of yours – you can do this by clicking the car that is underlined.

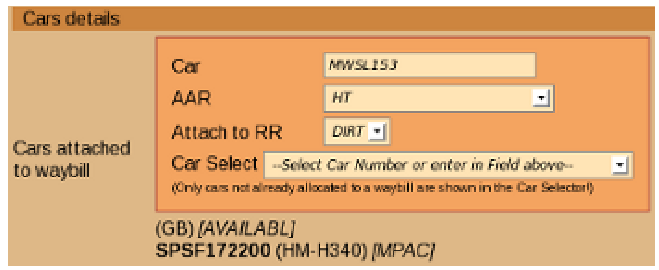
Data management functions

Editing / Creating a waybill

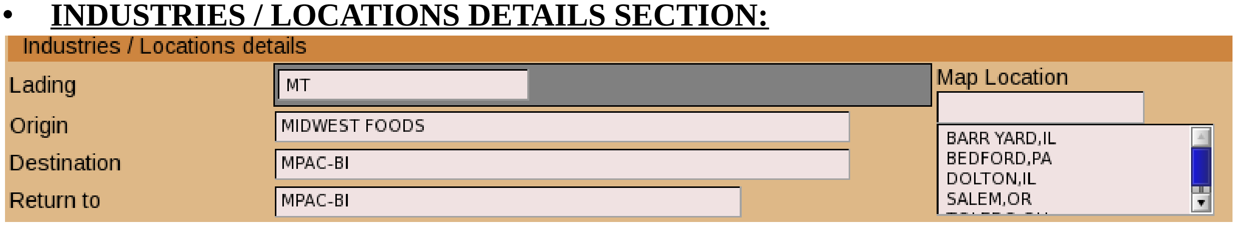
Clicking on the 'Edit WB' link for a waybill allows you to edit that waybill. Clicking the 'Create New Waybill' link in the menu allows you to create a new waybill. The fields in the Waybill edit / create view has the following fields:

- **WAYBILL DETAILS SECTION:**

- **Waybill Number** – Generated automatically by the application and is not changeable. It is basically a numeric time stamp of Year, Month, Day, Hour, Minute and Second denominations.
- **Date** – Automatically generated by the application.
- **Waybill Type** – Used to set whether the waybill should be shown to other members (STANDARD), or whether it is a waybill that only you should see (INTERNAL).
- **Purchase Order Number** – Used for recording a purchase order number. This is not used that often, but is provided to provide backwards compatibility with previously used management tools and activities.
- **CARS DETAILS SECTION:**



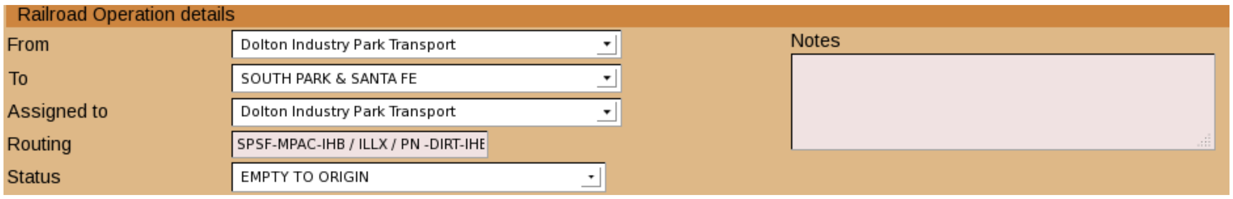
- **Car** – This is the car report mark and number for the car for the waybill for YOUR railroad. If a car report mark and number entered into this field is not already in the Car Pool data table, the owning railroad, car report mark and number and AAR code will be automatically saved to the Car Pool data table when the Waybill is saved if the entry in this field is not longer than 20 characters long.
- **AAR** – This is the AAR code of the Car Report Mark and Number indicated above.
- **Attach to RR** – This selector allow for a car to be attached to a specific railroad for the waybill. If the Railroad settings allow for the displaying of all Affiliate RR waybills on the Home page then this selector includes all the affiliate railroads indicated for the railroad, otherwise it shows just the railroad logged in as. See the ***Editing Information for Your Railroad*** section of this manual for more about the Affiliate Railroads.
- **Car Select** – This selector allows you to select an existing car and put it's details into the Car and AAR fields above.
- Underneath the fields there is a list of all cars allocated to the waybill by OTHER railroads.
- **INDUSTRIES / LOCATIONS DETAILS SECTION:**



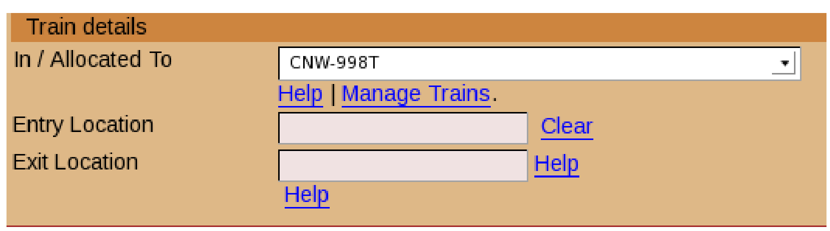
- **Lading** – The freight to be carried by car/s on the waybill.
- **Origin** – The industry which is shipping the freight. You can type the industry name, the city, two character state code or commodity being shipped to see a list of possible matching industries. Clicking a match in the list that appears will put that industry in the Origin Industry box.
- **Destination** – The industry that is receiving the freight. You can type the industry name, the city, two character state code or commodity being shipped to see a list of possible matching industries. Clicking a match in the list that appears will put that industry in the Destination

Industry box.

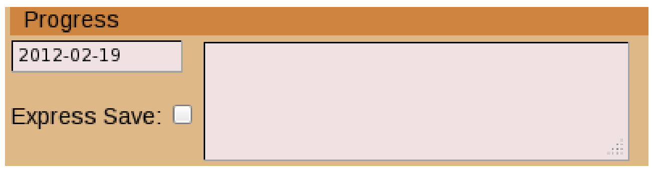
- **Return To** – This is the location / railroad facility that the car should be returned to. If you leave this field empty during waybill creation, the application will automatically insert the value in the Origin Industry field when the record is created.
- **Map Location** – This is the map location where the car will appear on the map the displays when the View Map or View Cars on a Map links on the home page
- **<u>RAILROAD OPERATION DETAILS SECTION:</u>**



- **From** – The railroad which the freight movement originates from.
- **To** – The railroad which the freight movement finishes at.
- **Assigned to** -This option allows you to assign the waybill to or place the waybill under the control of the selected railroad. Note that you can also do this from the Waybills List on the home page of the application when logged in.
- **Routing** – The route the car will take to reach it's destination starting from the originating railroad and finishing with the destination railroad. For example, a car movement from Midwest Foods on the CSFT to East Coast Food Distributors on the CIRJ might indicate CSFT-CR-CIRJ in the Routing field, indicating Chicago and South Forest terminal RR (CSFT), then Conrail, then the Case Industrial Railroad (CIRJ). It is advisable to use this field on every waybill, but especially when there are intermediate railroads handling a car as this field is used by the application to work out whether a particular waybill is editable by a particular user.
- **Status** – The current status of the waybill. This includes a list of standard statuses, and a list of location statuses specific to the member railroads themselves (where set up by the user that manages them).
- **Note**s – This is a field which allows the user to add general notes to the waybill. This can be anything relevant to the waybill not covered by other fields. While there is no limit to the length of the notes field, it is advisable to keep notes on Waybills short and to the point.
- **<u>TRAIN DETAILS SECTION:</u>**
- **In / Allocated to** – Allows for a waybill to be allocated to a specific train. This can be used for management of Switch Lists through the Manage Trains part of the application. When a car is added to an 'Auto Train', the car/s on the waybill are allocated to that train and the application manages the position of the car, indicating when the car has been delivered to a specific waypoint indicated in the 'Train Exit Location' field. When an Auto Train is selected the application does the following when the waybill is saved:



  - Saves the waybill data as entered / selected.
  - Works out the date the Auto Train will spot the cars at the selected or default Exit Waypoint. The date the Auto Train will spot cars at the Exit Waypoint is determined by adding the number of days specified for the train to the current date, or the date of the Waybill (whichever is later).
- **Train Entry Location –** Only used when an Auto Train is being used. This specifies the location where the car on the waybill is added to the train selected. Only valid waypoints for the train can be used in this field. If it is empty, then the Origin of the Auto Train is assumed.
- **Train Exit Location –** Only used when the train in the 'In or Allocated to Train' is an Auto Train type. This is where the car will be automatically spotted by the auto train. If there is nothing in this field and and the train indicated in the 'In or Allocated to Train' is an Auto Train type, then the car will be spotted at the Destination of that Auto Train. If the car needs to be spotted at an intermediate waypoint other than the Destination of the train, then you should enter that waypoint in this field!
- **PROGRESS SECTION: - The progress report section is used to add progress reports to the waybill for such things as current location of the shipment on the waybill. A progress report is only added if there is something in the Progress Report field.**



- **Date** (not labeled, but indicated by the short field with the current date in it) – The date of the progress report in YYYY-MM-DD format. This is automatically generated, but is changable. Changing this value should be done with caution, however, as the Waybill List on the home page may display the wrong progress report (for example, if the date of the progress report entered is BEFORE and already existing progress report for that waybill).
- **Express Save –** If this checkbox is ticked, then after clicking the 'Save' button, the application will save the progress report entered and do the following:
  - Flag the waybill so that it does not appear on the Home page for 24 hours.
  - Go directly back to the Home page, skipping the 'Email to MRICC' option.
- **Progress Report** (not labeled, but it is the big text box next to the date field) – This is where the progress report is entered. Note that when this text box is empty and some Statuses are selected that text is automatically added to this text box. Statuses that currently add something in this text box if the text box is empty are: 'Loading @ Origin', 'Unloading @ Destination', 'Closed'. There is no restriction on the length of the data in the progress report field, but it is advisable to keep the entry in the progress report field short and to the point (short and sweet!).

Managing Customer Purchase Orders

Customer Purchase Orders are a way to have purchase orders generated randomly, once a day. This module decides how many purchase orders to create and then randomly chooses from the customer purchase orders in the list. This interface is quite similar to the New Waybill / Edit WB view, and the labels of the various fields correspond to the labels in the New Waybill / Edit WB views, so for more information on what the various fields in this module relate to, see the 'Editing / Creating a Waybill' section of the this manual. To access the feature, click the 'Customer POs' link in the menu.

Adding A Progress Report

See the Progress Section section of the Editing / Creating a Waybill section of this manual for how to enter a Progress Report for a waybill.

Managing the Cars Pool

Clicking on the 'Manage Cars Pool' link in the menu allows for the viewing, editing and adding of records in the Cars Pool data table. In the 'Manage Cars Pool' view, a list of current cars is displayed which has cars not allocated to a specific railroad and cars for the railroad that the user is logged in as. At the bottom of the list is an entry form to add a new Car to the pool. There is also an Edit link for each already existing car. The following fields are used for the entry of data:

- **Report Mark & Number –** The car's report mark and number of the car.
- **AAR Type –** The AAR Code / Type that the car is
- **Description –** A description of the car. Can include identifying features such as color, length, number of axles, etc.
- **Railroad –** The railroad that 'owns' the car. This is NOT the report mark, but the layout that the car is operated on. This would normally be the same as the railroad that the user is logged in as.

There is also an 'Image' link for each car. Normally a default image is allocated to every car based on it's AAR type. Clicking this link allows for the uploading and allocating of a custom image to the car. Images uploaded for a car must be less than 45kb in size, and it is preferable that the image be no more than 100 pixels wide as the application automatically shrinks the viewing of the images to that width.

Managing AAR Codes

Clicking on the 'Manage AAR Codes' option in the menu allows for the viewing of current AAR Codes and creation of new codes. There is currently no option to edit a code. The data table this view is linked to does not change often, and already has default AAR Codes. The entry of a new code is done via the entry form at the bottom of the list, then clicking the 'Save' button.

Managing Industries

Clicking on the 'Manage Industries' link in the menu will display the current industries for your railroad in the browser. There is an 'Edit' link for each industry listed and a 'New Industry' which allows the user to enter a new industry. Clicking either of these links will display the Industry Editing facility, which has the following fields:

- **Industry Name and Details –** This is the name and short description of the industry. While this field has unlimited capacity, it is suggested that the name and location of the industry be included here and nothing else.
- **Serving Railroad ID –** This is the railroad that servers the industry. Normally this would be the railroad that the user is logged in as, but there may be times when the industry is being set up

for another railroad. It is important that a Serving Railroad ID is selected before clicking the 'Save' button.

- **Freight In** – These are the commodies that the industry receives. These do NOT need to be listed in the Commodities section of the application but it may be helpful if they are!
- **Freight Out** - These are the commodies that the industry despatches. These do NOT need to be listed in the Commodities section of the application but it may be helpful if they are!

Managing Commodites

Clicking the 'Manage Commodities' link in the menu displays a list of commodities currently in the database. To add a new one, use the form at the bottom of the list.

Managing Trains

Clicking the 'Manage Trains' link in the menu shows the trains list for your railroad and also includes any trains that are not allocated to any railroad. There is provision to generate a train sheet for an operating session in the 'Train Sheet View' section of the Trains list. There is also an 'Edit' link and 'Switchlist' link for each train in the list, and a 'New Train' link. The 'Switchlist' link displays a switchlist for the train (which can also be printed), which uses the data in the 'In or Allocated To Train' field in the New or Edit Waybill facilities.

Managing Locations

The 'Manage Locations' link in the Navigation Menu will display the Manage Locations part of the application. This is used mainly by the Maps section of the application, and is used in the following way: When the Maps page is accessed, the application goes through the data and finds data for each waybill including the last progress report details. The Map Location field in the progress report is then checked against any matching entries in the Locations table. If the Map Location of the last progress report for a waybill matches ***all or part*** of the data found in the Fictional Location field then the Real Location field for that record is used to place the pin on the map instead of the Map Location value. The Map Location value will still appear on the details for the waybill. The Managing Locations facility has the following fields:

- **Fictional Location –** This can be any railroad facility, fictional town / location name. It is best to have the railroad reporting mark first (if you wish to specify it) followed by the town / location name, followed by the state (if you wish to specify it). Note that you cannot use wildcards (eg, % * or _, etc) to broaden what the scope of a particular fictional location might encompass!
- **Real Location** – This needs to be a real location that Google Maps would recognise. It is suggested that the following convention be used when entering data into this field:
    - Syntax: [town/location name],[state/province],[country – if outside USA].

Train Sheet View

The Train Sheet View facility uses the data in the Trains data table to generate a train sheet according to the options selected / checked. To generate a Train Sheet for a particular operating 'day' (Sun thru Sat), choose the Railroad and Day that you wish to generate the train sheet for. If you do NOT want to include 'Auto Trains' in the Train Sheet, then also tick the 'Don't Include Auto Trains' checkbox. Once you have selected / checked the various options that you require, click the 'View Trainsheet' button to display the Train Sheet. From the displayed Train Sheet, you can print the Train Sheet to a computer attached printer, or use the Train Sheet displayed to manage the trains displayed. If managing the trains directly from the displayed Train Sheet, the following options are available:

- **Crew Allocated –** Clicking this link will mark the trains as having a crew allocated to it.
- **Started –** This link is clicked when the train starts is journey / activities.
- **Completed –** Once the train has completed it's journey / activities, click on this link to mark the train as been completed.

Going to another page in the application will NOT loose the train statuses indicated. The statuses will remain until the 'Clear Status for All Trains' link at the top of the Train Sheet list is clicked. The user can also display a Train Sheet for a different operating 'day' by clicking the relevant 'Jump to day' link at the top of the Train Sheet displayed.

Adding or Editing a Train

To add a train click the 'New Train' link in the Manage Trains section of the application. To edit an exiting train click on the 'Edit' link for that train in the Manage Trains list. The fields displayed are the same for both options:

- **Train ID –** This is the symbol of the train
- **Train Description –** This is name of the train
- **Maximum Cars –** The maximum number of cars the train is allowed to have in it. If there is not limit, enter a number 99 or greater.
- **Operation Notes –** This is the operating instructions for the train. This fields has no limit on the amount of data that is allowed in it, but should be 'to the point' and not too verbose.
- **Direction –** The railroad direction the train travels. Some railroads indicate a train as travelling East when in actual fact the train is travelling north or south. This field is the indicated direction of travel and may not be the actual compass direction!
- **Complete –** Not used by this part of the application.
- **Railroad ID –** The model railroad that operates the train. Normally this would be the railroad the user is logged in as, but under some circumstances it may be necessary to create a train for another railroad, such as an 'affiliated' railroad.
- **Origin –** The place where the train starts it's journey / activities. This would normally be indicated as a railroad facility of some kind. For example, 'CP Chatham Depot, Chatham, Ont'.
- **Destination –** The place the train is going to end it's journey / activities at. This would normally be indicated as a railroad facility of some kind. For example, 'B&OCT Barr Yard, Chicago, Il'.

- **Train Sheet Order / Start Time –** This field is used to indicate order trains will be displayed on a viewed train sheet (see the Train Sheet View section). It can be a standard number (preferably an integer), or in time format. Note that when using the Time format, that it is advisable to have the times for each train in the same format. It is suggested that when the time format is used that it be in the following format: HH:MM. In other words, two digits for the hour (with a leading zero if the hour is less than 10), and two digits for the minutes (with leading zero if the minute is less than 10).
- **Days Operated On checkboxes –** These are the days on which the train is operated. Any combination of these checkboxes can be checked including all or none. These options are used when selecting a specific day to display a Train Sheet for (see the Train Sheet View section).
- **Days / Waypoints for Auto Train –** If this is zero or empty then the train is a classified as a standard train and is treated as such by the Train Sheet View, and when allocating a waybill to the specific train by selecting a train from the 'In or Allocated to Train' field in the Waybill Entry screen. If the contents of the field is a number greater than zero or a list of specified waypoints then it is classed as an Auto Train. Here is how the Auto Train system works in relation to the Waybill maintenance module:
    - If the value in this field is a number greater than zero then it is the number of days the train will take to make it's journey from it's origin to it's destination (or Waybill > Exit Location if it is specified) and a Progress Report will be generated automatically for a waybill allocated to this train for the number of days in the future indicated in the field.
    - If the field contains a valid JSON array of waypoints and days the train takes to reach those waypoints from it's origin (which can be specified using the ***Manage Auto Train Waypoints link*** under the Days / Waypoints for Auto Train field in the Train maintenance view) then when a specific existing waypoint for the train is placed in the Waybill > Exit Location field when editing a waybill then the Auto Train functions will report when the car on the waybill passes through each intermediate waypoint between the Origin of the train and Exit Location selected.
    - If a custom Exit Location (ie, not a waypoint specified in the Days / Waypoints for Auto Train field) is entered in the Waybill > Exit Location field and the contents of the Days / Waypoints for Auto Train field has a JSON array of waypoints and days in it then the Auto Train system will assume the customised Exit Location will take as long as the furthest waypoint specified and will report when the car on the waybill arrives at the specified Waybill > Exit Location location.

Block Occupancy

** This is a new feature that is currently under testing.
Help for this section will be added at a later date **

Editing Information for Your Railroad

In the Home page of the application, there are a number of sections. One of them is the 'Railroads' section, currently on the right hand side of the view, under any Purchase orders that may exist. This lists all the railroads currently set up in the application. Any user can view any other railroad's information by clicking on the 'View' link next to that railroad. When you log in, only the railroad that you log in as will show an 'Edit' link next to it. Clicking on the 'Edit' link will allow editing of that railroad's information. Currently the following fields can be edited:

- **Reporting Mark –** This is the Reporting Mark for the railroad. Normally this is an up to 5 character alphabet code, also allowing an '&' symbol, which identifies a railroad. For example, B&O, ATSF, UP are all reporting marks. Although other countries may not use 'reporting marks', they often still use some sort of short identification for railroads (eg, LNER, BR, SNCF), so those identifications can be used as reporting marks when using the application. The reporting mark for your railroad can the same as for an existing 1:1 railroad (eg, UP, BNSF) or fallen flag 1:1 railroad (eg, C&NW, SOO), or a reporting mark of your own choosing. It is a VERY good idea to use a reporting mark that is ***not already used*** by other railroads in the application.
- **Railroad Name –** This is the name of your railroad. For example, Union Pacific, Penn Central, etc, are railroad names. Please only put the railroad name in this field.
- **Railroad Description –** This field is for information about your railroad. You can include a short history, the location served, the era your model, etc.
- **Owner Name –** This would normally be either your Groups.io MRICC username, or your actual name. You choose! But please only use alpha-numeric, space, dash (“-”) and underscore (“_”) characters.
- **Interchange Locations –** This is a list of locations where your railroad has interchange facilities with other railroads. This may include transhipment facilities (eg, transferring of freight between narrow gauge and standard gauge railroads), interchange tracks, yards, etc. The list of semi colon (';') seperated. For example, if your had interchange points with the IHB at Dolton Junction and Conrail at Griffith, Ind, the contents of this field would look something like this:
    - *IHB Dolton Jcn; Conrail Griffith, Ind.*
- **Affiliated Railroads –** These are the reporting marks of any other railroads that you have set up in the MRICF (yes, you can have more than one railroad set up in the MRICF at the same time!). The list is semi colon (';') seperated. It is best to only include reporting marks of other railroads that exist in the MRICF in this field. When a railroad reporting mark is indicated in this field, it will appear in the 'My Waybills' section of the home page in the 'Affiliated RRs' selector. Clicking on an affiliated railroad option in the Affiliated RR selector on the home page will automatically log you out of the current railroad you are logged in as and log you in as the railroad reporting mark you clicked on. Data in this field would look something like this:
    - C&SFT;IHB;CIRJ
- **Show WB for Affiliates on Home Page –** If this is set to 'Y' then the application will show not only the waybills for the railroad you are logged in as, but also the waybills that would be visible for each of the Affiliate RR's if you logged into them. If set to 'Y', then the Switchlist for a train will also include the cars for all affiliated railroads for the train selected, and the you will be able to attach a car to an Affiliate RR for the various waybills.
- **Common Railroad –** You can set your railroad to be a Common Railroad (one that never becomes automatically inactive and disappears from the Railroad display on the Home page)

by selecting 'Y' in this select box.
- **Inactive** – This is the current status of the railroad.
- **Home Page Display** – This selects the type of home page display. You can switch through them here then view the Home page to see which one you prefer, and you can change to a different display type at any time by editing this select box in your railroad set up. Options are:
  - Standard – the default view.
  - Cars first, display train assignment
  - Minimal
- **Show Quick Select –** If set to 'Y' a series of Quick Select select boxes will appear in the menu.
- **Show Generated Loads –** If set to 'Y' activates the Generated Loads system for the railroad. This means any generated loads (see the Generated Loads section for more info) will be displayed on the Home page.
- **Password –** This is the password you require to successfully log in to the railroad and use the various secure functions of the MRICF.

Generated Loads

In the Railroad management, there is a select box called 'Show Generated Loads'. This needs to be set to 'Y' for the generated loads system to be active for the railroad logged in as.

In the ***Commodities*** management there is a field called '**Generates these commods**', which specifies the types of freight generated when that **commodity** is delivered to an **industry**. The values in the 'Generates these commods' field are Semi Colon (;) separated (eg: REFRIGERATED FOOD;ICE CREAM).

When the Generated Loads system is active for a railroad, and a waybill is set to a status of either **UNLOADING** or **UNLOADED** then the Waybill saved, the application checks whether the commodity specified in the '**Lading**' field for the waybill is an EXACT match for a Commodity in the Commodities list. If it is, then it gets the '**Generates these commods**' value. It then gets the Industry Name from the Industries table which is an EXACT match for the text in the **Destination** field in the waybill. If there is an exact match between the Destination and Industry Name, then it gets the **Freight Out** text and separates them by Commas (,) and if any of the comma separated values in the Industry -> Freight Out is an exact match for a commodity specified in the Commodities -> 'Generates these commods' field for the lading specified on the Waybill then it builds a list of all the possible matches between the Industry -> Freight Out values and the Commodities -> 'Generates these commods' values and then **randomly** chooses one from the available matches, which the application then places in the Generated Loads list which will appear underneath the Purchase Orders list on the Home page.

Generated loads are displayed for a maximum of two weeks, or individual Generated Loads can be deleted by clicking the ***[Del]*** link next to the Generated Load displayed on the Home page.

The Generated Loads module doesn't affect cars directly as such, or return the car or really do anything with the car, but is a way of generating ***outbound loads*** for a ***Destination*** industry on a waybill based on a commodity / lading received in to that industry. It doesn't consider the Origin industry on a waybill at all, only the Destination industry. Those outbound loads can then be created as waybills and then have a car allocated to them. At that point the outbound load affects a car, but not until the waybill is created. Think of this new feature as a Destination Industry's request for an empty car, which when a waybill is created for it, will then have a car allocated to it as any other waybill would.

An example:
The Commodity ***POTATOES*** listed in the Commodities list has the following listed in the 'Generates these commods' field :

- TV DINNERS
- FROZEN VEGETABLES
- REFRIGERATED VEGETABLES
- JAXXS POTATO CHIPS.

The Industry ***MIDWEST FOODS*** has the following in it's Freight Out field:

- TV DINNERS
- REFRIGERATED FOODS
- VEGETABLE COMBO PACKS
- FROZEN FOODS
- FRUIT BLOCKS
- ICE CREAM
- ICE CONFECTIONERY
- FROZEN VEGETABLES
- REFRIGERATED VEGETABLES.

The ***'Generates these commods' for Potatoes*** that match the ***Freight Out for Midwest Foods*** are:

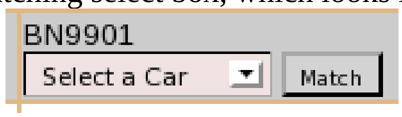
- TV DINNERS
- FROZEN VEGETABLES
- REFRIGERATED VEGETABLES.

A shipment of potatoes has been received by MIDWEST FOODS. So when the status on that Waybill is set to UNLOADING or UNLOADED, the application will randomly create a Generated Load from the ***Commodities – Generates these commods*** / ***Industry – Freight Out*** matching commodities list (in this example a Generated Load for TV DINNERS, FROZEN VEGETABLES or REFRIGERATED VEGETABLES will be created).

Available Cars

The **'Available Cars'** link in the **Purchase Order / Available Cars** box on the **Home** page will display a list of cars that have been uploaded through the 'Upload Data' facility. How to use the 'Upload Data' feature of the application is covered in the 'Upload Data' section of this manual. When clicking on the select button next to a listed car, the New Waybill facility will display and the data for that car will automatically populate the New Waybill. You can add the Destination / Originating industries as needed (if they don't display automatically) and edit the other data in the New Waybill screen as required (see the Editing / Creating a Waybill section of the manual), then click the Save button to create the waybill.

The Available Cars list also has an option to match cars uploaded by your railroad with other cars in the Available Cars list using the Car Matching select box, which looks like this:



The Car Matching select box works this way:

- If a car in the Available Cars list is used for sending a shipment, then only cars in the list that are used to receive a shipment will be displayed in the Car Matching select box.
- If a car in the Available Cars list is used for receiving a shipment, then only cars in the list that are used to send a shipment will be displayed in the Car Matching select box.
- The cars will not be matched as soon as a car is selected in the Car Matching select box. When the **Match** button is clicked the car in the Available Cars list and the car selected in the Car Matching select box will be matched and a waybill created.
- When the waybill is created, the **Lading** for the waybill will automatically be set to the lading for the **receiving** industry. You can change the lading, if necessary, by locating the waybill in the waybill list on the home page of the application, and manually typing another lading, then saving the waybill.

Charts

The Charts link in the menu will open a new window with links to various charts allowing you to compare the activity of your railroad with the activities of other railroads. There is no opportunity to input or change the data in the chart. It is for viewing only.

Upload Data

You can upload Industry, Available Cars, and Commodities from a CSV file directly into the application through the 'Upload Data' link in the menu. The following fields are used to upload the data:

- **Filename –** Browse for the CSV filename, which once selected will appear in the Filename field.
- **Table to Import To –** This currently has Commodities, Available Car Pool, and Industries. When an option is selected in this select box, the column order will be displayed. The CSV file must have the column names indicated in that order from left to right.
- **Railroad –** For some Table to Import To options, a Railroad select box will display. You need to select your railroad from the list if the Railroad select box is displayed in order to successfully import those kinds of data.
- **Delete Existing Entries for Selected Railroad –** If this checkbox is ticked, the existing records in the database for the railroad selected will be deleted before the new ones are imported from the CSV file.

- When the Available Cars option is selected in the Table to Import To select box, there is an extra select box available called **Minimum Lead Time for Auto Allocation of Available Cars**. If the Dont Auto Allocate option in the **Minimum Lead Time for Auto Allocation of Available Cars** select box is selected (it is the default selection), then the application will not automatically match any cars. But if one of the options *1 week through 6 weeks* is selected, the application will do the following once the available cars have been uploaded:
  - The application will then check all exact matches for lading, and match the first sender and receiver for a lading in the Available Cars table where the sending and receiving railroads are different (ie, it wont generate a waybill where the sending and receiving railroads are the same), ...
  - ... then the application will generate a waybill for each matched lading using the two available cars records, railroads, etc, it found which are required more than or equal to the number of weeks selected in the **Minimum Lead Time for Auto Allocation of Available Cars** select box after the available date for the sending shipment.
  - Then the application will mark the matched cars as TAKEN in the Available Cars list
  - This would allow someone to look at what cars are available, then create a csv file for the ladings they want to fulfil / receive, and then upload the file - effectively a bulk waybill creator!

Note that the CSV file must be Comma separated, with no quotes around fields. This means that you *cannot have any commas in the fields that are going to be imported*. Use semi-colons or other punctuation instead of commas! Once the 'Submit' button is clicked, the application will attempt to import the data to the selected table.

Common Tasks – Step by Step

This section of the manual has specific instructions regarding how to perform certain common tasks. This section is designed to be a guide only. If you figure out a way to perform the tasks outlined that better suits you and your railroad then feel free to perform the tasks in the way you discovered. Before performing any of the tasks outlined here it is best to login to your railroad so that the tasks can be performed.

Creating a New Waybill / Purchase Order

Waybills are the primary way of managing the movement and car/s between member's railroads. The waybill information is not necessarily based on prototypical practice but has been designed to be a generic management tool. The Waybill Number and Date of Waybill are automatically generated by the application and cannot be changed. All other information regarding a waybill (except for already entered Progress reports) can be changed by going into the 'Edit WB' link for that waybill in the My Active Waybills section of the home page.

- Click the 'Create New Waybill' link in the navigation menu near the top of the application.
- Select / enter information in at least the following fields:
  - Lading,

  - From Railroad,
  - To Railroad,
  - Routing,
  - Status. Normally when entering a new waybill the status would be Purchase Order or Waybill. Other statuses indicate the waybill or being actioned.
  - ***Optionally***, it is desirable that you select / enter information in the following fields when creating a waybill:
    - Car Report Mark & Number and Car AAR Code OR Alias Report Mark & Number and Alias AAR Code
    - Origin Industry (if the shipment is originating on your railroad) OR Destination Industry (if the destination of the shipment is your railroad)
- Click the 'Save Changes' button at the bottom of the form.
- Once these steps have been done, the waybill will appear on the Home page of the application in the Active Waybills / My Active Waybills / Purchase Orders section of the Home page.

Allocating a Waybill to an Auto Train

Auto Trains are a way of sending a shipment from one place to another where the train is beyond the trackage of the your railroad but not yet on the trackage of the destination railroad. When a waybill is added to an Auto Train, the application manages the date when the cars on the waybill exit the train and automatically sends a message to the group and the progress reporting system for the relevant waybills. Once the application reports that an Auto Train has spotted cars, members can add their own progress reports for those waybills. Once a waybill has been allocated to an Auto Train it is best not to enter any other progress reports or try to allocate the waybill to a different train until the car/s on the waybill have been spotted at the relevant place by the Auto Train so that members are not confused as to the status and progress of the waybill.

- In the 'My Active Waybills' section of the Home page of the application, click the 'Edit WB' link for the waybill you wish to allocate to an Auto Train. Alternatively, you can create a new waybill and allocate it immediately to an Auto Train by clicking the 'New Waybill' link in the application menu.
- Select the relevant Auto Train (Auto Trains are highlighted in color) in the 'In or Allocated to Train' select box.
- Information about the train will appear under the 'In or Allocated to Train' select box.
- Click a specified Waypoint from the Waypoints list that appears under the train information (if any) and the location will be copied into the Exit Location field. Alternatively you can specify a custom Exit Location by typing it in the Exit Location field (see the ***Adding or Editing A Train*** section for more information on how the Auto Train feature works).
- Click the 'Save Changes' button at the bottom of the form.
- Once these steps have been done, the waybill will appear on the Home page of the application in the Active Waybills / My Active Waybills section of the Home page.

See the Editing / Creating a Waybill section for more information on how the application manages Auto Train deliveries.

Submitting a Progress Report for a Waybill

One of the major components of waybill management is the reporting of the progress of a shipment on a waybill so that other members will be informed of the status of the various shipments.

- In the 'My Active Waybills' section of the Home page of the application, click the 'Edit Waybill' link for the waybill you wish to allocate to an Auto Train.
- At the bottom of the Waybill details there is a list of Progress Reports there is a form with a number of fields.
- The 'Date' field defaults to today's date. This can be edited if necessary but it is desirable to leave it as the date automatically indicated.
- The 'Progress Report' field is where a reasonably detailed (but not too verbose) progress report of the car/s on the waybill is indicated.
- The 'Map Location' select box / field needs the closest Google Maps location and is used in the 'View Cars Location on a Map' section of the application. You may notice that there are sometimes 'Map Locations' in this progress reports list that are not actually valid for Google Maps. This is normally because the Fictional and Real Locations have not been specified for a fictional or railroad facility in the Manage Locations part of the application.
- The 'Select a Status' select box is the new Status of the waybill.
- Once all details have been entered / selected, click the 'Save Changes' button at the bottom of the form.
- Once these steps have been done, the new waybill progress details will appear on the Home page of the application in the Active Waybills / My Active Waybills section of the Home page.

Using the Available Cars feature of the application

The available cars feature is a way of making one or more cars on your railroad available to other member's railroads and / or requesting one or more shipments from other member's railroads to your railroad. There are two major components of this facility:

- The uploading of car data for available and / or requested car for your railroad
- The selecting an Available / Request Car from the 'Available Cars' list

Uploading of Car Data

This requires knowledge of how to create a CSV file in a Spreadsheet or Text Editor program. This is performed by doing the following:

- Click the 'Upload Data' link in the navigation menu
- Browse for the file name on your hard drive which has relevant Available Cars data so that the filename appears in the 'Filename' field
- Then selecting the 'Available Cars Pool' option from the 'Table to Import To' select box
- You can choose to automatically match sending and receiving cars by lading by selecting one of the options other than the **Dont Auto Allocate** Cars option in the **Minimum Lead Time for**

Auto Allocation of Available Cars select box. To see how this select box works, see the *Data Upload* description in the *Data Management Functions* section of the manual.

- Select your railroad's reporting mark from the 'Railroad' select box
- If you wish to ***replace any Available Cars data already in the Available Cars list for the selected railroad***, tick the 'Delete Existing Entries for Selected Railroad'.
- Click the 'Submit' button.
- A list of the data will appear. Note that the CSV file needs to be Comma delimited (eg, a comma separating the different fields / columns). This means the data in the various columns must not have commas in them as the commas will cause the data to be incorrect!
- If the data displayed looks correct for the file you uploaded, click the 'Add to Database' button.

Selecting an Available / Requested Car from the Available Cars list

From the list of available cars you can select cars to be received or sent by your railroad to / from the railroad indicated in the list.

- Click the 'Available Cars' link in the navigation menu
- A list of available and requested cars will appear. Any record that has '**REQUIRED**' in the From column is being **requested by** the railroad indicated for arrival at the indicated railroad by the date indicated in the 'Date Available' column. All other records become available **from** the railroad on the date indicated in the 'Date Available' column.
- Select the shipment you wish to receive or send. This will open the New Waybill screen, and will automatically populate the relevant fields from the Available Cars data for the car you selected.
- Follow the process outlined in the 'Create a New Waybill / Purchase Order' part of this section of the manual.
- Once the new waybill / purchase order has been created, the car will be marked as '**TAKEN**' in the Available Cars list.

Note: When a Train ID is specified in the uploaded Available Cars data and a waybill is created from the data, the Train ID is passed to the Create Waybill process and will be automatically selected in the In or Allocated To Train select box. When the waybill is created and the Train ID is an Auto Train, the normal Auto Train progress report process is executed. See the Editing / Creating a Waybill section, Create / Edit Waybill section, Allocating A Waybill to an Auto Train section, for more details about Auto Trains.

Using the Switchlist feature of the application

The switchlist feature is a way of managing and printing switchlists of cars allocated to specific trains. This feature can be accessed through the 'Trains' link, or by selecting a train in the 'S/List for Train' Quick Select in the application menu.

The current features of the Switchlist are:

- You can edit the waybill through the number link (eg, ..87564) in the left hand column next to each waybill.
- You can enter a progress report for a waybill on the switchlist, through the 'Progress' link in the left hand side column for each waybill.
- You can remove the cars on a waybill from a switchlist by clicking the 'Remove' link in the left hand side column for each waybill.
- You can add other cars / waybills to the currently viewed switchlist by selecting an option in the 'Add waybill / cars to this switchlist' select box between the switchlist operational information and cars listing for the switchlist.
- You can move all the cars on the switchlist, except those indicated as excluded, by selecting a location in the 'Move cars in this train to locate them at' select box and then clicking the 'Run Train' button located between the switchlist operational information and the cars listing for the switchlist.

Suggestions for using the MRICF

When to hand over control of a waybill to another railroad

When in control of a Purchase Order / Waybill, there may be some confusion as to when to hand control over to another railroad. When the car/s on a waybill are on your railroad you have control over their movement unless you delegate or allow someone else to move the car/s that waybill over your railroad. Here are some suggestions for when to hand control of a waybill over to another railroad:

- When the car/s on the waybill enter the trackage of the destination railroad.
- When the car/s on the waybill arrive at the closest interchange yard to the destination railroad.
- When the car/s on the waybill enter another member's railroad enroute to the destination railroad.

When to set specific Status's for a waybill

There are a number of status types available in the Waybill and Progress sections of the application. Here is a list of when to use each status type:

- **Purchase Order –** When a request for a shipment to or from your railroad is created but has not been accepted by another member's railroad.
- **Waybill Created –** When the waybill is accepted / confirmed by both the origin and destination railroad, but the car/s on the waybill have not started their journey yet or no car/s have been indicated on the waybill yet.
- **Loading at Origin –** When the car/s on the waybill are being loaded at the originating industry.
- In Transit – When the car/s on the waybill have left the originating industry and are on their way to the destination industry.
- **Spotted at Interchange –** When the car/s on the waybill have arrived at an interchange location. The railroad specific locations starting with 'At' in the status list can also be used in the

same way as this status option.

- **Unloading at Destination** – When the car has arrived at the destination industry and is being unloaded.
- **Unloaded at Destination** – When the commodity shipped in the car has been fully removed from the car. In other words, when the car is empty.
- **Returning to Owner Railroad** – When the car/s on the waybill have been unloaded and have commenced the return journey to the originating railroad.
- **Closed** – When the car/s on the waybill have been returned to their originating railroad and there is no more movement required to fulfill the revenue and returning legs of the car/s journey.

When the status of a waybill is changed to 'Returning to Owner RR'

When the cars on a waybill have been unloaded and are about to commence their return journey, members might be in some confusion as to what to do with the data in the waybill. Should it be all reversed and the lading changed to Empty (MT), or not?

- While it is often a matter of personal preference as to whether to swap the Origin and Destination industries and railroads for a waybill, it is the opinion of the MRICF programmer that when a car/s on a waybill have been ***unloaded*** that the Origin and Destination should be swapped using the Swap origin / destination, mark Lading as MT at the top of the Waybill Editing view, or by allow the application to swap the origin and destination and lading automatically using the auto-unload feature.

One exception to this principle is when the car/s on a waybill will have a non-empty lading on the return journey, or if the return journey involves a different route. This should be indicated in the progress report where relevant, and the waybill closed when the car is at it's destination.

FAQs

Q: My railroad is a switching railroad which does not have any regular trains. How do I make the 'You have not set up any trains yet' warning box disappear?

- Create a single new train (maybe a switch job, yard job, or extra train) in the Manage Trains -> New Train area of the application (see the ***Managing Trains*** section in this manual), and call it something like 'Switch Job' or similar, and then save it. If you have any trains from other connecting railroads that run over your railroad (whether they are represented by other member's RRs in the MRICF or not) you can set them up for your railroad. That will make the 'you have not set up any trains yet' warning disappear.

Q: Can anyone select cars from the Available Cars list?

- The Available Cars section of the application could be likened to a 'menu' or 'shopping list' of carloads of goods that you can request or send to or from the other railroad. It is a way of making cars scheduled from or to your railroad available to other members so they can interchange with you. Anyone can use the available cars to select a car and create a waybill for it. And anyone (who has a little knowledge of creating and using CSV files) can upload cars to it. If a car is from an industry, then the date indicated is the date the shipment becomes available. Otherwise it is the date the shipment needs to be the nearest interchange point (normally the interchange on the same railroad as the industry) to the indicated industry.

Q: Can I use the auto-trains of other railroads to forward my cars to their destination?

- Yes.