MODEL RAILROAD MANAGER

VERSION 1.1

OCTOBER 2002

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Welcome

Thank you for licensing the Model RailRoad Manager software from MTS Associates.

This manual assists understanding the features of the Model RailRoad Manager(MRRM) software product.

We first present an overview of the MRRM Product Architecture.

This is followed by an introduction to navigating the look and feel common to our software products. This chapter walks you through getting around the MRRM software. It steps you through login, moving around, and exit from the MRRM software.

Model RailRoad Manager

by MTS Associates

Personal Edition

Version 1.0

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MRRM_Overview_Summary

MRRM Overview

Model RailRoad Manager software comprises: Inventory Manager , Maintenance Manager , Railroad Services Manager, and Railroad Operations Manager.

MRRM Overview



Inventory Manager

The Inventory Manager is a tool for recording the rolling stock and stationary objects that make your railroad. Once you inventory your railroad you can also maintain it and build services to be performed on your railroad.

You may also 'temporarily' integrate rolling stock that visitors bring to your railroad so that your industries can use this rolling stock within any railroad services that you create.

The Inventory Manager is discussed in the 'Inventory' chapter.

Maintenance Manager

Locomotives need servicing. Cars need repairs. Scenery gets damaged. Platform integrity gets weakened. Wiring goes faulty. Buildings need work. The Maintenance manager provides a ticket system to schedule needed work and track its completion so that the item can be restored to full service. The archiving feature allows you to remove completed maintenance actions to archive files which you can then use to observe maintenance trends occuring on your railroad. A Preventative Maintenance (PM) feature for rolling stock allows you to schedule maintenance based on days between PM or number of times used. Every time you run a train with MRRM, the usage count for each car and locomotive used gets incremented. You set thresholds

which when reached trigger maintenance needed alerts.

The Maintenance Manager is discussed in the 'Maintenance' chapter.

Railroad Services Manager

After you name the items comprising your railroad, you can begin to create the services that will operate on your railroad. Beginning with the industries that you support on your railroad, you can create shipping and receiving activity for freight. Industry traffic leads to waybill generation and the capability to create manifests for trains. Tools to quickly generate traffic are easy to use. Schedules for regular passenger or freight are supported. Extra trains can be quickly defined. Time and distance can be imposed if you need the challenges implied. Locomotive horsepower effectiveness in pulling a train is impacted by grade and weather. MRRM lets you define grade and weather impacts on consist pulling power requirements. Switchlists can be created for each train's Conductor as well as for the tracks managed by any of your Yard Masters or other track managers. MRRM is meant to let running your railroad be realistic without being overbearing.

The Railroad Services Manager is discussed in the 'Industry', 'Train Service Plan', and 'Build Services' chapters.

Railroad Operations Manager

The Railroad Operations Manager is used while you and your friends are running (Working) the railroad. Multiple trains can be run concurrently. Track the stop sequence of each train as it progresses on its schedule. Note the rolling stock pickups and setouts at each stop in accordance with the train's manifest. Dry run the train stop sequence and check its weight pulling capacity for the load along its route, grade and weather conditions. Shipments generally require multiple related trains to setout the empties at the Shipper, pick up the loaded cars from the Shipper when they are ready and deliver them directly or via a yard(s) to the Consignee, pick up the empties from the Consignee when they are unloaded and return the cars to their home yard or other spot. Track each shipment for your customers. Observe the cars currently at each siding as well as cars scheduled to be set out at each siding or picked up from each siding. Alarm message report if you have a space problem at a given siding or you can have the offending car(s) removed from the manifest. MRRM allows you to have multiple stops on each siding. Track the cars at each spot and planned pickups and setouts.

Make changes to waybills or manifests at the last minute before a train starts or at any time while the train is running. You control the computer. The computer does not control you!

If you want to integrate your railroad with your computer, the Railroad Operations Manager will assist you. This is still under design and development, however, so you'll have to wait for this capability to mature. Sorry!

The current Railroad Operation Manager capabilities are discussed in the 'Operate Services' and 'Digital Command Control' chapters.

In addition to these four managers, the program includes important control capabilities which are discussed in the 'Administration', 'Input / Output', and Utilities chapters.

Summary of Chapters

The following paragraphs summarize each of these chapters in the order that they will be presented later.

Administration

In this chapter you enter your product registration information, set your model railroad scale settings, and set the skill level of the program's User (Beginner, Intermediate or Advanced) and input the Users (yourself, friends, visitors) who can be assigned operating roles (Conductor, Engineer, etc.) on your railroad.

Inventory

This chapter guides you through getting your Model Railroad rolling stock and other layout information into MRRM. Data can either be manually entered through a graphical user interface (GUI) or electronically imported from existing spreadsheets or databases (see Input / Output Chapter for details).

Maintenance

Once you have entered some (or all) of your inventory information, you can begin to log maintenance actions on your railroad. This chapter shows you how to enter and track maintenance activity.

Industry

This chapter, for Users having Intermediate or Advanced skills, guides defining the commodities (Lading!) that your railroad transports. Ignore this chapter if you only serve passenger traffic. You also need to enter the shippers, consignees and other participants that live on your railroad. Importantly, this chapter covers creating shipments between parties that live on (or off!) your railroad and supports multiple leg shipments where each leg involves rail or another mode of transportation (truck, air, sea)

Train Service Plan

For Users having Intermediate or Advanced skills, the Train Service Plan is a key to fun and games. Train categories, Scheduled and Extra Trains, Consist Locomotive Power, Stop to Stop Metrics, Schedules, Railroad Jobs and Train Crews are defined or assembled into an overall plan for your railroad.

Build Services

Once you have a Train Service Plan, a User having Intermediate or Advanced skills, can generate Waybills to move loaded cars from shippers to consignees throughout the world (via off layout and intermodal support). MRRM also provides simple methods to order empty cars to be set out or picked up at an industry. Train manifests can be created for freight trains. Switchlists can be generated in a variety of easy to use schemes from truly realistic to 'just for fun' operations. Specific trains can be assigned to schedules in the Train Service Plan or created ad hoc! For each scheduled or extra train you can assign your (real life) Users as Actors for Railroad Employees and Jobs.

Operate Services

Users with Advanced skills can use the Operate Services capabilities of MRRM. This chapter covers multiple train manifest status tracking, waybill status tracking, shipment forwarding status, train weight/horsepower/grade evaluation at each stop on the train's schedule, train orders, siding current and projected space, stop current and project car assignments..

Digital Command Control

Manage each locomotive's DCC decoder assignment with up to 100 configuration variables per decoder. This very advanced area is still under development.

Input/Output

This chapter guides you through database data inputs and outputs through 'flat files'. A flat file is simply a text file where each database record is placed on a single line and columns of that record are separated by tabs. These files can be created or edited with a spreadsheet program like Microsoft Excel or even the Microsoft Notepad program that comes with Windows. The tables are sequenced in accordance with their hierarchical interdependence.

Utilities

This version of MRRM contains two utility programs to help you to have more fun while operating your railroad: MRRM FastClock and MRRM StopClock. If you or your crew are working on your railroad to a 'Schedule', a FastClock helps you to overcome derailment time and other delays by letting you play with time as clocked to your model world. The MRRM StopClock allows you to calibrate the MPH of any of your trains passing between two selected points on your railroad - like a radar trap! Use StopClock to establish reasonable stop2stop metrics used in your schedules.

MRRM_Navigation

Navigation

This chapter teaches you how to get around the MRRM software. It steps you through login, moving around, and exit from the MRRM software.

The menu is the primary entry point to MRRM's functions. Menu items generally open a window. Each window typically has a set of tab pages. A tab page usually contain one or more panes containing database content, a set of control buttons at the top, and a collection of command buttons on the right.

Starting with a screen layout, we show how each tab page is divided into one or more panes. Each pane may be a list of information in a database table. Each row in the list is a record in the table of the database. A pane may alternately display a form (or template) containing all the detail data associated with the instant table row. Generally to switch from Table List format to Template Form, double-click the row in the list or select the row in the list and click the <u>F</u>rm button. To return to the List, click the <u>T</u>bl button

The MRRM program uses many drop-down lists in lists and forms. A dropdown list makes it easy to select a value based on the set of possible or previously defined values of a given type. For example, if prompted to identify the locomotive as the head or a slave of a consist, a drop-down list of all locomotives in your current inventory are displayed for you to choose one.

MRRM also makes use of many command buttons. These buttons are typically placed on the right hand side of a tabpage

Like all mouse based Windows applications, it is very important that you and your computer both know which of the many objects visible on the screen is the <u>focus of attention</u>. To the computer, the focus of attention is generally the last object that you clicked. To you, the focus of attention is generally the object you are staring at the moment. Remember to click that item before commanding the computer to perform the next request. For example, if you want a given command button to act on a specific row (record) in a pane, click the mouse on the row of the pane, then click the command button. Generally the computer can then figure out what you want it to do. Remember - computers are dumb!

Login

To enter MRRM, use the mouse to double left click on the MRRM application file or MRRM short cut icon from the Windows desktop. This will launch the application beginning with a splash screen and automatically proceeding to a login dialog box.

Model RailRoad Manager	
Model Ra	ailRoad Manager
by N	ITS Associates
Vers	sion 1.0 Personal Edition
Login Name	dba
Password	***
	<u>E</u> nter
<u>Cancel</u> <u>Aug</u>	ust 08, 2002 07:58:56 att Copyright 2001-2002

The cursor will appear in the User ID field. Enter your user ID and use the tab key to navigate to the *Password* field.

Enter your login name and password. The standard Login Name is dba. The standard password is sql

Click on the OK command button.

Result: The message line at the bottom right of the dialog box will change from stating the current date and time to stating: *Please wait. Connecting* (while the application connects to the MRRM database server.) then *Please wait. Loading* (while the program and various data are configured for use.) The first time you run MRRM, the program creates an entry in your registry to coordinate the MRRM database with the Windows ODBC administration program.

Note: This program is currently a client/desktop program. It has been designed to allow client/server operation in the future. In client/server mode, multiple concurrent club members or other users can access a single database from desktop or portable or handheld computers via a wired and/or wireless local area network. The plan is to allow train control of DCC equipped engines and stationary objects from a PC or handheld computer. Also, computers can access or update current status of shipments, rolling stock, waybills, manifests, train stop status, and so forth

Screen Layout

MRRM is structured for your ease of use. Although MRRM has many screens, standard characteristics appear on all of the screens, such as the master frame window which contains the menu bar at the top, and the message display at the

bottom.

Model	l RailR	oad Manage	r							
<u>F</u> ile <u>I</u> nve	entory	<u>M</u> aintenance	Build Services	Operate Services	RR Operations Consoles	<u>A</u> dminister	<u>W</u> indow	<u>H</u> elp		
			Industry Shi Train Servic Sales and T	pping Plan: Lading, e Plan: Consists (Pl raffic Departments:	Commodity Buyers and Sell ower Desk), Classes, Trains Waybills, Manifests (Wheel	ers, Match P , Power Scer Reports), Tr	rospects, S harios, RR ain Schedu	Shipments (from Orc Jobs, Crews, Staff, ules, Switchlists	lers) Employees, Sch	edules

The menu consists of the four main functions (Inventory, Maintenance, Build Services, and Operate Services), RR Operations Consoles, Administer, File, Window and Help.

M	lodel Ra	ilRoad M	anager						
<u>F</u> ile	Invento	ry <u>M</u> ainter	nance	Build Services	<u>O</u> perate Services	RR Operations Consoles	<u>A</u> dminister	<u>W</u> indow	<u>H</u> elp
	Rail	oad Rolling	Stock a	and Stationary Ra	ail Assets: Track/S	idings, Turnouts, etc.			
	Divi	sions, Towr	ns, Indus	tries, Buildings, S	itops, Interchange:	s, etc.			
M o	odel RailR	oad Manag	er						
<u>F</u> ile	Inventory	<u>M</u> aintenance	Build Se	rvices <u>O</u> perate Ser	rvices RR Operations	Consoles <u>A</u> dminister <u>W</u> indov	v <u>H</u> elp		
				Running) Train Status Panels fo	r Manifests, Waybills, Shipments	, and Trains Loa	ds - Wt/HP; 1	Train Orders
				Rolling 9	Stock Capacity Status a	and Forecasts for Sidings and St	ops along Siding	s; Rolling Sto	ck Adjustments
				Digital C	ommand Control: Loco	motive Decoders, Decoder Setti	ngs		
2020									
i i	lodel R	ailRoad N	lanage	er -					
<u>F</u> ile	lodel R Invento	a <mark>ilRoad M</mark> ry <u>M</u> ainte	lanage enance	r Build Services	<u>O</u> perate Servic	es RR Operations Cons	soles <u>A</u> dmir	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	lodel R Invento	a <mark>ilRoad N</mark> ry <u>M</u> ainte	<mark>lanage</mark> nance	r Build Services	<u>O</u> perate Servic	es RR Operations Con: Freight Forwarde	soles <u>A</u> dmir	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	iodel R Invento	a ilRoad N ry <u>M</u> ainte	lanage enance	er Build Services	<u>O</u> perate Servic	es RR Operations Con: Freight Forwards Railroad Back O	soles <u>A</u> dmir r ffice	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	fodel R Invento	ailRoad N ry <u>M</u> ainte	<mark>lanage</mark> :nance	er Build Services	<u>O</u> perate Servic	es RR Operations Cons Freight Forwarde Railroad Back O Roundhouse Fo	soles <u>A</u> dmir r ffice reman	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	fodel R Invento	ailRoad N ry <u>M</u> ainte	lanage enance	r Build Services	<u>O</u> perate Servic	es RR Operations Cons Freight Forwarde Railroad Back O Roundhouse Fo Yard Master	soles <u>A</u> dmir r ffice reman	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	fodel R	ailRoad N ry <u>M</u> ainte	lanage enance	r Build Services	<u>O</u> perate Servic	es RR Operations Cons Freight Forwarde Railroad Back O Roundhouse Fo Yard Master Dispatcher	soles Admir r ffice reman	nister <u>W</u> ir	ndow <u>H</u> elp
<u>F</u> ile	fodel R Invento	a ilRoad N rry <u>M</u> ainte	lanage enance	r Build Services	<u>O</u> perate Servic	es RR Operations Cons Freight Forwarde Railroad Back O Roundhouse Fo Yard Master Dispatcher Conductor	soles Admir er ffice reman	nister <u>W</u> ir	ndow <u>H</u> elp
File	fodel R	ailRoad N rry <u>M</u> ainte	lanage enance	r Build Services	<u>O</u> perate Servic	es RR Operations Cons Freight Forwarde Railroad Back O Roundhouse Fo Yard Master Dispatcher Conductor Engineer	soles <u>A</u> dmir r ffice reman	nister <u>W</u> ir	ndow <u>H</u> elp

Windows where you can enter or view data, named Tab Pages, include window title bars, tabs, command buttons, and panes. A sample screen layout is provided below to identify these characteristics as they appear.

Model RailRoad Manager		1. <u>5.2.1.</u> 11.1.		_ 8 ×
<u>File I</u> nventory <u>M</u> aintenance Build Services <u>L</u>	perate Services HH Uperations Lonsoles <u>A</u> dmi	nister <u>W</u> indow <u>H</u> elp		
Lading Carriaged Industry Goods Bought and S	1H	ments to Consignees		
Claims canaged mussiy doous bought and sh			· · · · · · · · · · · · · · · · · · ·	Photo Minimum Required Chineset Data Stones
Shipments Defines the g	oods that each industry buys or sells; multiple per ind	dustry supported	Clear Sort Master	anow winning Required Shiphert Data Clerier
Shipment #	Lading Name	Shipper ID DringstonChamical	Consignee ID CoverellPaint	Single Shipment Report Summary Shipments Report
80000001	chemicals	PrincetonChemical	CoverallPaint	Copy a Shipment Record
80000001	chemicals	PrincetonChemical	EvcolElectronice	Copy a Shipment and Legs Records
80000002	cool	IDBigBopMipo	Hellandiron	Rolling Stock on Shipment Legs
800000004		UDBigBopMine		
90000004		IDBigBenMine	TowerSteelCo	
900000000	coal	UDBigBenMine	ShenSawmill	
80000007	annliancac	Inot your inductry	Inot my inductry?	
800000007	appliances	Inet_your_industry	Inet_my_industry2	
90000000	coal	Inet_your_industry	Inet_my_industry2	
50000005	Coar			-
Shinment Lens			Sort Chi	ld List
			Solution	Create Waubill(s) from Shipment Leg
Snipment # 100				Create waybility non onpinent Leg
Leg # Goods Status Vessel	Status Start ID D	estination ID Mod	e BUL / Waybill #	car, Route Leg shows 1st car RS ID
U awaiting goods awaiting	setout DeHart Yard Irackb (unemicalPlant Rail	146	and last car Waybill #
1 awaiting goods awaiting	setout ChemicalPlant Ci	overPaintsRove Rail	148	
99 awaiting goods awaiting	pickup CoverPaintsRove De	Hart Yard Irack B Rail	150	Waybills for Shipment Legs
			Show	Minimum Required Route Leg Data Elements
eadu				// LL
	- D.S. I 🖉 Adaba DhasaD I 📾 anna asan D		10m 🧷	

Standard components of MRRM that are activated by single left mouse clicks include:

- ?? The Horizontal Menu at the top of the screen with associated drop down menus enables you to select actions to perform or items to see
- ?? The labeled Tabs enable you to select specific types of actions or items

Each tab page (in this case named Shipments to Consignees) of a window includes:

- ?? A window title in a contrasting color (in this case named Industry Participants and Demands on RR)
- ?? Panes of data in rows, labeled with a title in the top left hand corner (in this two panes; an upper pane Shipments and a lower pane Shipment Legs)
- ?? Sometimes, sets of radio buttons or sets of check boxes (in this case two check boxes one of which is Show Minimum Required Shipment Data Elements)
- ?? Command buttons in one or two columns to the far right of the screen (in this case the command buttons include Copy a Shipment and Legs Records and Create Waybill(s) from Shipment Leg.
- If you need to contact Customer Support, please report both the window title, tab page title and the Pane title of the particular pane on the tab page with which you are having difficulties.

Lists and Forms

Related information is viewed in both lists and forms (forms are sometimes called templates). A list view only contains the most significant subset of data for each member or item of the list. All of the data detail associated with each member or item on the list is included on the form.

The following is an example of a list, in this case of Stops at some Sidings.

Divisions, Towns, Industri	ies, Buildings, other Sites and Miscellany					
Divisions City/Towns Industrie	es Buildings Stops Interchanges Intermod	lal Sites Miscellaneous	Division CityTowns CityTo	own Sidings CityTown Sto	ps Sid	ing Stops
Stops	$\langle \langle \underline{\langle} \underline{\rangle} \rangle \rangle$	<u>a d s</u> Ibi	Erm <u>B</u> fs <u>Print</u> Fil	lter S <u>e</u> t <u>C</u> lear Sort M	aster	_
Stop ID	Site Name	Siding ID	Citytown ID	Division ID		Sing
AmyDieselWrks_Rcve	Amyville Diesel Works Co. Receiving	AMY050	Amyville	Gray		Summ
AmyDieselWrks_Ship	Amyville Diesel Works Co. Shipping	AMY050	Amyville	Gray		Copy a
AmyvilleInterchng	Amyville Railroad Interchange	AMY010	Amyville	Gray		30003 0
AmyvilleStation	Amyville Railroad Station	AMVN AMVS 001	Amyville	Gray		

To access the form associated with one member or item on the list:

- 1) Double-click anywhere on the row describing the member or item in the associated list, OR
- 2) Click anywhere on the row describing the member or item and click on the <u>Frm</u> (Form) command button (which is located at the top of the tab page), OR
- 3) Type the shortcut key combination alt-F (see underlined <u>F</u>).

Result: This will bring up the associated form.

To add a new record, bring up a blank form by clicking the Add (<u>A</u>) command button or type alt-A.

To return to the list format, click on the Table List (Tbl) command button or type alt-T.

Note: If (like when you first start using MRRM) there are no rows on a list, go to the form view then click the '<u>A</u>' button at the top of the tabpage and a form with named but empty fields will display for you to enter needed information.

Inside a Form

Once on a page containing a form, you have alternative options for moving about.

Stop Instance	
Stop ID DIA Customs	
Site Name: U.S. Customs DIA Export/Import Facilities	ĺ
Site Dock:	ĺ
Siding ID DIA020	
Citytown ID Durose International	
Division ID Blue	
Stop Type: Intermodal (User defined, optional)	
Stop Type Name:	(User defined, optional)
Picture Filename	
Purpose:	

To see the remainder of a form, click the mouse on the lower arrow of a vertical scroll bar. To move between fields use the Tab Key.

Text Conventions

This document uses specific typefaces and layout styles to signify information and certain operating features. The following list describes common text conventions.

Bold typeface is used to indicate items that you can either select from a menu or use to issue a command or response.

Italics are used to indicate command parameters such as login *username*. *Italics* are also used to introduce new terms and for dialog box names.

Commands

Command buttons carry out the command associated with the button.

Copy a Waybill Record				
Waybill Destination Report				
Publish 1 Waybill Document				
Waybill History				
Rolling Stock Waybill History				
AAR Required by Waybill				
Car Assigned to Waybill				
Create Waybill Card				
Create Waybill Card Set				

To invoke the command, use the mouse to point to the name on the button and click on it. Commands that are grayed out are not available for use at this time.

Drop-Down Lists

Fields that only require a selection from a given list are displayed with a drop down arrow to the right of the field.

From Stop ID BlueGrayInterchng	•	Pickup Car/LCL Car 👤
To Stop ID ApplianceFactory	•	Setout Car/LCL Car 💌

Click on the drop down arrow for the list to appear.

	Way	/bill	Instance
Waybill #	1		
From Stop ID	JDMineShip	•	Pickup Car/LCL
To Stop ID	StackMtnInterchng	-	Setout Car/LCL
	Stop		Citytown
Shipper ID	StackMtnInterchng	Stack M	lountain
Consignee ID	Tower_Steel_Rove	Amyville	9
	Tower_Steel_Ship	Amyville	9
Lading Name:	TristarFeMineRcve	Stack M	lountain
AAR Code	TristarFeMineShip	Stack M	lountain
Car ID	RDG80326-2		•

Use the vertical scroll bar to locate your selection. Click on the appropriate selection and it will appear in the field.

Exit

To exit the system, from the horizontal menu:

- 1) Click on File, and then click on Exit, OR
- 2) Click on 'X' in very upper left of the outside window.

Result: The Exit MRRM message box will appear.

Exit			×
?	Exit the Mod	el RailRoad Mar	nager?
	OK)	Cancel	

Click on the OK command button to exit.

Result: The MRRM application will close.

And now let's get started with the fun stuff!

MRRM_Admin_Maintenance

Administration

In this chapter you enter your product registration information, set your model railroad scale settings, set the skill level of the program's User (Beginner, Intermediate or Advanced) and identify the Users (yourself, club roster, friends, visitors) who can be assigned operating roles on your railroad.

Layout Users

	Administer Model RailRoad Ma	nager			
L	ayout Users, Club Members, Visitors	Model RR Scale Settings Railroad Registration			
	Actors / Club Roste	r << < > >> × A I	D S Ibl Erm <u>R</u> fs	Print Filter Set Clear	Sort Master
	Actor ID	Actor's Full Name Name	Available?		- Skill Level
	Big-Larry				SKILEVEL
	Little_Larry				C Beginner
	Tom				C Intermediate
					Advanced

Select the skill level that you prefer for your copy of MRRM. Skill levels are Beginner, Intermediate, and Advanced. The skill level may be changed at any time. The skill level determines which functions/features are made operational for you. So when starting out with MRRM, you may want to set skill level to Beginner and the software may simpler. The normal initial installation sets the skill level to 'Beginner'.

The above pane is used to enter the Users of your railroad. That is, real people like you and me. These entries allow you to assign operating roles when assigning crews, dispatchers et cetera. To temporarily exclude a User (not here today? Just wants to watch?) turn off the Enabled flag. Then when you are assigning Users to Train Crews and other Railroad jobs, only the worker Users are listed in the drop down menus.

Model Railroad Scale Settings

MRRM is intended to support N (my scale), HO, O, Z, TT, STD, S, and G scales.

Scale Data		<u>E</u> rm <u>F</u>	<u>R</u> fs <u>Print</u> Filte	r <u>Se</u> t <u>C</u> lear Sort Master
		Тгах	el 3 feet	Recalculate Travel Times
		Sca	le: N	
Lavout Scale I	Data	MPH	Seconds	
Edyout oould i	Dulu	5	65.5	
		10	32.7	
		15	21.8	
		20	16.4	
Scale ID N		25	13.1	
		30	10.9	
Saala Faatay 190.0 Beat	hatuna ta Masial	35	9.4	
Scale Factor 160.0 Prot	totype to model	40	8.2	
		45	7.3	
SMile: 33.00 feet	per modelled mile	50	6.5	
		55	6.0	
SKilometer: 6.25 mete	ers per modelled kilometer	60	5.5	
		65	5.0	
Eastclock Eactor 6 mod	telled minutes ner wall clock minute	70	4.7	
		75	4.4	
SMinutes Par Hr. 10.00 minu	utop of well plack time nor modellad how	80	4.1	
Similates Ferrin. 10.00 minu	utes of wall clock time per modelled hou	85	3.9	
		90	3.6	
Model Speed MPH 30.00 Prot	totype's MPH	95	3.4	
		100	3.3	

Select your scale from the drop-down list. The correct scale factor will automatically be inserted for you. The length of an SMile in your scale will be computed as will S Kilometers in kilometers.

Next enter a FastClock factor (or set to 1 if don't care about fast clock operations). The number of Sminutes in a real clock hour are computed and inserted.

Finally, insert a Prototype MPH and MRRM will convert to KPH and vice-versa. Average Smile speed in feet per wall clock minute is computed for you. Average Skilo speed in meters per wall clock minute is also computed.

If you click the 'Recalculate Travel Time' button, the time in wall clock seconds for a train of your scale to travel three (3) feet of track at various MPH are displayed.

Layout Registration Data

Administer Model HailHoad Manager	
Layout Users, Club Members, Visitors Model Rh	(Scale Settings I hallioau negistration
Railroad Ownership	Image: Constraint of the set of the se
Railroad O	wner Registration Data
Registered User ID 0	Scale ID 📉 💌 Mobile Flag No 💌 Module Type Custom 💌
Railroad Name Reading and Cheas	peake Railway
Owner First Name	Owner Last Name Stack
Address1: PO Box 3905	Phone: 4445556666
Address2:	Cellphone: 2345678901
City: Gettysburg	Email: tomstack@superpa.net
State or Region PENNSYLVANIA	Veb Acct Pwd:
Country: US 💽	Secretquestion: how do we know it works?
Postal Code: 17325	Secretanswer: test it
Description: freelance, late twent	ieth century, heavy industrial activity

This screen is used to collect your registration information to be sent to MTS Associates. It also will be used to get updates and information access via the Internet in the future. MRRM does NOT require an Internet to operate. However, MRRM is Internet-aware. This means that it can use the Internet with and without a Browser to access information on the MTS Web Site. More on this later!

The 'mrrm.ini' file

[database]	
dbms=ODBC	
database=mrrm	
servername=	
[user]	
role=end user	
skill_level=Beginner	
rem skill_level=Intermediate	
rem skill_level=Advanced	
show_min_data=Yes	
make_pda_files=Yes	
train_arrival_leadtime=0:30	
full_empty_a_warning_only=no	
siding_a_warning_only=no	
last_maintenance_ticket=327	

[internet] internet_use="Off"

http_client="Internet Explorer" email_client="Eudora" calculator="Calculator"

[filepaths] win_ini=c:\windows\win.ini ftp_client=c:\ws-ftp32\ws_ftp32.exe http_client=C:\Program Files\Internet Explorer\IEXPLORE.EXE email_client=C:\Program Files\Qualcomm\Eudora\Eudora.exe calculator=c:\windows\calc.exe pix_viewer=C:\WINDOWS\KODAKIMG.EXE [window_names] rem a window name is the title in the main window of the program; use to run 1 copy only ftp_client="WS_FTP32"

There is a file named 'mrrm.ini' in your 'MRRM' folder. The mrrm.ini contains several control directives that the MRRM application reads and acts upon when the program begins to execute. This file can be modified by the application as well as by you. (You can modify it with the Windows Notepad program.) A sample mrrm.ini file is listed on the right of this page.

To change the startup skill level to intermediate, type rem before the skill_level=Beginner line and remove the rem before the skill_level = Intermediate line.

To remove the red checkboxes that allow display of the minimum data required for selected tables, set the show_min_data= No.

Other features will be added from time to time that uses this mrrm.ini file.

MRRM_Inventory

@Inventory

This chapter guides you through getting your Model Railroad rolling stock, track, turnout and other railroad related and layout information into MRRM. Data can either be manually entered through a graphical user interface (GUI) or electronically imported from existing spreadsheets or databases (see Input/Output Chapter for details).

The first step in using MRRM is putting the basic data into the system. Once you have entered this information, you do not need to enter it again. This information will

always be immediately available to you through the click of the mouse. However, you can update, amend or add information at any time.

AAR reporting marks for many railroads and freight and passenger car codes for many car types are pre-loaded into the MRRM database provided with this product.

Entry of Rolling Stock Data

To enter descriptive information about each of your rolling stock (Freight Cars, Passenger Cars, Locomotives, Cabooses, Other) into MRRM, the 'Rolling Stock on Layout' tab is opened.

Click the 'Inventory: Railroad Rolling Stock...' item on the Menu

Rolling Stock		<< <u>< ></u> >> <u>×</u>	A	DErm	Sort				
ID	Туре	Subtype	AAR	Roadname					
B&035761	Caboose	Center Cupola		Baltimore and Ohio Railroad	1				
RDG92835	Caboose	Center Cupola		Reading Company	1				
C&O3549	Caboose	Rear Cupola		Cheaspeake and Ohio Railway	1				
B&O466083	Freight Car	Boxcar 1	XF	Baltimore and Ohio Railroad	1				
Maryland_BBCX19913	Freight Car	Boxcar 1	XF	BBC Brown Boveri Inc.	1				
CSX-SBD101997	Freight Car	Boxcar 1	XF	Central Transportation Co.	1				
C&022056	Freight Car	Boxcar 1	XF	Cheaspeake and Ohio Railway	1				
D&H20059	Freight Car	Boxcar 1	XF	Delaware and Hudson Railway	1				
PRR603125	Freight Car	Boxcar 1	XF	Pennsylvania Railroad	1				
RDG106007	Freight Car	Boxcar 1	XF	Reading Company					
RDG106504	Freight Car	Boxcar 1	XF	Reading Company					
WM34005	Freight Car	Boxcar 1	XF	Western Maryland Railway	1				
WM35006	Freight Car	Boxcar 1	XF	Western Maryland Railway	1				
B&O34241	Freight Car	Flat Car 1	FA	Baltimore and Ohio Railroad					
ACI 78595	Freight Car	Elat Car 2	FR	Atlantic Coast Line	1				

Click on 'Rolling Stock on Layout' tab if not already selected.

To add a new rolling stock item:

Click anywhere in the pane, Rolling Stock

Click on the <u>Frm</u> command button on the top of the tabpage or type alt-F. The form will open onto the screen.

Click on the <u>A</u> command button on the top of the tabpage to add a new record.

Complete the form by typing in entries. A Rolling Stock Identifier (ID) must be unique and is required! I typically join the Reporting Marks and Number as the ID. Note that the 'ID.' label is in a Bold font. All fields adjacent to Bold font labels are **required** whenever filling in a MRRM <u>form</u>.

Click on the Tbl command button to return to the original tab page screen

Click on OK in the Save Changes message box

Click on the Refresh command button to bring new updates into the sorted listing you are viewing.

The only required field is the ID. We suggest completing as many as possible of the fields that pertain to how you operate your railroad or manage your inventory for which you have information. To make it simpler to locate the appropriate fields, they are grouped in the following categories:

Primary Rolling Stock information includes Type (Locomotive, Freight Car, Passenger Car, Caboose, Other), Subtype (AAR Type such as Boxcar, Gondola,...), AAR Code (XF, HFA, ...), Roadname (Operator/Leasee of a Railroad), Reporting Marks, and Number. Many of these fields are supported with pre-loaded drop down lists to ease use.

Operating Configuration Variables (not required for Inventory) include: Home/Yard, Current Stop, Next Stop, Picture Filename, Less than Car Load (LCL) capable and In-Use flags, and Full/Empty status.

Operations Maintenance Variables include: In-Service flag, Out-of-Service Note, Date of last service, Days between servicing, days since service, Uses between servicing, and Times used since service.

Model information includes: Owner, Manufacturer, Source, Description, Part Number, Color Scheme, Length, Coupler Type, Truck Type, Materials, List Price, Buy Price, Current Value, Model Notes.

Prototype information includes Maximum Gross Weight, Weight Empty, Maximum Volume, Length, Manufacturer, Class, Duty, Date came into Service, Date went out of Service, Picture file of the prototype, and notes on the Prototype. There are subsections of prototype data for locomotives (such as horsepower) and cars (such as volume).

Do not be overwhelmed - only use those items of interest to you!

Model RailRoad Manager	_ 문 ×
Eile Inventory Maintenance Build Services Operate Services RR Operations Consoles Administer Window Help	
Hallroad Holling Stock and Stationary Hail Assets	×
Holling Stock on Layour AAR Uwher/Uperator Reporting Marks AAR Lode Standards Hall Lines and Stolings Turnouts	
< ≤ ≥ >>> X A D S Ibl Em Bfs Print Filter Set Clear	Sort Master Single Rolling Stock Report
Rolling Stock Instance	View Model Pix View Prototype Pix
Unique ID RDG80331-3	Copy a Rolling Stock Record Where are Rolling Stock? Boadnames on Laugut Benort
Subtype Hopper Car	Create Car Card Create Car Card Set
	Collection Valuation Report
	To temporarily add a foreign
Number 80331	car to your layout, set its home/yard to one of your
Prototype Information	Interchanges
Prototype Length 33.00 Prototype Notes	Interchange Name
Maximum Gross Weight 110000.00 LBS	Amyville
Veight Empty 42500.00	Blue and Gray
Date Praced Into Service US/01/41	
	Import Foreign Rolling Stock 'at' Interchange
Prototype Pix File	rolling stock from your layout, select its 'Home' Interchange
	and click one of the following 'Delete' buttons
Wheel Arrangement Class Minimum Radius Maximum Gross Volume 2025.00	Delete All Rolling Stock 'at' Interchange
Duty DCC Model FT3	Delete one Foreign RS 'at' Interchange
Horsepower Sound Model	
	i oggie Assigned
Ready	
🏽 Start 🛛 🍪 🛃 💷 💿 🔌 💆 Exploring - C.\ 🛛 🕵 Adobe PhotoD 🖉 mrrm_pfc8 - Po 🕅 🌆 Model Rail	│ <mark>ॱऀऀ⋌<mark>क़</mark>ऄऀ∰∰∰∰∰∰∰</mark>

-Model Information-	
Model Owner Tom Stack	Date Model Purchased
Manufacturer Atlas	Model Pix File RDG80331-3.JPG
Source gift fm Kess	Description
Mfgr Part # 41122	55 ton fishbelly hopper
Color Scheme Black wht Itrs	
Model Length 3.25	
Coupler Type MicroTrains	
Truck Type	Notes
Model Materials Plastic	
List Price	
Buy Price	
Current Value	High Auction Bid
Model Condition Excellent	High Auction Date
Date Appraised	High Auction Place
Date Appraised	High Auction Place
Date Appraised	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home (Vard DeHartVardTrack1	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Outract Step DeHartYardTrack1	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned In Service Una	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned Date of last Service	High Auction Place High Auction Place Less than Carload (LCL) Capable N LCL In-Use N Full Part Empty: Full Out of Service Note Out of Service Note
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned Date of last Service 07/10/2002 Days between Servicing 30	High Auction Place
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned Date of last Service 07/10/2002 Days between Service 10	High Auction Place High Auction Place Less than Carload (LCL) Capable LCL In-Use Full Part Empty: Full Out of Service Note Out of Service Note
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned Date of last Service 07/10/2002 Days between Service 10 Uses between Servicing 2	High Auction Place High Auction Place Less than Carload (LCL) Capable N LCL In-Use N Full Part Empty: Full Out of Service Note Out of Service Note
Date Appraised Appraiser Operations Configuration Variables Home / Yard DeHartYardTrack1 Current Stop DeHartYardTrack1 Next Stop Operations Maintenance Variables In Service Unassigned Date of last Service 07/10/2002 Days between Service 10 Uses between Service 0 Times Used since Service 0	High Auction Place Less than Carload (LCL) Capable LCL In-Use Full Part Empty: Out of Service Note

Rolling Stock Command Buttons

ster	Single Rolling Stock Report
	Summary Rolling Stock Report
	View Model Pix
	View Prototype Pix
	Copy a Rolling Stock Record
	Where are Rolling Stock?
	Roadnames on Layout Report
	Create Car Card
	Create Car Card Set
	Collection Valuation Report
Expor	Filtered Rolling Stock for Foreign Layout
hom inte	ie/yard to one of your rchanges
_ Ir	terchange Name
	terchange Name
	Amyville
	Amyville Blue and Gray
In Impor	terchange Name Amyville Blue and Gray
Impor To r rolli sele and 'Delo	terchange Name Amyville Blue and Gray t Foreign Rolling Stock 'at' Interchange emove all/one 'Foreign' ng stock from your layout, ct its 'Home' Interchange click one of the following ete' buttons.
Impor To r rolli sele and 'Delet	terchange Name Amyville Blue and Gray t Foreign Rolling Stock 'at' Interchange emove all/one 'Foreign' ng stock from your layout, ct its 'Home' Interchange click one of the following ete' buttons. e All Rolling Stock 'at' Interchange
Impor To r rolli sele and Delet Delet	terchange Name Amyville Blue and Gray t Foreign Rolling Stock 'at' Interchange emove all/one 'Foreign' ng stock from your layout, ct its 'Home' Interchange click one of the following ete' buttons. e All Rolling Stock 'at' Interchange te one Foreign RS 'at' Interchange

On the right side of the window, there is a collection of command buttons.

<u>Single Rolling Stock Report</u> - creates a report on the one piece of rolling stock currently selected in the pane.

<u>Summary Rolling Stock Report</u> - creates a report of all the rolling stock in your database. Before you print the report you can filter out parts of your collection using the Filter features on the report screen. You may also sort the data in the report prior to printing it.

<u>View Model Pix</u> - displays the graphic file of the model you have assigned to the selected piece of rolling stock on your designated graphic viewer program. The default viewer is the Microsoft Paintbrush program. Edit your copy of the MRRM.ini file to change your default graphic viewer.

<u>View Prototype Pix</u> - displays a picture of the prototype of the rolling stock item selected, if you have assigned a picture file.

<u>Copy a Rolling Stock Record</u> - duplicates all the data assigned to a given piece of rolling stock to another piece of rolling stock but with a different ID that you are prompted to supply.

<u>Where are Rolling Stock?</u> - creates a report of the current location of each piece of rolling stock if you are using MRRM to manage this information.

<u>Roadnames on Layout Report</u> - creates a report of all the roadnames of all the rolling stock on your layout including temporary rolling stock brought by visitors to your layout. Use to help create industry traffic preferences.

<u>Create Car Card</u> - If you use our Car Card and Waybill feature, use this button to create a single Car Card of the currently selected rolling stock item. You may print the Car Card on any paper that your printer supports. The format is designed for use with a low cost, widely available card stock sold by Staples and other business supply stores. Our Car Cards are designed for use with Avery Hanging Name Badges (part CS-4C) and are 3 inches by 4 inches. These are the badges commonly used by conventions through the world. Again you do not have to buy the Avery product to use our Car Card system. You can use your own pocket design for our 3 by 4 inch cards. (See Build Services section to create Waybills for your operations.)

<u>Create Car Card Set</u> - Use the pane filter capability to display only those rolling stock for which a car card is wanted then click this button and three car cards will be printed per page compatible with the Avery CS-4C product.

<u>Collection Valuation Report</u> - Create a report of rolling stock values and selected descriptive data. An example of an MRRM report is shown below. This report, like all MRRM reports. can be zoomed in/out as desired, printed, sent to the PDA folder as a Microsoft Excel 5 spreadsheet for input into your Palm Pilot, and otherwise manipulated.

Ке	port viewer												
	Collection Valuation Re	eport		$\langle \langle \langle \rangle \rangle$	\rightarrow	ZPS	L	Sort	Set Fi	ilter Clea	r Filter	Publish Ch	ose
											An-L D		
											Арру и	ate-1 me Fi	teri
L^	Paron and Aramiant Railroad	BAR	2245	MicroTrains	21020	Blue with red	Excellent			<u> </u>			A
		RAR	9125	Lielite		RedWH Blanch Its	Very Good	7/29/02		<u> </u>	ജന		
	BBC Brawn Bayeri Inc.	BBCX	19910	LřeLite	31160	Dart Green Yky Krs	Excellent		\$11.15	<u> </u>	Quire		
	Charsparte and Ohio Railway	CO	22056	CanCar		Dark Green Yky Krs	Excellent		\$11.15				
			29621	Life-Lite	7789	Blue Yiky Ius	Very Good	7/29/02	*****		180.00		
	Delaware and Hudson Railway	DH	20059	Allars		Yellow-Bluettrs	Excellent						
	Lehigh Valley Railroad	LV	4100 0	Bachman	1	White Bit, itrs radi	Excellent			i –	\$3.00		
		LV	7050	MicroTrains	38210	White red (lag	Excellent						
	Penn Central Transportation Co.	PC	279000	Life-Lite		LL Green With Krs	Very Good	7/28/02		1	\$3.00		
	Pennsylvania Railroad	PRR	19074	Autors	3321	Rust Witch's	Very Good	7/28/02			\$3.00		
		PRR	24062	Model Power	3707	Rust Witch's	Very Good	7/28/02			\$8.00		
		PRR	800125	MicroTrains	20780	Silver&Blue Bluettrs	Excellent		\$11.1S				
	Railbox Co.	ABOX	\$0082	MicroTrains	28010	Dark Yellow	Excellent						
	Reading Company	RDG	106504	Albs		Green Yky Krs	Excellent						
		RDG	17065	MicroTrains	32320	Green all with	Excellent						
	Western Maryland Railway	WW.	34005	MicroTrains	31160	Red Brown with Itrs	Excellent		\$10.00				
		W M	35006	MicroTrains	31160	Red Brown Gray Irs	Excellent		\$11.1S				File Format
X	FL CP Rail (Caradian Pacific Ud.)	CP	285805	MicroTrains	74040	Silver red krs	Excellent						
	Evens Reiker Leasing Co.	USLX	474	MicroTrains	75060	Red.gold.blk.whtblu	Excellent		\$20.20				• Excel 5
×	L Central Transportation Co.	CSX	101997	LřeLite	31160	Dart Green Yky Krs	Excellent		\$11.15				C HTML Table
×	M New York New Haven & Harlford Railroad	NH	36143	MicroTrains	20029	Brown.blk.door	Excellent						O Text
	Penn Central Transportation Co.	PC	495871	Life Lite		Li Green Witt Krs	Very Good	7/28/02			\$3.00		
	Reading Company	RDG	108007	MicroTrains	24230	Green with lins	Excellent		\$11.15				<u> </u>
								Totals:	\$834.73	\$995.05	\$294.00	\$90.00	Make File
											1		
												<u> </u>	

<u>Export Rolling Stock File for Foreign Layout</u> - If two or more layouts use MRRM, owners may easily run their rolling stock in full operations capability on another MRRM managed layout. Filter the rolling stock you intend to use on the foreign/other layout then click this button. You will be asked to identify the path where the file is to be placed. The name of the file is fixed by MRRM (rolling_stock.txt). You may then copy this file on a floppy disk and take it with your rolling stock items when you visit the foreign layout.

Import Foreign Rolling Stock 'at' Interchange - If you want to host foreign rolling stock on your layout without complications when later extricating this rolling stock, use this feature of MRRM. MRRM uses Railroad Interchanges for bringing on foreign rolling stock (somewhat prototypical!) Select the Interchange that you want to be the temporary home yard of the foreign rolling stock. Then, click the command button. You will be prompted for the path to the file where your visitor has placed the 'rolling_stock.txt file that was created by MRRM copy used to manage the visitor's layout. That's it!. The rolling stock records will be imported into your copy of MRRM and can be used for waybill assignments on your layout.

<u>Delete All Rolling Stock 'at' Interchange</u> - Select an Interchange then click this command button to remove all foreign rolling stock homed at this Interchange from your layout. These rolling stock will no longer be assignable to new car cards or waybills.

<u>Delete One Foreign RS 'at' Interchange</u> - Select a specific piece of rolling stock that is foreign to your layout. Next, select the Interchange that is temporary home for the rolling stock. Then, click this button to remove this item of rolling stock from your layout.

<u>Toggle Assigned</u> - When using MRRM for operations, Rolling Stock is Assigned to Waybills. At time, an unassigned car is sought. If the normal unassign method (when the shipment to which the car is assigned completes) is not done for any reason, this command button provides a quick correcting method.

AAR Owner/Operator Reporting Marks

MRRM comes pre-loaded with a good amount of AAR Owner/Operator Reporting Marks. But, If you have you cannot find one or you make your own, fell free to edit this list. The Reporting Marks column must be unique or your entry will not be accepted by MRRM when you try to save it!

AAR Re	porting Marks $\langle \langle \underline{\langle} \underline{\langle} \underline{\rangle} \rangle \rangle$	X A D S Ibl Erm Bfs Print Filter Set	<u>C</u> lear S
Marks	Owner	Operator/Lessee C	ars in Sei
AA	Ann Arbor Railroad	Michigan Interstate Railway, Operator	119
ААСХ	State of Alaska, Dept. of Natural Resources	State of Alaska, Dept. of Natural Resources	0
ААМХ	ACFA, Arrendadora de Carros de Ferrocarril, S.A.	ACFA, Arrendadora de Carros de Ferrocarril, S.A.	582
ΑΑΤΧ	Ampacet Corp.	Ampacet Corp.	1
ААХ	Agrico Chemical Co.	Agrico Chemical Co.	174

AAR Code Standards

MRRM comes preloaded with a good amount of AAR Code Standards. Freight and Passenger car AAR code data is preloaded. But, If you cannot find one or you make your own, fell free to edit this list. The AAR Code column must be unique or your entry will not be accepted by MRRM when you try to save it!

Rolling Stock or	n Layout AAR Owner/Opera	tor Reporting Marks AAR Code Standards Rail Lines and Sidings Turnouts Signals Sensors Indicators
AAR	Car Types	
Aar Code	Туре	Description
FM	Flat Car 7	Ordinary flat car for general service. This car has flooring laid over sills and w/o sides
FW	Flat Car8	Flat car with hole to enable lading to be lowered due to clearance limits.
GA	Gondola Car 1	An open top car, having fixed sides and ends and drop bottom, consisting of doors hi
GB	Gondola Car 2	An open top car, having fixed sides, fixed or drop ends and solid bottom.
GD	Gondola Car 3	An open top car, having fixed or drop ends, solid bottom and sides equipped w/ doors

Inventory your Sidings

Your railroad comprises as many sidings as you desire. You do not need to enter 'off railroad sidings. To use the shipments/waybills/manifest mechanisms of MRRM, you need to define the siding and stop of the shipper and consignee for a direct shipment. If you ship via a yard, then the siding(s) comprising the yard and their default stop points are required.

Siding Instance
Siding ID DIA020
Siding Name DIA International Cargo
Siding Purpose Export and Import Air Freight must clear U.S. Customs
Prototype Length 320.00 Feet
Modelled Length 24.00 Inches
Siding Picture Airport_Customs.JPG
Citytown ID Durose International
Rail Segment Class Industrial Siding 🗾
Operational Status Operational
Maximum Grade 0.0% .059 (= 5.9%) is largest allowed
Maximum Speed 10

Entry of Turnouts

For future advanced operations, turnout information will be required. An example of the turnout list is provided below.

	Turnou	ts	<< <u><</u> >>> <u>×</u>	<u>A D S</u> IN E	rm <u>B</u> fs <u>Print</u> Filter	S <u>e</u> t <u>C</u> lear Sort Mast			
Turnou	ıt ID I	Frog #	Description	Point Track	Main Track	Alternate Track			
AMT_TO_	_001	8	SOJS-AMYS Main and DRY Reverse Main	SOJS_AMYS_001	SOJS_AMYS_001	DRY003			
AMT_TO_	_002	8	SOJS-AMYS Main and AMY Bypass	SOJS_AMYS_001	SOJS_AMYS_001	AMY002			
AMT_TO_	_003	8	AMY Bypass and AMY Interchange	AMY002	AMY002	AMY010			
AMT_TO_	_004	8	AMY Interchange and PMY Branch	AMY010	AMY010	PMY010			
AMT_TO_	_005	8	AMY Bypass and West Side Siding	AMY002	AMY020				
AMT_TO_	_006	8	AMY Bypass and DRYN-SOJS Main	AMY002	AMY002	DRYN_SOJS_001			
AMT_TO_	_007	8	Reverse and Local Branch	DRY003	DRY003	АМҮ009			
AMT_TO_	_008	8	Local and Inner	AMYS_AMYS_001	AMYS_AMYS_001	АМҮ030			
AMT_TO_	_009	8	Local and Diesel Works 1	AMYS_AMYS_001	AMYS_AMYS_001	AMY040			
AMT_TO_	_010	8	Diesel Works 1 and Downtown 1	АМҮ040	АМY060				

MRRM_Inventory2

Other Inventory Items

Your railroad can support an unlimited number of divisions . Each division can support an unlimited number of cities or towns. Each city many host an arbitrary number of Industries. Each citytown is served by a single home yard. You can have as many yards per division as you desire. Local trains from home yards serve the Industries in CityTowns server by the yard. Way freights move cars between yards in a division. Manifest or fast freight trains move cars between yards in different divisions.

For each siding in each city/town, you may have an unlimited number of stops (sometimes called 'spots'). A siding may also be used as an Interchange with other, off-layout railroads or as an Intermodal transfer facility.

MRRM automatically creates displays showing City/Towns per Division, Sidings per City/Town, <u>Stops per City/Town</u>, Stops per Siding. And Homeyard Service Area.

Each Industry on your layout can 'own' an unlimited number of buildings or facilities. Each Building can have an unlimited number of stops, where rolling stock can be set out or picked up, on an unlimited number of adjacent sidings. The length of siding you construct is the only limit you create on cars that can be parked.

Other layout accessories, such as platforms, lighting, electronic assemblies, etcetera, can also be inventoried.

Entry of Divisions in your World

Your railroad always comprises at least one Division operated by some Roadname. Your may have any number of Divisions on your railroad with MRRM. Further, you may define an arbitrary number of Divisions "off" your railroad but with whom you share exactly one Interchange.

Division Instance
Division ID Gray
Description Comprises the Interchange at Soozie Junction, Amysville, and the yard and dock at Marysland. Rail/Sea intermodal operations and US Import and Export Customs stops.
Roadname: Cheaspeake and Ohio Railway
Notes:
Picture Filename left_district.jpg Off Layout Flag: Set to 'Y'' if this Division is off the layout

Entry of City/Towns in your World

Your railroad always comprises at least one CityTown (we don't care how big the 'place' is!). Your may have as many CityTowns on your railroad as you desire.

While a CityTown Code is not required, we find it helpful to use a three character acronym for naming sidings and other track segments when creating yard or siding switchlists. This is because you can readily filter out unrelated sidings and cars departing or arriving at sidings.

	Divisions, Towns, Indus	tries, Buildin	gs, other Sites and Mi	scellany								
Div	isions City/Towns Indus'	tries Buildings	Stops Interchanges	Intermodal Sites Miscella	neous Division	CityTowns	CityTown 9	iidings Ci	yTown Stops	Siding Stops	Homeyard Svc /	Area
[CityTowns		<< <u><</u> <u>></u>	>> X A D S	<u>ты</u> <u>F</u> rm	<u>B</u> fs <u>P</u> ri	int Filter	S <u>e</u> t <u>C</u> lea	ar Sort Mas	ter		
	Citytown ID	City Code	Division ID	Home Yard Stop						Single Cit	yTown Report	1
	Crystal City	CC	Main	CCYard						Summary C	CityTown Report	
	East Flatwood	EFW	Main	CCYard						Copy a Cil	ity I own Pix tvTown Record	1
	East Port Crystal	EPC	Main	ElizYard_stop								1
	Elizabeth	ELI	Main	ElizYard_stop						Create City	/Town Signage	
	Elkins	ELK	Main	CCYard								
	Ely	Ely	Main	ElizYard_stop								
	Erickson	ERK	Main	CCYard								
	Montgomery	MON	Main	ElizYard_stop								
	MT. Storm	MTS	Main	CCYard								
	Thomas	THO	Main	CCYard								
	West Elizabeth	WEL	Main	ElizYard_stop								
	West Flatwood	WFW	Main	ElizYard_stop								
	West Port Crystal	WPC	Main	CCYard								

Industries

Industries that do business with your railroad, including Industries that are not located on your layout are defined here. An Industry may be a buyer or a seller of multiple commodities. If the Industry buys a commodity, that Industry is consider a Consignee for that type of Lading. Similarly, if the Industry sells a commodity, the Industry is a Shipper of that type of Lading.

Division	ns City/Towns It	ndustries	Buildings	Stops Ir	nterchanges	Intermo	idal S	ites	Misc	ellane	eous <mark>Di</mark>	vision CityT	owns	CityTown	Sidings	CityTo	wn Stops	Sidi	ng Stops
	Industries			_ <<	: <u><</u> >	>>	X	Δ	D	<u>S</u>	ТЫ	<u>E</u> rm <u>B</u> f	s <u>P</u> rin	nt Filter	S <u>e</u> t	<u>C</u> lear	Sort Ma:	ster	
	Industry ID		Ind	ustry Na	me	(Lag)n yout	(t Inte	On ernet	No† t	tes							^	Single Industry Report Summary Industries Report
Am	yvilleDieselWorl	ks Amyv	ille Diese	l Works		Y	•	N	•										Copy and Industry Record
Co	/erallPaint	Cover	all Paint I	Company	ý	Y	•	Ν	•										
Dar	ndyOfficeProduc	ts Dand	y Office F	products	Co.	Υ	•	N	•										
Exc	elElectronics	Exce	l Electron	ics, Inc.		Y	-	N	•										
Har	risSandGravel	Harris	s Sand an	nd Gravel		Y	-	N	•										
Hol	landiron	Hollar	nd Iron W	′orks, Inc		Y	-	N	•										
Ind	ustrialPaints	Cover	all Indust	rial Paint	s	Y	-	N	-										
Inet	_my_industry	Test I	My Indust	try via Int	ernet	Y	-	Υ	-										
							_		_	-								1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

If an Industry is on your layout, select the Yes value for the On Layout column. If you intend to list one of your Industries on our (planned) Web site for other MRRM users to do business with or you intend to use an Industry off your layout but our (planned) Web site, select the Yes value for the On Internet column.

Entry of Buildings in your World

This table manages the building inventory on your railroad. If the Building has one or more sidings adjacent to it, select <u>one</u> of those sidings. If the Building is not involved with shipping activity, leave this field blank. If the Building is associated with an Industry, select that Industry.

If you have more than one siding adjacent to a building, you may want to create complex Switchlists to move the cars currently there plus those being setout or picked up. We suggest that the siding be named similarly and uniquely, say with a shared prefix for their name. If your railroad has lots of sidings and rolling stock, the prefix can be used to filter out rolling stock and waybill activity only relevant to this set of tracks thereby simplifying your Switchlist construction.

Building Instance	
Building ID JD_Mine_Fine_Coal	
Citytown ID Stack Mountain	
Siding ID SMT011	
Building Picture File	
Description:	
Building Label JD Mine Fine Coal Plant	
Industry JDBigBenMine	

Entry of Stops in your World

Your railroad comprises at many stops as you desire. A Stop may be on the Main Line or any other Rail Line Segment of your railroad. A Siding entry is not required. If a stop is 'off' railroad, pick the appropriate Interchange stop that will take the train or car to the appropriate City Stop and if appropriate, Siding. Each Siding may have an arbitrary number of unique Stops (assuming Siding is long enough to squeeze in all the Buildings!).

Note that there a command button on the sidings tab page to create a default stop point name for the siding. The stop name is a concatenation of the siding name with a suffix of _stop. The length of the stop name is limited to 20 characters and is truncated to 20 characters if necessary.

	Stops		<u>ар</u> аты	Erm <u>B</u> fs <u>Print</u> Fil	ter <u>Set</u> <u>C</u> lear Sort M
Γ	Stop ID	Site Name	Siding ID	Citytown ID	Division ID
Γ	BlueGrayInterchng	Blue and Gray Railroad Interchange	SOJ040	Soozie Junction	Gray
Γ	BlueSkyInterchange	Blue Sky Internet Interchange			
ſ	ChemicalPlant	Dewer Chemical Corporation	SMT030	Stack Mountain	Blue
	Coal_Mine	John Durose Coal Mine	SMT010	Stack Mountain	Blue
Γ	CoverPaintsRcve	Coverall Paint Company	MIP020	MTS Industrial Park	Blue
Γ	CoverPaintsShip	Coverall Paint Company	MIP020	MTS Industrial Park	Blue
Γ	Dandy_Office_Rcve	Dandy Office Products Co. Receiving	MIP030	MTS Industrial Park	Blue
Γ	Dandy_Office_Ship	Dandy Office Products Co. Shipping	MIP030	MTS Industrial Park	Blue
Γ	DeHartStation	DeHart Railroad Station	DRYN_AMYN_001	DeHart Rail Yard	Gray

Entry of Interchanges in your World

Your railroad should comprise at least one Interchange for operating excitement. Your may have as many Interchanges on your railroad as you desire. Each Interchange may have as many 'off railroad' Roadnames supported as you desire. (Don't forget the Transfer stamps for those waybill releases!) The Roadnames of Divisions on your railroad can visit any Interchange on your railroad to pickup or setout cars. Your trains may leave or enter the 'off world' through any Interchange on your railroad.

Interchanges	<<	<u> </u>	<u>>></u>	á A	D	<u>s</u> <u>I</u>	of <u>E</u> rm	<u> </u>		Print	- Filter	S <u>e</u> t	<u>C</u> lear	Sort	Master
Interchange Name	,				Stop) Id			City/To	wn		Regio	on/State	<u>э</u> с	ountry
Amyville			AmyvilleInterchng					Amγville			MAR	YLANE	<u> </u>	US	
Blue and Gray				Blue	eGraylı	nterchng		So	ozie Jur	nction		MARYLAND			US
Blue Sky				Stac	ckMtnir	nterchng		St	ack Mou	untain		PENNSYLVANIA			US
Gray Sky				Am	yvilleln	nterchng			Amyvil	le		MARYLAND			US
Industrial Park				Indu	stParkl	Interchn	g	MTS	6 Industri	ial Park		PENNS	sylvai	VIA	US
Stack Mountain				Stac	ckMtnir	nterchng		St	ack Mou	untain	F	PENNS	sylvai	VIA	US
Divisions at this Interchange Blue and Gray Division ID Blue Gray Southern	Sort	Child L	ist												

The Region/State, Country, Latitude and Longitude fields are optional and are reserved for future use.

Entry of Intermodal Sites in your World

Your railroad may support Intermodal traffic. This occurs when a rail customer ships commodities to a consignee that is not reachable by contiguous rail. For example, the railroad's customer may have goods loaded onto a tractor trailer which brings the goods (possibly containerized) to a railhead which move the goods to a ship yard which moves the goods to a railhead which delivers the goods to the consignee. This can get complicated. But, it is real world for some sellers and buyers. The goods may

even leave home country of the seller and have to travel through Government Customs. MRRM can support these scenarios. Have Fun!

<u> </u>	Σ	>>	X	A D S Ibl Erm Bfs Print Filter Set Clear S
Rail	Аіг	Sea	Truc	k Intermodal Note
				Domestic Air Container and Package handling
Y	Y			
				Containers and Packages must clear U.S. Customs on exp
Y	Y	\Box	\Box	or import.
Sea Xfer				Domestic Sea Container handling
Y		Y	\Box	
nsfer				International Sea Container and Package handling
Y		Y	\Box	
	Rail Rail Y Sea Xfer Y nsfer Y	Kail Air Y Y Y Y Y Y Y Y Sea Xfer Y Y Y Nsfer Y Y Y	Kail Air Sea Y Y Y Y Y Y Y Y Y Sea Xfer Y Y Y Y Y Nsfer Y Y	Kail Air Sea Truc Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Sea Xfer Y Y Nsfer Y Y

Entry of Miscellaneous Items in your World

This table manages the all other items comprising the inventory on your railroad. This could include vehicles, platforms, wiring, lighting, or other items of value that make your railroad come to life. This and the aforementioned inventory information can facilitate maintenance actions that must of us experience.

Assigning CityTowns to Division

You may assign as many CityTowns to each Division as you desire. Just don't assign the same CityTown to more than one Division. Duh! This is a non-editable, information display.
Divisions		$\langle \langle \underline{\langle} \underline{\langle} \underline{\rangle} \rangle \rangle \rangle$	XADS	<u>ì</u>	Ibl <u>E</u> rm <u>B</u> fs	Print Filter Set	<u>C</u> lear So
Division ID	Roadna	me	Off Layout F	lag	Interchange Name		
Blue	Co	onsolidated Rail Corp.					
Gray	Nor	folk Southern Railway					
Southern		Adirondack Railway	T Y		Blue and G	iray	
City/Towns							Sor
Citytown ID	City Code	Picture Filena	me		Descriptio	n	
Amyville	AMY		Small	City	adjacent to Maryslan	d Rail Yard and Mar	ysland S
DeHart Rail Yard	DRY		Freigl	nt ya	rd serving Blue and Gr	ay Divisions. Dedica	ted swit
Port of Marysland	PMY		Ocea	n shi	pping port with U.S. C	ustoms Export and I	mport c
Soozie Junction	SOJ		Blue	and (Gray Divisions have an	interchange here. A	lso seve

Assigning Sidings to CityTowns

You may assign as many Sidings to each CityTown as you desire. Just don't assign the same Siding to more than one CityTown. This is a non-editable, information display.

					_		
Cities or Towns	<	$\langle \underline{\langle} \underline{\rangle} \rangle$	XAD	<u>s</u> <u>I</u> b	Erm <u>B</u> fs	Print Filter	S <u>e</u> t <u>C</u> lear So
Citytown ID	City Code	Division ID					
Amyville	AMY	Gray					
DeHart Rail Yard	DRY	Gray					
Durose International		Blue					
Hilltop Overlook	НТО	Blue					
MTS Industrial Park	MIP	Blue					
Port of Marysland	PMY	Gray					
Soozie Junction	SOJ	Gray					
Stack Mountain	SMT	Blue					
Sidings							Sort
Siding ID	Siding Name	9		5	iding Purpose		
MIP002	MTS Industria	l Park Siding Fee	eder Branch Lir	ne			
MIP010	Lumber Distril	butor/RailTruckXfe	er	n	nultiple stops suppo	orted	
MIP020	PaintFactory/.	ApplianceFactory	(n	nultiple stops suppo	orted	
MIP030	IronMill			Ín	nultiple stops suppo	orted	
MIP040	ElectronicsFa	ictory		Ín	nultiple stops suppo	orted	
MIP050	Industrial Parl	< Interchange		ĺ	ut of this (layout) w	orld	

Assigning Stops to CityTowns

You may assign as many Stops to each CityTown as you desire. Just don't assign the same Stop to more than one CityTown. This is a non-editable, information display.

Cities or Towns		<< <u>></u> >> <u>></u>	AD	<u>S</u> <u>I</u> bl <u>F</u> rm <u>R</u> fs	Print Filter	S <u>e</u> t <u>C</u> lear Sort M
Citytown ID	City Code	Division ID				
Amyville	AMY	Gray				
DeHart Rail Yard	DRY	Gray				
Durose International	DIA	Blue				
Hilltop Overlook	НТО	Blue				
MTS Industrial Park	MIP	Blue				
Port of Marysland	PMY	Gray				
Soozie Junction	SOJ	Gray				
Stack Mountain	SMT	Blue				
Stops						Sort Ch
Stop ID		Site Name		Siding ID	Citytown ID	Division ID
JacksonMeatRcve	Jacks	on Meat Packing Com	ipany	SOJ020	Soozie Junction	Gray
JacksonMeatShip	Jacks	on Meat Packing Com	ipany	SOJ020	Soozie Junction	Gray
RexWarehouseRcve	Rex A	Appliance Distributors,	Inc.	SOJ010	Soozie Junction	Gray
RexWarehouseShip	Rex A	Appliance Distributors,	Inc.	SOJ010	Soozie Junction	Gray
SharpPaperRcve	Sł	harp Paper Makers Inc	:.	SOJ030	Soozie Junction	Gray
SharpPaperShip	Sł	harp Paper Makers Inc		SOJ030	Soozie Junction	Gray
SoozieJunctionStatn	Sooze	e Junction Railroad St	ation	SOJS_AMYS_001	Soozie Junction	Gray
SouthFurnRcve	Southerr	n Furniture Manufactur	ing Co.	SOJ030	Soozie Junction	Gray
SouthFurnShip	Southerr	n Furniture Manufactur	ing Co.	SOJ030	Soozie Junction	Gray

Stops per Siding

This tab page shows every stop for every siding on your railroad. This is a noneditable, information display.

Sidings		<u>D S</u> <u>I</u> bl <u>E</u> rm	<u>B</u> fs <u>Print</u> Filter S	<u>et</u> <u>C</u> lear Sort Master
Siding ID	Siding Name	Citytown IE) Rail Class	Max Grade 🔺
AMY002	Amyville - DeHart Yard Bypass		Bypass Siding	g 0.5%
AMY009	DRY Reverse and Amy Local Branch Link	ĺ	Branch Line	0.2%
AMY010	Amyville Interchange	Amyville	Interchange Tra	ck 0.1%
AMY020	West Side	Amyville	Industrial Sidin	ig 2.0%
AMY030	Interline	Amyville	Industrial Sidin	ig 1.0%
AMY040	Diesel Works One	Amyville	Industrial Sidin	ig 0.0%
AMY050	Diesel Works Two	Amyville	Industrial Sidin	ig 0.0%
AMY060	Downtown One	Amyville	Industrial Sidin	ig 0.0%
AMY070	Downtown Two	Amyville	Industrial Sidin	ig 0.0%
Stops				Sort Child List
Stop ID	Site Name	Siding ID	Citytown ID	Division ID
JR_Tools_Rove	JR Tools Company Receiving	AMY060	Amyville	Gray
JR_Tools_Ship	JR Tools Company Shipping	AMY060	Amyville	Gray
McCormick_Rcve	McCormick Manufacturing Co Receiving	AMY060	Amyville	Gray
McCormick_Ship	McCormick Manufacturing Co Shipping	AMY060	Amyville	Gray

Homeyard Citytowns Sidings and Stops

This non-editable display shows the CityTowns, Sidings and Stops served by each of your Yards

visions, Towns, Indu	istries, Buildings, othe	r Sites and Miscellany			
ons City/Towns Indu	istries Buildings Stops	Interchanges Intermodal Sit	es Miscellaneous <mark>Divisio</mark>	on CityTowns CityTown Sidings	CityTown Stops Si
ome Yard Service	Areas	≪ <u>≤ ≥</u> ≫ ≚	A <u>D</u> <u>S</u> Ibl En	n <u>B</u> fs <u>Print</u> Filter S <u>e</u> t	<u>C</u> lear Sort Master
Home Yard Stop	CityTown	Stop	Siding		-
CCYard	Crystal City	CCCoalTipple_stop	CCCoalTipple		
		CCFuelPad_stop	CCFuelPad		
		CCSand	CCYards		
		CCYard	CCYards		
	East Flatwood	HardwoodFurniture	HarwoodFurnture		
		RobinHoodFlour	RobinhoodFlour		
	Elkins	HillsideLime	HillsideLime		
	Erickson	EricksonFreight_stop	EricksonFreight		
	MT. Storm	MtStormMine	MtStormMine		
	Thomas	LorriesLumber	LorriesLumber		
		PulpwoodDistrib	PaulsPulpwood		
	West Port Crystal	PortCrystalWest	PortCrystal		
ElizYard_stop	East Port Crystal	PortCrystalScrap	PortCrystalEast		
	Elizabeth	ElizColdProduce	ElizYard		
		ElizDieselFuel	ElizYard		
		ElizFlour	ElizYard		
		ElizYard_stop	ElizYard		
		ElizYardSand	ElizYard		
	Ely	ElyLumber_stop	ElyLumber		
		SullivanSteel	SullSteel		
	Montgomery	BarnettBoxCrate	BarnettBoxes		-
		HitzemFeedMill	HitzmanFeed		
		MtStormSupplyShed	MtStormSupply		

MRRM_Maintenance

Maintenance

Once you have entered some (or all) of your inventory information, you can begin to log maintenance actions on your railroad. This chapter shows you how to enter and track maintenance activity. MRRM come pre-configured with several maintenance types to support automatic drop-down list configurations of key information.

Types of Maintenance

MRRM comes preloaded with several categories of maintenance that you can track.

Preloaded maintenance categories are: building, indicator, layout-miscellaneous, line-segment, rolling stock, sensor, signal, and turnout.

Maintenance Actions

For each item requiring maintenance, when you click 'Add', a ticket # is assigned. Next you pick the type (from the above mentioned list). A list of items from your inventory of that type are listed. Pick one! Enter 'date in' and the 'date due' for completion of the maintenance action. Describe the maintenance to be performed on the item picked. Notes can be added as desired. When the maintenance is completed, enter the 'date out'.

Individual and summary reports can be created at any time by clicking the appropriate button.

М	aintenance Item
Ticket #	2
Туре	rolling stock
ltem ID	SD40-2Early_2
Date In	4/20/02 🔽
Date Due	4/27/02 Status Completed
Date Out	4/26/02 👤
Description	coupler height is incorrect
Maint Notes: a	added washer

Maintenance Log

Every time you create or update a Maintenance 'ticket', a log entry is located.

Main	tenance Log		$\langle \langle \underline{\langle} \underline{\langle} \rangle \rangle \rangle$	×	<u>A D</u> S	<u>i in f</u>	im <u>B</u> fs	Print Filter Set Clear Sort Maste	er Maintenance Log Report
Ticket #	Туре	ltem	Log ID	Date In	Date Due	Date Out	Status	Maintenance Description	Maintenance Notes
1			1/1/01 12:00:00						
	building		7/5/02 12:23:04	1/1/01	1/1/01	1/1/01		porch is falling off!	test4
		AmyvilleStation	7/5/02 12:40:01	7/1/02	7/12/02	1/1/01		porch is falling off!	test
			7/5/02 12:40:54	7/1/02	7/12/02	1/1/01		porch is falling off!	test2
2	rolling stock	SD40-2Early_2	7/5/02 12:40:34	4/20/02	4/27/02	1/1/01		coupler height is incorrect	test

When you complete maintenance on an item you may delete the associated entries

or archive them to an external file and delete them Once archived, the data may be manipulated with a spreadsheet or other perogram to determine trends in maintenance over time.

Preventative Maintenance

For each piece of rolling stock, a Preventative Maintenance status is managed. Every time you operate your rolling stock with MRRM, a usage counter is incremented when the respective train completes its run. The data for each item is maintained in the Rolling Stock Inventory record and summarized on the following tab page.

PM Status		<< <u>></u> >	> <u>X A</u>	<u>D</u> <u>S</u> <u>I</u> bl	<u>Erm <u>B</u>fs</u>	<u>Print</u> Filter Set	<u>C</u> lear Sort M	aster	
Rolling Stock ID	Туре	Date of Last Service	Days between Servicing	Uses between Servicing	Days Since Serviced	Times used since Serviced	Due for Service?		Change ALL Rows
ACL78595	Freight Car	7/10/02 👻	30	10	2	1	No		Update Days since Serviced
AMTRAK_32041	Passenger Car						No		
AMTRAK_33018	Passenger Car		1				No		Days between Servicing
AMTRAK_34077	Passenger Car		<u> </u>				No	_	30 🚔
ABOX50062	Freight Car	6/27/02	30	10	15	6	No		Update Days Between
AMTRAK_31545	Passenger Car		1				No		Uses hat uses Ormitian
AMTRAK_32066	Passenger Car		1				No		10 A
AMTRAK_34048	Passenger Car		1				No		
AMTRAK_34088	Passenger Car						No		Update Times Between
AMTRAK_38023	Passenger Car		1				No		
ARLX14796	Freight Car	7/10/02	30	10	2	1	No		PM Summary Report
B&O35761	Caboose	7/10/02	30	10	2	1	No		
A0V216	Eroight Cor	7/4 0/02	20	1 10	2	1	Ma		

MRRM_Industry

Industry

This chapter, for Users having Intermediate or Advanced skills, covers the commodities (Lading!) that your railroad transports. For each Industry on your railroad (and on foreign railroads that you intend to have interchange operations) define the commodities that each Industry buys (is a Consignee) and sells (is a Shipper). Importantly, this chapter covers creating shipments between Industries that live on (or off!) your railroad and supports multiple leg shipments where each leg

involves rail or another mode of transportation (truck,air,sea). MRRM automatically pairs up prospective buyers and sellers and lets you choose those pairs to convert into shipment actions.

Ignore this chapter if you only serve passenger traffic

Lading Carriaged

For each commodity that your railroad will carry, enter its name and description. Select the primary rolling stock AAR code that is used to carry this lading over your railroad. When assigning rolling stock to waybills on manifests, MRRM uses this AAR code to find an empty, available rolling stock to be 'moved' to a requesting industry.

Lading	
Lading or Commodity Name	AAR Lading Description
appliances	XF 🚽 kitchen, bath and other household products made from metal, plastic, electrical, elec
chemicals	T various products of refining plants' used by electronic, paint, and other manufacturing
clothing	XF 👤
coal	HFA v refined grades of hard or soft coal product of collory; used by various industries for he
electronic components	XF 👤
fabric	XF 👤
finished metals	FB 📕

Industry Goods Bought and Sold

Industries	<< <u><</u> >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		4	<u>A</u> D	<u>s</u>]	bl <u>Erm <u>R</u>fs</u>	<u>Print</u> <mark>⊢Filter</mark> S <u>e</u> t	<u>C</u> lear Sort Master
Industry ID	Industry Name	0	n	On	Notes	;		<u> </u>
a second de la constante de la		Lay IV	T	Interne				
AmyvilleDieselvvorks	Amyville Diesel vvorks	Ľ	<u> </u>	IN 💌				
CoverallPaint	Coverall Paint Company	Y	•	N 💌				
DandyOfficeProducts	Dandy Office Products Co.	Y	-	N 🔻				
ExcelElectronics	Excel Electronics, Inc.	Y	-	N 🔻				
HarrisSandGravel	Harris Sand and Gravel	Y	-	N 🔻				
HollandIron	Holland Iron Works, Inc.	Y	-	N 🔻				
IndustrialPaints	Coverall Industrial Paints	Y	-	N 🔻				
Inet_my_industry	Test My Industry via Internet	Y	-	Υ·				
Inet_my_industry2	Test My Industry via Internet	Y	-	Y 💌				
								•
Goods Bought and	d Sold Sort Child List					🗖 Sh	ow Minimum Required	Industry Data Elements
Industry ID Am	nyvilleDieselWorks							
Mode	Lading Name		F	R Mark	s AAR	Stop ID	Weight	Volume
Consignee finished r	metals			RDG	GA	AmyvilleStation	n	
Consignee tools				RDG	XF	AmyvilleStation	ו 🗌	

This table lists the Industries that live on your railroad or in the model world that you interconnect to your railroad. Primarily, we use this list to define the shippers and consignees.

Identify each Industry uniquely. A formal Industry name is suggested for reporting purposes. Indicate whether the Industry is on your layout or not on your layout. If you are using the MRRM Internet Forwarding system and this Industry is participating in this system, set the Internet flag (this is an advanced user feature so ignore it unless you are a participant.)

For each Industry you need to create a record of each commodity the Industry will buy from another Industry or sell to another Industry.

Goods Bought and Sold Solt Child List											Shipper LOH vs	Consignee LOO	
Indu	stry ID EricksonFre	ight	_	Batch	Order	hl	n:mm	nnn	.nn hrs		Shipper Car		
					Саг	Ld Unid	Load Time	Mfg Batcl	n MB/O Freq		Reorder		
Mode	Lading Name	AAR	Stop ID	Cars	Delta	Time	Delta	/Order Rat	e Delta	On Hand	On Order	Last Batch Order	Ops Status
Consignee	bags of feed	XM	EricksonFreight_stop	1	0	01:30	00:00	18.00	0	0	0	09/01/54 01:00	Stopped
Consignee	boxes	XM	EricksonFreight_stop	1	0	00:00	00:00	24.00	0	0	0	09/01/54 01:00	Stopped
Consignee	furniture	XM	EricksonFreight_stop	2	0	04:00	00:00	25.25	0	0	0	09/02/54 02:00	Working
Consignee	sheets of steel	FM	EricksonFreight_stop	1	0	02:00	00:00	18.00	0	0	0	09/01/54 01:00	Stopped
Shipper	Gas Cylinders	XM	EricksonFreight_stop	1	0	01:00	00:00	24.00	0	0	0	09/01/54 01:00	Stopped
Shipper	mining eqt.	XM	EricksonFreight_stop	1	0	03:00	00:00	18.00	0	0		09/02/54 13:00	Working

Enter the number of carloads that the Shipper manufactures per batch and the duration of the batch period. For example if the industry manufactures 2 carloads of goods every 12 hours, enter 2 under cars and 12 under Batch. If production quantities or periods vary, enter the delta variation - this is not recommended until you become familiar with the program. The load time is the hours and minutes it takes to load the cars in the batch. If the Industry to begin operations immediately, set the status to Working. Otherwise set it to Stopped. You may change an Industry activity from Stopped to Working and vice Versa at any time.

Date entry is similar for consignee or buying activities of the industry. Car loads ordered and frequency of reordering and unloading time are entered.

Uniquely for shippers, you may enter the 'Shipper Car Reorder' quantity. This is the number of cars that the software will attempt to keep at the shipper as loads leave the industry for yards and consignees.

The Stop ID is the point where the train will go to pickup or setout the cars. The weight per car specifies the Net Weight per car that is shipped by a shipper.

Make Shipments from Industry Partners

MRRM will automatically pair up prospective buyers and sellers using the Industry data that you created.

Local HD Stop ID Interchange On On Industry Industry Stop ID Interchange V N 53 Shipper MtStormMine Y N 53 Consignee CCCcoalTipple CCCcoalTipple_stop Y N 5 Consignee PortCrystalDock PortCrystalWest Y N 33 Consignee SullivanSteel SullivanSteel Y N 15	Lading N	lame	AAR					
ShipperMtStormMineYN53ConsigneeCCCcoalTippleCCCcoalTipple_stopYN5ConsigneePortCrystalDockPortCrystalWestYN33ConsigneeSullivanSteelSullivanSteelYN15	coal		HD Industry	Stop ID	Interchange	On Layout	On Internet	Industry Capacity
Consignee CCCoalTipple CCCoalTipple_stop Y N 5 Consignee PortCrystalDock PortCrystalWest Y N 33 Consignee SullivanSteel SullivanSteel Y N 15		Shipper	MtStormMine	MtStormMine		Y	Ν	53
Consignee PortCrystalDock PortCrystalWest Y N 33 Consignee SullivanSteel SullivanSteel Y N 15		Consignee	CCCoalTipple	CCCoalTipple_stop		Y	Ν	5
Consignee SullivanSteel SullivanSteel Y N		Consignee	PortCrystalDock	PortCrystal/Vest		Y	Ν	33
		Consignee	SullivanSteel	SullivanSteel		Y	Ν	15

Trading Partner Prospect Summary Make Direct Shipment

- Pick Yard/Collection Stop-

Stop	
AmyDieselWrks_Rove	Amyv
AmyDieselWrks_Ship	Amyv
	-
 Make Shipment via Ya 	ard/Stop

Weight, Volume and Cars measures comes from the Shipper's Industry data. Presumeably amounts reflect Consignee's Order quantities.

This table will list the prospective buyers and sellers and provide a command button that you can click to automatically create a simple (single leg) shipment from the seller (Shipper) to the buyer (Consignee).

If you pickup cars from the shipper and bring them to a yard (or somewhere else)

with one train and move them from this intermediate stop to the Consignee with another train (could be the same locomotive!), select the intermediate stop point from the supplied list of stops. Then click the command button labeled Make Shipment via Yard/Stop

In this version of MRRM, the weight of the commodity specified by the Shipper is used when creating the shipment. This assumes that the Buyer/Consignee ordered this quantity from the Seller/Shipper. Once the Shipment is created, you can edit these values, however.

An advanced feature of MRRM, is the automatic generation of Industry activity followed by automatic order generation. This feature is used by serious train operations people who want to follow prototypical methods. The first step is to balance the productivity of shippers/sellers with the demands of consignees/buyers. In the screenshot above, notice that there is one shipper of coal and three buyers of coal. The quantity on the right column is the average number of carloads produced per 120 hour week by a shipper or order in the same period by a consignee of the same commodity. Your challenge is to make sure that you buy what you sell and sell what you buy. As the sample shows, the shipper produces 53 car loads of coal in a 120 hour week and the combined orders from consignees is also 53 car loads a week!

Once you get your industries balanced, you have a chance to keep you railroad running continuously from then on.



Est'd Car Moves/Day 122 to 152

Set the date and time for the start of your Industry operations. Smell that rising smoke!

Then click the Start Over button. Previously generated shipments, waybills, manifests, schedules and switchlists will be deleted. Manually created data should

not be deleted if shipment numbers are not in the range 900000000 to 999999999.

Click the scatter cars to sidings button. This will place randomly selected cars of the proper AAR type at the sidings of shippers. This step is not needed since otherwise the empties would be moved to the shippers on the first move. But some folks like to start with cars setting about the railroad and that's OK!

Now we start the motors of Industry. You can step time in increments of one hour or select a number of steps and advance time by that number of hours.

Depending on the timing of production shipper batches, consignee re-orders and cars produced or demanded, Orders will be automatically placed between buying and selling Industries.

Shipments to Consignees

Ship	ments	<< <u><</u> <u>></u>	>> X A D S I	ibi <u>E</u> rm	<u>B</u> fs <u>P</u> rint Filt	er S <u>e</u> t	<u>C</u> lear Sort Ma:	ster 🔽 Shov	v Minimum Required Shipment Data Eleme
Ship	nent #	Ladi	ng Name		Shipper ID		Consignee ID	_	Single Shipment Report
90000	0010	applia	ances		Inet_your_indu	istry	Inet_my_industr	y2	Summary Shipments Report
90000	0011	applia	ances		Inet_your_indu	istry	Inet_my_industr	y2	Copy a Shipment Record
90000	0012	applia	ances		Inet_your_indu	istry	Inet_my_industr	y2	Copy a Shipment and Legs Records
90000	0013	applia	ances		Inet_your_indu	istry	Inet_my_industr	y2	Rolling Stock on Shipment Legs
90000	0014	applia	ances		Inet_your_indu	istry	Inet_my_industr	у2	
90000	0015	applia	ances		Inet_your_indu	istry	InetAnotherIndu	stry	
90000016			appliances			MaytagAppliance Inet_my_industry2		y2	
90000	0017	applia	ances		MaytagApplia	nce	RexAppliance		
JDMO	00003	coal			JDMine		HollandIron		
JDMO	00001	coal			JDMine		Hollandiron		
ľ					•				•
Ship	ment Legs							Sort Child Lis	st
Ship	ment# 900000017								Create Waybill(s) from Shipment Leg
Leg #	Goods Status	Vessel Status	Start ID	Desti	nation ID	Mode	BOL / Waybi	II #	If Shipment comprises more than one
0	awaiting goods	awaiting setout	DeHartYardTrack6	Maytag	FactoryShip Rai		132		car, Houte Leg shows 1st car HS ID and last car Waybill #
1	awaiting goods	awaiting setout	MaytagFactoryShip	DeHar	tYardTrack1	Rail		133	
2	awaiting goods	awaiting setout	DeHartYardTrack1	RexWa	rehouseRcve	Rail		134	Andread State Children and Lands
99	awaiting goods	awaiting pickup	RexWarehouseRcve	DeHar	tYardTrack6	Rail	ĺ	135	wayons for Shipment Legs

Shipments are defined using two panes.

The upper pane is the Shipment summary information. The lower pane contain one record for each shipment leg that your shipment must traverse to get from the shipper's dock 'shipping dock' to the consignee's 'receiving dock'.

The selected shipment has four route legs. They are numbered 0, 1, 2, and 99.

Legs 1 and 2 were create with the make shipment using partner data discussed above. The shipment was set to go from the Shipper (Maytag) to the Consignee (Rex Warehouse) via a Yard (Dehart).

When leg 1 is highlighted and the Create Waybill(s) from Shipment Leg is clicked, the user was told that no car(s) are assigned to this shipment yet and would you like them to be found and assigned. I answered yes. This caused the special reserved leg number zero to be created and assigned one car to this shipment which is to be moved from wherever the car is currently located to the Shipper's dock as specified by the Shipper's Stop record. Two Waybills were also created by the Railroad Back Office for a future train manifests. One waybill is to move the empty, assigned car

from wherever it is to the Shipper's Stop and one waybill to move the full car (when it is full!) from the Shipper to the Yard.

Next, copy the assigned car ID to leg 2. Then select leg 2 and click the command button again. This time you are asked if you want the car to be picked up from the Consignee stop when it is emptied and return it to its home yard. I answered yes and leg 99 was created to return the empty. A Waybill was created to move the full car from the yard to the Consignee and another Waybill was created to move the empty from the Consignee to its home yard.

If the shipment specifies that more than one car is required for a shipment, the program will assign the number of cars required <u>if they are available</u>. Lets say you need five cars and they are available. Then five waybills will be created to move the empty, assigned cars from their respective current locations to the Shipper. Five more waybills will be created to move the assigned cars from the Shipper to the Yard.

If the cars needed are not available, then the waybills will not be created. You can determine how many cars are available then copy the shipment and divide the needed cars and associated weight between the 2 or more shipments (like the prototype!)

In the current version of MRRM, the program will create the five waybills to move a cars from the Yard to the Consignee but the car assignment is not automatically placed in the Yard to Consignee Waybills. They must be created manually. Also manual waybills must be created to move the empties to their home yard or stop. This will be fixed in a future release.

Shipment Summary Data

Shipment Instance	
Shipment # 100	Status In Process 👤
Lading Name chemicals	
Shipper ID PrincetonChemical	
Consignee ID CoverallPaint	
Fr8 Fwdr ID MRRM AutoForwarder	
Note generated by industry partner data	
Net Weight 50000.00 LBS	
Net Volume 0	
# of Car Loads 2	

The shipment number must be unique and is alphanumeric. As a suggestion, you might want to preface each shipment number with an abbreviation of the shipping company. Shipments created by the partner matching tool reserve shipment numbers beginning with 900,000,000 so please do not confuse MRRM.

Pick the lading name from your previously created lading list. Note that the lading list need not be limited to commodities bought or sold by industries on your layout produce.

Pick the shipper from the drop-down list. Similarly pick the consignee. The freight forwarder is optional for this version of MRRM.

Notes are optional.

The net weight is for the entire shipment and this lading. If more than one car is specified, this weight will be divided among the cars. Only pounds (LBS) are supported in the current version.

Net volume and its measure qualifier (e.g. GAL) are not used in this version

Enter the number of cars requested for the shipment. MRRM does not use car capacity figures to determine the number of cars. When waybills are assigned to manifests, MRRM tools can tell you if you are overloading a car. MRRM will let you overload cars (like the prototype) but it may generate run time faults in the future such as an alert of a broken axle!

Shipment Leg Data

Shipment Route Leg Instance
Shipment # 100
Leg # 1 🛋
Leg Name Move Goods from Shipper to Consignee with no inter
Goods Status awaiting goods 📃 👻
Vessel Status awaiting setout
Start Stop ID ChemicalPlant
Destination Stop ID CoverPaintsRcve
Transportation Mode Rail 🗨 Carrr ID 🗨 Roadname for Rail Transport
BOL/Waybill # 148 💌
Vessel Name/Code T
Vessel # NTLX84602 Rolling Stock ID for Rail Transport
Freight Fee
Note

To add a shipment leg, doubleclick anywhere in the lower pane then click the Add button.

The leg is an integer. The first leg must have a value of one (1). If you create a multiple leg shipment, the leg numbers should be continuous (i.e. 1, 2, 3, 4,...)

The leg name is used to improve readability of reports.

Goods status is manually set to: 'awaiting goods', 'goods on hand', or 'goods shipped'. Goods status value is optional in this release.

Vessel status is manually set to: 'awaiting setout', 'carriage at dock', 'awaiting pickup', or 'carriage picked up'. Vessel status value is optional in this release.

Select the Stop ID for the starting point from the drop-down list. These are the stops that you defined in your inventory.

Select the Stop ID for the destination point from the drop-down list.

Pick the transportation mode from: Rail, Truck, Air, or Sea. If you are not concerned with intermodal operations, just pick 'Rail' for each leg.

If you want to simulate interchange operations, define a shipment which originated in one District and terminates in another District. Enter a leg that carries the commodity from its pickup stop ID to the rail head of the Interchange with the next District's Roadname. Then add another leg that carries the commodity from the Interchange to the destination stop. (use your imagination and you can create complex real world movement activity that starts, stops, or passes through your railroad!

Pick the designated carrier for each leg based on the mode of transportation. (A trucking company if mode is truck!)

Vessel name/code and Vessel # are optional.

If transportation mode is rail, Vessel name/code is the AAR code for the rolling stock needed. If not specified, the lading will determine the AAR code for you. So, vessel name/code is optional

If transportation mode is rail, Vessel # is Rolling Stock ID assigned to a shipment.

If more than one car is needed for a shipment, Vessel name/code and Vessel # are not relevant or directly used

Freight fees are optional.

Notes are optional

If you are using the automated traffic generation features, all orders generated by your Industries will be converted by the railroad back office or freight forwarding agent to shipments. These shipments will have numbers in the range 900000000 to 99999999. They will also each be preset to a status of Pending. Also if you inspect the shipment form you will see that the Freight Forwarder for these shipments is MRRMTrafficGenerator. The next step is for your railroad back office to assign cars and associared waybills to each of these shipments.

If the cars are available you will notice that MRRM added leg 0 and leg 99 to each of the shipments and changed the status to 'In Process'. Leg 0 moves the assigned cars from their current location, typically the homeyard but not necessarily so, to the shipper. Leg 99 specifies that when the consignee empties the cars that they will be picked up and brought to the nearest yard.

The MRRM Traffic Generator follows prototypical operations. Empties are provided to shippers. Full cars are picked up at the shipper and brought to the homeyard. The Full cars are assigned to a train which will take the cars to the consignees with a local train if the consignee is served by the same homeyard as the shipper. Otherwise a way freight or a manifest/fast freight will have to move the full cars to the homeyard of the consignee.

If only some of the cars needed are available, then the back office will split the shipment into 2 shipments. The first will be processed as above for the cars that are available. The remaining cars will be placed on a car order queue which other yards may fill. Shipments involving car orders have a status of "CarOrdered.

Car Order Queue

When cars are not readily available to service a shipment, they are entered into a queue which requests cars be loaned between yards. Prototypically, we look at cars available from other yards in the same division before going outside the division for cars.

_									
	Industry Participants and Demands on RR								
	Lading Carriaged Industry Goods Bought and Sold Make Shipments from Industry Partners Shipments to Consignees Car Order Queues								
Car Order Queue by Yard K ≤ ≥ X A D S Ibit Erint Filter Set Glear Sort Master									
	Requesting Yard	AAR	Status	Requesting Shipment #	Providing Yard	Assigned Car	Providing Shipment #	Seq #	
	CCYard	LO	Ordered	90000012				1	Find + Ship Empties
	CCYard	HD	Ordered	90000018				5	
	ElizYard_stop	XMR	Ordered	90000016				6	Cars in Use Report
	ElizYard_stop	XMR	Ordered	90000016				7	Where are Bolling Stock?
	CCYard	LO	Ordered	90000017				8	
	CCYard	LO	Ordered	90000017				9	
	CCYard	XM	Sending	90000011	ElizYard_stop	RDG104375	90000013	2	
	CCYard	XM	Sending	90000014	ElizYard_stop	DH19123	90000019	3	
	CCYard	XM	Sending	90000014	ElizYard_stop	RDG107706	90000020	4	

When you click the Find and Ship Empties button, MRRM does exactly that. If it finds a car it creates a special shipment from the 'MRRM CarOrderReply' forwarder to move the car to the requesting yard. These shipments are handled similarly to the other shipments but when they complete, the Car Order Reply Forwarder immediately assings the cars to the requesting shipment and changes its status from 'CarOrdered' to 'In Process' and life goes on.

Yes, when empties are returned to the nearest homeyard, there is an MRRM Empty Manager forwarder which creates shipments to route the cars back to their homeyards.

Further there is a MRRM Shipper Empties forwarder that keepsd an eye on the empties levels a t all the shippers and as needed creates shipments to move new empties to the shipper.

We have not talked about Interchanges yet but you can imagine can't you?

MRRM_Train_Services

Train Service Plan

For Users having Intermediate or Advanced skills, the Train Service Plan is a key to fun and games. Train categories, Scheduled and Extra Trains, Consist Locomotive Power, Stop to Stop Metrics, Schedules, Railroad Jobs and Train Crews are defined or assembled into an overall plan for your railroad. New with this version is Power on Grades under various scenarios, typically weather based or emergency based scenarios.

Locomotive Consists

A train is pulled or pushed by one or more locomotives. In MRRM, motive power is assigned by creating a consist comprising the lead locomotive ID and none, one, or more slave locomotive ID.

Consists and Lead	Locomotive	\leq \geq >>	XAD	<u>S</u> <u>I</u> bl <u>F</u> rm <u>B</u> fs	Print Filt
Consist ID	Cons	ist Name		Lead Loco ID	
Chem1				B23-7_1	_
Coal1	Coal Operations			RDG802_TM	
Extra1				SD40-2Early_1	
Extra2				SD40-2Early_2	
Extra3				SD-35_1	
Extra4				SVV9/1200_1	
Gray_Local	Gray Local			JC551_RDC1	
LongHaul1				CR4123_SD80MAC	
Lumber1				U25B Ph2A_1	
Misc1	Miscellaneous Freight			RS-2_1	
Slave Locomotive	s	Sort Child List			<u>_</u>
Consist ID	Loco ID		Consists of tw	vo or more locomotive	s
Misc1	RS-2_2	•	list 'slave' loc	comotives in this table	

In the upper pane, create a consist ID and name. Then pick a lead locomotive from the drop-down list of locomotives in your inventory.

If your consist comprises a total of two or more locomotives, enter a record for each slave locomotive in the lower pane using the drop-down list.

To assign motive power to a train, you assign the desired consist ID to the train number.

Train Categories

These are your rules for the train classes you will run on your railroad. MRRM comes preloaded with my Classes: 1st, 2nd Express, 2nd Manifest, 3rd Way, and 4th Local.

Train Categories	<u> </u>	<u>S</u> <u>I</u> bl <u>F</u> m	<u>B</u> fs <u>Print</u> Filter
Class ID	Description	Start Train #	End Train #
1st	Passenger Service	1	20
2nd Express	Fast Freight	21	48
2nd Manifest	Through Freight	51	98
3rd Way	Way Freight	101	148
4th Local	Local Freight	151	198

First class is reserved for Passenger Service only. 2nd Express is a fast freight. 2nd Manifest is a through freight. 3rd Way is a way freight. 4th Local is a local freight. Don't get hung up here. This will become a convenience later in your operations activities.

Trains are numbered (integers). These are NOT the numbers on the locomotives but are arbitrary numbers assigned by the railroad. For example, train number 3 is a passenger train that runs from NYC to Washington DC.

For each class, assign a number range.

Trains

Tr	ains		X A D S THE	m Bfs	Print _ F	Filter Set Ch	ear Sort Mast	er (
Train #	Train Name	Origin ID	Destination ID	Direction	Class	Start Time	Consist	Lock A	Class Description
520	Elizabeth to Crystal City Yard	ElizYard_stop	CCYard	Westbound	3rd Way	07:30:00	Eliz-CC	N	Local Freight;
521	Crystal City to Elizabeth Yard	CCYard	ElizYard_stop	Westbound	3rd Way	07:30:00	CC-Eliz	N	local industries
580	Elizabeth to Crystal City Yard	ElizYard_stop	CCYard	Westbound	3rd Way	20:00:00	Eliz-CC	N	
581	Crystal City to Elizabeth Yard	CCYard	ElizYard_stop	Westbound	3rd Way	20:00:00	CC-Eliz	N	
820	Ely Local	ElizYard_stop	ElizYard_stop	Eastbound	4th Local	05:00:00	Ely1	N	Copy Train + Schedule
821	Coal Train	CCYard	CCYard	Eastbound	4th Local	10:00:00	Coal1	N	
822	Coal Train plus	CCYard	CCYard	Eastbound	4th Local	22:00:00	Coal1	N	
834	Elizabeth Turn	ElizYard_stop	ElizYard_stop	Eastbound	4th Local	13:00:00	Eliz1	N	
835	Erickson Shifter	CCYard	CCYard	Westbound	4th Local	05:00:00	Erickson1	N	
Train Rule #	# 820 Division	City/Town	 F	rain# tule# AAR		Lading N	ame		
1	Main	Elizabeth							
2	Main	West Elizabeth							
3	Main	Ely							
4	Main I	East Port Crystal							
5	Main	Erickson							
6	Main	Montgomery							
7	Main	West Elizabeth							
8	Main	Elizabeth							
lf	there are no schedule rul	les, then train may go an	ywhere, in any order.	f there are no m n pre-specified .	iovement rul AAR car.	es, train may	carry any co	mmodity	

Traiı	n Instance			
Class Priority: 🛐	d Way 🔽			
Train Number:	101			
Train Name: Lo	ng Haul 1			
Regular or Extra So	cheduled/Regular	•		
Origin Stop ID M	aryslandPortCus 💌	Starting Time	hh:n	ım
Destination Stop BI	ueSkylnterchang 🗸			
Train Direction: No	orthbound 💌			
Special Instruction				
Consist ID Lo	ngHaul1 🗸			
Train Description				
Train Notes:				
Maximum Cars			Caboose	_

Specify the train's Class from the train categories using the drop-down list.

Trains are identified by their train number. An integer, which should be assigned in accordance with your train categories. You will be warned if you violate your rules on train numbers versus type/

Give your numbered train a name such as Sunrise Special. Train numbers and names appear on schedules and other reports created with MRRM.

Again, consistent with your train categories, select whether the train is scheduled (i.e. Regular) or Extra. Extra trains are ad hoc trains that runs over your railroad. If you let inexperienced visitors to operate your railroad, defining a limited scope Extra train for them to manage may be helpful.

Define the origin and destination stop ID's for the train. A train may loop back to its starting point or not. You decide!

Special instructions are optional.

Assign motive power to this train by picking the consist ID using the drop-down list. Finally you're getting the locomotive engaged!

Train description and notes are optional.

The maximum cars value is used in this version to limit the number of cars that can be assigned to the train's manifest.

Regular/Schedule trains used with the advanced automation features of the program should not be locked. Locked means that the train can not be disassembled after it is run. Use the Lock feature for trains that you just want to run not switch.

The lower left pane contains the route for a train. Currently only local trains have

routes. The route specifies that Citytowns that the train serves and the sequence of service. A typical local train would service all Citytowns in the homeyard service area and would provide for potential stops at the Citytowns on the return trip. The route should not be confused with the schedule. The route specifies the sequence of Citytowns, each with multiple Industries, that a train MAY visit. The schedule is the specific stops that a train will make based on its cargo. The schedule is constrained by the route but the schedule may not visit every Citytown every time the train runs - only when the train has business to do in the Citytown.

Remember to specify the Starting Time for your regular trains. This can be changed on the manifest if condition require but this start time is the nominal time that this train runs every day. Now you have a plan of trains you can run.

Power on Grades

With this release, we introduce weather (or other conditions e.g. accidents), grade, weight and horsepower relationships to be considered before running a train. To use this feature, simply name the scenario (e.g. normal, dry) and the pulled pounds (LBS) per horsepower for flat, 1%,2%, 3%, 4%, and 5% grades. We include the calculator shown in the September 2002 issue of Model Railroader for your convenience. Please note that this equation becomes less accurate at the grade approaches flat or 0%.

Scenario			<<	<u> </u>	>> <u>></u>		D S Ibl Erm Bfs Print Filter Set Clear Sort Master		
	Pounds	of Pullin	<mark>g Power</mark> p	er Horse	power pe	r Grade		Grade/Power	Scenarios Report
Scenario ID	Flat	1%	2%	3%	4%	5%	Description	MR 9/2002	
temperate_dry	1000	800	600	400	250	100	60-80 degrees fahrenheit; no rain		e.g.
temperate_rainy	900	700	500	350	200	75	60-80 degrees fahrenheit; no rain	HP	3000
,			,		,		,	MPH	11
								Factor	308
								Grade 0.	0.022
								(HP*Factor)/	(MPH*Grade) LBS Pull
								,	Tons Pull

Railroad Jobs

MRRM comes pre-loaded with railroad job categories such as engineer, conductor, dispatcher, yardmaster, and so on. Add more if you want Use a few as you need to enjoy operations.

Railroad Jobs	<< < > >> X A D S Ibl Erm Bfs Print Filte					
Rr Job Id	Job Description					
Block Operators	control trackage without interlockings at stations in steam era					
Brakeman	assists the conductor. member of crew and yard drill teams					
Conductor	in charge of train. member of crew and yard drill teams					
Dispatcher	controls mainline train movement. readies turnouts ahead of train. resets turnouts to n					
Engineer	train driver. member of crew and yard drill teams					
Fireman	stokes steam engine with coal. member of crew and yard drill teams					
Flagman	a.k.a. rear brakeman. rides in caboose. member of crew and yard drill teams					
Freight Agent	yardmaster role as well as freight manager					
Gen-Superintendent	General Superintendent is in charge of a large railroad					
Head Brakeman	rides in locomotive. member of crew and yard drill teams					
Hostler	tler operate and prepare locomotive between engine facility and yard					
Power Desk	ower Desk					
Rules Examiner instructs all on the operating rules of the railroad						
Superintendent	in charge of a railroad division					
Switchman	assists yardmaster in large yards					
Towerman	controls interlockings in steam era.					
Trainmaster	supervises dispatchers, yardmasters, and train crews in an area within a district					
Yardmaster	directs the yard drill teams					

Train Crews

For each Train Number that you create, you should assign a crew.

Train C	rew	<< <u><</u> >	>> X A D S Ibl Em E
Train #	Crew #	Job	Employee 📃
3	1	Conductor	Curley
3	2	Engineer	Moe
3	3	Brakeman	Larry
51	1	Conductor	Harry
51	2	Engineer	Tom
51	3	Brakeman	Dick
52	1	Conductor	Jack
52	2	Engineer	Larry
52	3	Brakeman	Manny
53	1	Conductor	Jack

The crew is defined by a list of job categories as defined above and the assignment of Railroad Employees (defined earlier) to each job. The same employee may perform more than one job!

Railroad Employees and Actors

This is where you assign your Users, Club Rosters, and Visitors to act as railroad employees. The railroad employees are assigned to various railroad jobs when you build your services. These employees are fictional! The Users who <u>act</u> in these capacities are dependent upon who is available when you decide to operate trains on your layout.

Railroad Employee	es la	<pre><< > >> X A D</pre>
RR Employee ID	Assigned Actor ID	Notes
Curley	Little-Larry	
Dick	Little-Larry	
Harry	Big-Larry	
Jack	Big-Larry	
Larry	Tom	
Manny	Tom	
Mo	Little-Larry	
Moe	Big-Larry	
Tom	Tam	Ì

Railroad Staff

The Railroad Staff are all the other people that make your railroad run such as Dispatchers, Station Masters, Yard Masters, Roundhouse Foremen, Freight Agents and Back Office Staff that sell the carriage actions via Waybills, schedule trains and finalize the manifests for trains before they begin their run.

Railroad Staff	<u> </u>	>>> <u>X A D</u>
Railro	ad Staff not on ⁻	Trains
Job ID	Title	Emp ID
Dispatcher	Blue Division	Curley
Freight Agent	AAA Forwarders	Dick
RoundhouseForeman	Amyville Diesels	Harry
Vardmaatar	DoHort Vordo	look

Schedules

Schedules are stop sequences. Timed schedules have stop dwell time and transit time between stops. Scheduled Trains have timed schedules. Extra trains have stop sequences only unless you want to enforce a timeline on one.

Sched	ules	J	<< <u><</u> >	. >> <u>X</u> <u>A</u>	D	<u>s</u> <u>ты</u> <u></u>	im .	<u>R</u> fs <u>Print</u> Filter Set <u>C</u> lear Sort Master
Schedul	le ID		Schedule Na	ame		Max Grade		Single Schedule Report
10	10 10							Summary Schedules Report
ApplianceRu	ApplianceRun ApplianceRun					2		Copy a Schedule with Stop Records
appliancerun	appliancerun2 appliancerun2				2			
Coal1			Coal Delive	ry		4		Schedules are stop sequences. Timed
MTS_Sidings	s	South	Mountain MT	'S Sidings				schedules have stop dwell time and transit
SJ_Sidings		Amyville-	Soozie Junct	ion Template				time between stops. Scheduled I rains have
SMLocal1		South N	Aountain Loc	al Template				sequences only
Template1		Am	yville Local T	emplate		0		acquences only .
Template2		Amyville-	Soozie Junct	ion Template				
Template3		South N	/lountain Loc	al Template				, 🥅 Show Minimum Required Schedule Data Elements
							•	
Schedul	le Details	Sort Child Li	st					
Schedul	le ID Co:	al1	Time	format is 'hh:mm'				Stop Dwell Time Default
Seq #	S	top ID l	well Time	Arrival Time D	ерал	ture Time		00:00:00 📥 hh:mm:ss
1	BlueGray	yInterchng 🚽	00:05	00:00		D:05		
2	JDMineS	Ship 👻	00:30	00:15		D:45		Calculate from Stop2Stop Baseline
3	Shen-Sa	wmillRcve 👻	00:15	00:50	0	1:05		
4	TristarFe	MineRcve 🚽	00:15	01:07	0	1:22		
5	Hollandlr	ronRcve 💌	00:15	01:24	0	1:39		
	0. 110	1.1.1	00.05	04.44		1.40		

To add a schedule to your railroad plan. Click in the upper pane and click Add.

Enter a unique ID (e.g. SMLocal1) for the schedule and give it a comprehensible name (e.g. South Mountain Local). Save the entry and click in the lower pane then click Add.

The next higher sequence number is created. If this is the first stop of the schedule the sequence number is set to one. The schedule ID is automatically entered for you.

Pick a Stop ID from the drop-down list. That's it if your want schedule stop that is not on a time basis. Otherwise enter the dwell time for this stop. Dwell time is the amount of time that a train will stay at this stop before moving on to the next stop.

Set the arrival time and departure time.

Now this is a lot of work. But you can do it if you want.

Alternately you can use our automation features. Set the average dwell default and it will be used for each stop. (Stop dwell time for any stop can be changed later if desired!). Then click the 'Calculate from Stop2Stop Baseline' to compute arrival and departure times.

That's it! Your plan now contains the schedules that you will use to run your railroad.

Stop to Stop Baseline Matrix

To create realistic schedules for your trains, you must know the distance between

stops along your railroad as well as the speed that the train should average between these stops.

Stop to Stop Metri	CS <<	\leq \geq >>	XA	<u>D</u> <u>S</u> I	Erm <u>B</u> f:	s <u>Print</u> Filte
Stop1 ID	Stop2 ID	Actual Feet	SMPH	Smiles	Fastclock	Stopwatch
AmyvilleStation	MaryslandPortStation	5.25	15.00	0.16	00:00:38	00:00:06
DIAStation	SouthMtn_Station	12.50	50.00	0.38	00:00:27	00:00:04
HilltopStation	DIAStation	21.00	50.00	0.64	00:00:45	00:00:07
JDMineShip	Shen-SawmillRcve	12.00	5.00	0.36	00:04:21	00:00:43
MaryslandPortStation	SoozieJunctionStatn	21.50	50.00	0.65	00:00:46	00:00:07
NU DI A CULOU DI		L 500 I	FO 00	0.40	00.00.44	00.00.04

The stop to stop baseline matrix defines the rules that you impose on your railroad. You define the stops. You must measure the distance between these stops. Your define the average speed a train should maintain between these stops. (Note: you can override these speed assignments when you create your schedules using this matrix).

Stop to Stop Baseline Instance
Stop1 ID MaryslandPortStation
Stop2 ID SoozieJunctionStatn
Actual Feet: 21.50 Smiles: 0.65
Ave Speed Smph: 50.00
Transit Wallclock: 00:00:46 hours:minutes:seconds read on a fastclock
Transit Fasttime: 00:00:07 hours:minutes:seconds read on a normal stop watch

To add an entry pick two stops using the drop-down lists and enter (in feet) the actual distance between the stops on your railroad. Smiles will be calculated for you.

Enter the average speed in SMPH and the transit wall clock and fast clock (using the one your picked in Administration) will be computed.

Hint: You do <u>not</u> have to pick every possible pair of stops, just the pairs of ADJACENT stops you want to use in your scheduling. (If you have 10 stops defined on your railroad, there are (10*9)/2=45 possible pairs. On the other (more realistic) hand, you may need as few as 9 pairs for your use.)

MRRM_Build_Services

Build Services

Once you have a Train Service Plan, a User having Intermediate or Advanced skills, can generate Waybills to move loaded cars (including LCL shared cars) from shippers to consignees throughout the world (via off layout and intermodal support) and empty cars to and from an industry user. Train manifests can be created for freight trains. Switchlists can be generated in a variety of easy to use schemes from truly realistic to 'just for fun' operations. Specific trains can be assigned to schedules in the Train Service Plan or created ad hoc!

Waybills

A waybill is a bill for moving a carriage from one place to another. Carriage may be by rail, truck, air or sea. The bill may be direct charges to customers or indirect charges to customers.

Waybi	Il Instance
Waybill # 41	
From Stop ID JDMineShip	Pickup Car/LCL Car 💌
To Stop ID IronMill	• Setout Car/LCL Car 💌
Shipper ID JDBigBenMine	Waybill Date
Consignee ID TowerSteelCo	. Weight
Lading Name: coal	▼ Volume
AAR Code HFA	Waybill Fee
Car ID B&0189090	_
Special Handling	
Ready 2 Roll Flag No 👻 Set status to	"Done" to filter out a Waybill.
Loaded/Empty Flag: Empty	
Shipment # 90000005	•
Leg # 1	

You can create waybills manually by entering the required data or automatically by using the provided buttons. First we'll explain how to create a manual waybill. Then we'll show you how to automate the process.

Add a new Waybill to the list by clicking the <u>A</u>dd button. The next highest integer for a Waybill is automatically inserted for you.

Select the from and To stops from the provided drop-downs. Pickup and Setout Car/LCL features are not used in this release. (LCL means less than carload or less than container load).

Pick the Shipper and Consignee using the drop-downs.

Pick the Lading using its drop-down list.

Pick the AAR code for the type of rolling stock to be used.

Assign the specific rolling stock ID to be used for this Waybill. This entry can be delayed until you are ready to close the manifest and create the switchlist for the

train that the manifest is assigned.

Special handling is optional.

Set the Ready2Roll flag to: Yes, No, or Done - for now set to 'N'.

Set the Loaded/Empty Flag to Full, Empty, Partially Filled - for now set to 'E'.

Enter the shipment number and shipment leg number associated with this waybill. If you don't have shipments yet, then ignore these fields.

Date, weight, volume, and fee data is optional and not used in this release.

That's it! A lot of work I agree. But it is prototypical.

We offer some automation for you, however, if you previously created shipments with legs using rail transport.

Waybill Automation - Click the button entitled 'Create from Shipment Leg' after selecting the shipment leg that you want to use to create the Waybill. Car Order waybills to setout an empty car to the starting point and to pickup the empty car at the destination point can be automatically created also.

If you generated automated shipments from industry activity, then waybill are automatically created for you. No data entry is needed.

Manifests

A manifest is the list of waybills that a specific train must perform in accordance with a specific schedule. One manifest might move the empties from the yard and setout the cars at the Shipping Customer's stop. Another train's manifest might specify that the full car(s) be moved from the Shipper to a staging yard stop. A third manifest for yet another train might specify that the yard assembled train be run and setout the full car(s) at the Consignee's stop.

🗰 Build Fr	eight &	Passenger Services Prov	vided						_
Waybills (Bu	iild) M	anifests (Build) Stop to Stop	Metrics Schedules	Train Schedules S	witchlist				
Mani	fests	<< <u>></u>	>> X A [<u>) s t</u> bi <u>F</u> m	n <u>R</u> fs	Print	Filter Set Clear Sort Master	ndustry Date 09/02/1954	23:00
Manifest	Train	Schedule ID	Date and Time	Actual	Status		Generate Manifests for Trains	View Queued Car Moves]
10	581 822	0902542200_sched822	09/02/54 20:00	09/02/54 20:00	Not Ready		1. Add Daily Regular Trains	Cars to be Viewed	
6	580	0902542000_sched580	09/02/54 20:00	09/02/54 20:00	Completed		Enforce Train Rules	C InterYard	
9	836	0902541900_sched836	09/02/54 19:00	09/02/54 19:00	Completed		2. Assign Tentative Cars to Manifest	C Locais	
8	834 821	0902541300_sched834	09/02/54 13:00	09/02/54 13:00	Completed Completed		Warning! Schedule created from Waybills -	Schedule Stops	
4	521	0902540730_sched521	09/02/54 07:30	09/02/54 07:30 Completed			not for Passenger or custom train; built from train rules for schedules and/or movements.	Stop Id	#
3	520	0902540730_sched520	09/02/54 07:30				3. Schedule by CityTown PU/SO	ElizYard_stop MtStormSupplyShed	1
2	835	0902540500_sched835	09/02/54 05:00	09/02/54 05:00	Completed	-	Single Manifest Report	WFVV_stop	3
Waybil	s	Sort Child List Cars on Ma	nifest's Waybills M	anifest Delete Sched	lule,Switchlist,	Train	Copy a Manifest Master Record	PortCrystalScrap	4
Manife	st #	8 WM5114 WM5147					Copy a Manifest with Waybill Records		3
Seq #	Way	bill # DH18158 7 URTX2710	2				Industries awaiting Empties Pickup		
2		WRX11173 WM54955 4 CO29005	3						

To create a Manifest, click in the upper pane and then click the <u>A</u>dd button. The next higher manifest integer will be automatically inserted.

Pick a train number from the drop-down list of trains that you created earlier. Pick a

schedule from the drop-down list of schedules that you created earlier or wait until you know the waybills you will be performing with this train to optimize a schedule to follow. Save this master record. The schedule is displayed for your convenience while assigning waybills/cars to the train's manifest.

Click in the lower pane then click the Add button to attach a waybill to this manifest. The manifest number and the sequence number will be automatically inserted. Use the waybill drop-down list to pick the waybill that you want to add to the manifest. A list of cars currently assigned to the manifest regardless of where/when they are picked up or set out is provided for your convenience.

Continue adding waybills until you have completed the manifest of waybills to be used. (Hint: you can reuse Waybills without constraint in this release.)

Alternately you can use the list of waybill on the lower right to select waybills them click the 'Assign a Waybill to a Manifest' button.

Unless you took care to order the waybill sequence numbers to match the stop sequence you want to use, you may have to renumber the waybill sequence to match the schedule. If you have selected a schedule you can renumber the waybills to match this schedule by clicking the 'Renumber Sequence #'s by Schedule' button. Note that if a schedule does not contain a stop that a waybill requires, that waybill will be dropped from the manifest.

To create a schedule based on the stops in your waybills as numbered, click the 'Create Schedule Stops from Manifest' button.

Warning! Schedule created from Waybills is not necessarily optimized for your layout. So after creating Schedule, you should re-sequence stops to meet your layout requirements.

If you generated automated shipments from Industry activity, use the buttons labeled 1,2 and 3 to created your manifest.

If industry time has run for 24 hours or more, you can load daily prototype manifests for each of the regular, not locked, trains that you defined earlier. The prototypes are inserted into the manifest table in reverse chronological order with the earliest manifest at the bottom of the list.

Select the earliest train on the list. If its start time is earlier than the current Industry time shown in the upper right corner of the tabpage, click button 2. All waybills which are eligible for a manifest and which begin and end at stops along the train's route will be automatically appended to the waybill list in the lower left corner of the tabpage.

Next click button 3 and the schedule of stops will be created consistent with both the train route and the waybills assigned to the manifest.

Train Schedules

A train schedule simply associates a train number (previously defined in the plan) with a schedule (previously defined in the plan). The starting time set for the train is

used to develop the schedule times. When you assign a train and a schedule to a manifest, a train schedule is automatically defined. This tab page allows you to refine the timing of the stops defined for the schedule prototype previously selected.

Train Schedules				<u> </u>	>> 🗵	Δ	D S IN	<u>Erm</u> <u>B</u> fs	
Train N	umber	Schedule Id		Max Grad	e	Single Schedule Report			
	3	ApplianceRun		2					
	51	Coal1		4		Bu	ild Train Timed Scł	nedule	
	52	MTS_Sidings							
	53	appliancerun2			-				
	54	SJ_Sidings			-				
	101	SJ_Sidings		0	-				
	102	MTS_Sidings		0	-				
	151	Template1			-				
	152	10		0					
-		-							
Schod	lula Ste	one for this Train					50	e Child List	
Scheu	iule ou					_	50	it Child List	
T	rain	# 51 Schedul	e ID		pal1		_		
Seq #		Stop ID	Dw	ell Time	Arriva	1	Departure	,	
1		BlueGrayInterchng		00:05	09:30		09:35		
2		JDMineShip		00:30	09:45		10:15		
3		Shen-SawmillRcve		00:15	10:20		10:35		
4		TristarFeMineRcve		00:15	10:37		10:52		
5		HollandIronRcve		00:15	10:54		11:09		
a		QtackMtnInterchna		00.05	11-11		11.16		

If you created the basic and the train schedules using buttons 1,2 and 3 on the manifest tabpage, then the schedule master data already exists. You just need to finalize the dwell time and, if desired the distance traveled time. The default is just use the default dwell time and click the 'Reset Schedule Times' on the Baseline Schedule tabpage. Then go to the Train Schedule tabpage and click the 'Build Train Timed Schedule' button for the schedule.

Switchlists for Trains

A Switchlist is more than the list of rolling stock to move about. A Switchlist identifies the train that is to do work by train number, type, class, origin, final destination, direction, and consist. The crew to do the work. And, the work required as specified by the waybills to be performed.

Model RailR	load Manag	jer					-									_ 8 ×
Eile Inventory	<u>Maintenance</u>	e Build Se	ervices <u>U</u> pera	te Service	s Hł	l Uperation	ons Cor	isoles <u>A</u>	<u>A</u> dminister <u>W</u> indow	Help						
Build Freig	ht & Passer	nger Serv	vices Provide	d												
Waybills (Build)	Manifests (Build) Sto	op to Stop Metri	cs Sche	dules	Train S	chedule	es Swite	chlist							
Switchlists				<< <u><</u>	<u>></u>	>>	XA	D	S Ibl Erm B	fs <u>P</u> rint	Filter S <u>e</u> t (Clear	Sort Master		Pickup Empties P	irst
Switch	list ID	Train #	Manifest #				Note	s		Sche	edule ID	Ind	ustry Date	Picki	up Report Setou	t Report
0902542200	_swist822	822	10							09025422	00_sched822	2 09/	02/1954 23	:00 Cc	onductor Sequ	ence
0902542000	_swist580	580	6							Sequenc	e, Time, Che	ck sid	ing, full/em	pty Co	nductor Seque	nce2
0902541900	_swist836	836	9							🔽 Ignore Si	ding Full Warnin	na E	lanore Not F	ull/Empty W	arninc	
0902541300	_swist834	834	8								-	-	-		-	
0902541000	_swist821	821	5													
0902540730	_swist521	521	4													
0902540730	_SWIST520	520	3													
0902540500	_swist820	820	1													
0002040000	_04101020	020														
Pickups	Cort Child I	Lint					C	otoute	Cost Child2 List							
Cuitabliat		200	4000			-		it all list		1-1000	0.11				Stop Id	
Switchilst	D 0902542.	200_swis	51822 E	скир			34	atemis	ID 0902542200_SW	AS1822	Setout			CCUped	scop iu	
# Waybill	Rolling St	OCK ID	Stop		SC#	Full?	#	waybill	Rolling Stock ID	Sto	in the second se		ull? 2	CCCoal	Tipple sto	
1 51	DH558	83	CCCoalTipp	le_stop	2	Empty	2	51	DH5583		Yard	3 E	mpty 3	CCYard		
3 34	VVM162	294	PortCrysta	West	6	Empty	9	34	V/M16294	CC	Yard	7 E	mpty 4	RobinH	oodFlour	
4 35	DH543	31	PortCrysta	West	6	Empty	10	35	DH5431	CC	Yard	7 E	mpty 5	Pulpwo	odDistrib	
5 36	DH589	95	PortCrysta	al/Vest	6	Empty	11	36	DH5895	CC	Yard	7 E	mpty 6	PortCr	ystalWest	
6 37	DH720	03	PortCrysta	₩Vest	6	Empty	12	37	DH7203	CC	Yard	7 E	mpty /	CCYard		
7 38	PRR220	0163	PortCrysta	West	6	Empty	13	38	PRR220163	CC	Yard	7 E	mpty			
8 39	DH52	54	PortCrysta	₩Vest	6	Empty	14	39	DH5254	CC	Yard	7 E	mpty			
													•			Þ
				D	elete	Pickups	De	lete Seto	puts							
																-
																► //.
Ready																
Start 6	🤹 👩 🗖	/ » G	Evoloring - D:		. 001100	fc8 - Po		adobe P	hotoD	2 - 51		10			× 8034.	1-59 PM

With MRRM you can manually create a Switchlist or use one of our automation assists.

To manually create a Switchlist, click in the upper pane and then click the Add button. Select a Train # from the drop-down list.

If you are using Manifests you may choose to manually enter it now or wait and enter it automatically using the feature described below.

Notes are optional.

To manually add a Switchlist detail row, click in the lower pane then click on the Add button. The Switchlist ID and the next sequence number are automatically inserted for you. If you have waybills, pick one from the drop down list. If not pick a rolling stock from its drop-down list and then pick a From and a To stop ID using the drop-down lists.

If you use the automated assists, do not proceed to entering rows into the lower pane. Instead move the 'Radio' button on the right to the type of automation you choose to use.

The automated Switchlist assists are: from Manifest, from Waybill-Cars Arriving, from Waybill Cars departing, from Random Waybills, and from Random Cars. You may use any combination.

Switchlist from Manifest is the most realistic in a prototypical sense. The manifest, if properly constructed has a logical schedule, possible with a timetable, of Waybills to perform. If you select this option(via the 'radio' button, a list of manifest will appear in

the lower right pane on the tabpage. Pick the manifest you want to use then click the 'Create Switchlist from selected row' button. The Switchlist will be immediately created.

As a shortcut, you can pick the manifest number from the drop down list in the upper pane. This results in all the waybill actions assigned to the manifest to be entered into their respective positions on the Switchlist.

Switchlists from Waybill-Cars arriving or departing are similar. There is a wildcard filter built into these two mode. (% is the wildcard character) If you use the same prefix, for example, on the sidings where you want a Switchlist, like in a Yard, use that prefix with the wildcard (e.g. DRY%). In this example only the cars on waybills arriving or departing any of the Dehart Yard will be listed for your picking.

Switchlist from Random Waybills is not realistic but is pragmatic. When the associated 'radio' button is clicked, a list of waybills appears in a pane in the lower right corner of the tabpage. You can select multiple waybills from this list and they will added to the Switchlist.

Switchlist from Random Cars is unrealistic but is easy and fun. When you click thi associated 'radio' button, a list of Rolling Stock appears in the pane in the lower right of the tabpage. You may select multiple rows and have them added to the Switchlist. Note that no Waybills need exist to use this feature.

If you generated shipments from Industry activity amd created a manifest and schedule, then a switchlist prototype was automatically generated for you. Simply pick the manifest for the switchlist from the drop down list. Then, click the 'Sequence, Time, Check siding, full.empty' button to finalize the switchlist.

MRRM_Operate_Trains

Operate Introduction

MRRM can improve your train operations by concurrently tracking the projected and current status of all trains, their schedules, manifests, waybills, weight/horsepower, weather/grade, siding space, and cars at stop status. You can manage trains now running or about to be run.

Train Manifest Status

odel Rai Inventory	ilRoad Manager v <u>M</u> aintenance Build Se	ervices <u>O</u> pera	te Services RR Opera	ations Consoles <u>A</u> dmi	nister <u>W</u> indow <u>H</u> elp			
ispatch	er's Console							_
in Manifes	st Status Waybill Status	Shipment Forv	varding Status Train C	ar List and Weight at 9	top Status Train Orde	ers		
	Pupping			VADel		Print C Filter: C	at Class	
	Kunning				<u>The Tune The T</u>			
Manif	ests Sort Master							
anifest	Schedule Date/Time	Train	Schedule ID	Status	Current Stop	Seq		To RUN a train,
1	8/2/02 00:00:00	20	GTY-HAN-Local	Running	Pella201Ship		SHOP 1	train must have a
2	8/2/02 00:00:00	21	GTY-NOX-HAN	Running	LawrenceHAN			schedule assigned
3	8/2/02 00:00:00	22	HAN-NOX	Running	84LumberHAN		Train Completed Acknowledge	to it.
							Beverse Train to Next Stop	
								Toggle Waybills
						•		
nifest V	Wayhills Sort Child	Wavhi	lls			<u></u>		
anifest	# 1	in the part	Come on out	to d Turkin of	this Ofen	*****		
annesi 	m i Marikill #		Cars on sei	ected Train at	this Stop		Locos on sele	ected Train
1	2		Rolling Stock	ID Train # Seq	# Waybill # Sch	edule Stop	Loco ID	Seq #
·]	2		boxcar1	20 1	2 Pell	a201Ship	loco777	1
			4			Þ		
			1 20000 30000000000000000000000000000000					
			1			<u></u>		

You can run trains as long as they have a schedule of stops and a manifest - even if there are no waybills/cars assigned. You can run as many trains at a time as you want. Trains will be ready2roll if all waybills on the associated manifest are ready2roll. If a train's status is ready2roll, click the command button with the icon of a locomotive and the train status will change to 'running'. Click the 'Advance Train to next stop' command button to move the train to its first stop (the Starting point 'stop'). The locomotives comprising the consist will be listed. If there are any cars on the train at the first stop, they will be listed. The name of the first stop will appear. Text color will be green at the first stop.

Click the 'Advance Train to next stop' command button to move the train to its next stop. Cars setout at his stop will be dropped from the list. Cars picked up at this stop will be added to the list. If this is not the last stop on the schedule, the stop name text color will be blue. If train is at the last stop. Text color of the stop name will be red. Also, at the last stop, the 'Train Completed Acknowledge' command button will be enabled. If the button is clicked, the train's manifest status will change to complete and the locomotive will be unassigned. Preventative maintenance usage counts for locomotives, and cars on waybills of a completed manifest will be incremented.

Waybill Status

If last minute changes to a Waybill are needed, you can make the changes here. Changes will be logged for each waybill. You can review the history of changes to

Waybill S	itatus Editor	<u> << <</u>	<u>>>> X A D</u>	<u>s</u> <u>т</u> ы	<u>E</u> rm <u>R</u> fs	Print Filter	S <u>et</u> <u>C</u> lear Sort Master
Waybill #	Rolling Stock ID	From Stop ID	To Stop ID	/ Waybill Date	Lading		
1	boxcar1	RyanHANrove	Pella201Ship	Yes	Empty		building supplies
2	boxcar1	Pella201Ship	RyanHANrove	Yes	Full		building supplies
3	boxcar1	RyanHANrcve 🚽	Pella201Ship	No	Empty		building supplies
4	lumber303	84LumberHAN	84LumberHAN	No	Empty		lumber
5	lumber303	84LumberHAN	RyanHANrove	Yes	Empty		lumber
6	lumber303	RyanHANrove	Pella201Ship	Yes	Empty		lumber
7	boxcar4	84LumberNox	LawrenceHAN	No	Empty		clothing
8	boxcar3	84LumberNox	LawrenceHAN	No	Empty		clothing

each waybill, by clicking the 'View Waybill Action Log' command button.

Shipment Forwarding Status

A customer wants to know the current status of a shipment. When will the empties be delivered to the Shipper's stop? When will the full cars be picked up from the Shipper's dock? Are the full cars still in the yard? The Consignee has emptied the cars, what train will be assigned the job of picking up the empties from the Consignee's dock and returning each of them to their proper next stop or home stop?

Your railroad should be able to answer any of these and other questions at any time just as we expect from the prototype! The Shipment Forwarding Status keeps track of the status of each leg of a multiple-leg shipment - which typically involve many trains each run in sequence possibly over several 'days' of railroading.

Shipment by Status	<< <u>></u>	>> X A D	S Ibl Erm Bfs	Print Filter Set Clear	Sort Master					
Shipment #	Status	Shipper ID	Consignee ID	Lading Name						
90000001	In Process	PellaWindows	Ryan Builders	building supplies						
90000002	In Process	84LumberNOX	Ryan Builders	lumber						
90000003	Pending	84LumberHan	Ryan Builders	building supplies						
test	Pending	PellaWindows	Ryan Builders	clothing						
	_									
Movement Sequence and State	us				Sort Child List					
Shipment # 900000001		Peady/2Poll LoadedEmpty								

	Shipment	# 900000001		Ready2Roll LoadedEmpty						
#	Waybill #	Rolling Stock ID	From Stop ID	To Stop ID	Flag	Flag	Waybill Date	Waybill Fee		
0	1	boxcar1	RyanHANrove	Pella201Ship	Done	Empty	8/9/02			
1	2	boxcar1	Pella201Ship	RyanHANrcve	Yes	Full				
99	3	boxcar1	RyanHANrove	Pella201Ship	No	Empty				

Train Car List and Weight at Stop Status

Before a train is run, the dispatcher, conductor, roundhouse foreman and yard master may want to 'dry run' the train. This tab page allows you to step the train through its schedule and manifest. The dynamically changing weight of the total train can be observed. The horsepower of a multiple engine consist versus the weather/grade/ condition scenario can be observed to see if adequate horsepower is available.

Train Stops <<< < > > × < < > > × × × × × × × × × ×												
Train #	Seq #	Stop ID	Manifest #		Rolling Stock on	Train at t	his Stop 1		Consist To	otal Hors	epower 2.	500
20	1	Pella201Ship	1		Train Total Main	ht (lb a) at	this Plan 22	5 000		Dullin - U		0.000
	2	RyanHANrcve	1		Train Tutai weig	nt (ibs) at	uns sinh lss	5,000 Cor	ISIST Max.	Pulling v	veignt 1,00	0,000
21	1	Pella201Ship	2		Cars on selecte	d Train a	t this Stop			Dick Lb		_
	2	BlueGrayOffice	2		Rolling Stock ID	Train # Se	q # Waybill #	Schedule Sto		FICK LU	STIF ICU	
Í	3	PeachOrchard	2		boxcar1	20 1	2	Pella201Shir			Pounds of	of Pulling P
i	4	84LumberHAN	2					I	Scen	ario ID	Flat	1%
Í	5	LawrenceHAN	2	-					normal		1000	900
	6	RyanHANrcve	2						•			F
22	1	RyanHANrcve	3	_	<u>د</u>	-		F		1.4.1.1		
•					<u> </u>			الك	M Anno	ounce Wei	ght/Horsepo	wer Errors
Rolling S	Rolling Stock Picked Up by Train at this Stop Sort Child List Rolling Stock Set Out by Train at this Stop											
From Stop Pella201Ship Manifest # 1			To Stop		Mai	nifest #						
Rolling Stock ID To Stop Waybill #		Rolling Stor	ck ID	From Stop	Waybill #							
bo	xcar1	RyanHANrcve	2					-				

Train Order

Train Orders can be issued by the Dispatcher to a Train Conductor, Engineer or others at any time during operations.



MRRM_Operate_Rolling_Stock

Rolling Stock at Sidings

During train operations, before running another train, you may want to evaluate the amount of siding space available at each stop where a train will setout one or more cars. If the train is scheduled to pick up a car, you may want to see if the car is there now or if another train is scheduled to setout that car. In the later case further review of the other train may be warranted. This tab page helps you to plan siding activity carefully.
lling Clock Ct	atus Managor		0/11000 1111				оф 			
Juing Stock St	atus manayer	1								
ng Stock at Sidin	9 Rolling Stock at St	op Rolling 9	itock Adjustme	ents						
Sidings		<<	<u>< ></u>	>> X A [<u>)</u>	Ibl Em Br	s <u>Print</u> Filter S <u>e</u> t	Clear Sort Master	1	
Siding ID		Sidir	g Name		Cit	ytown ID	Rail Class	Model Length	Sum of t	he lengths of
PMY020		Marysland	PortCustoms		Port o	of Marysland	Industrial Siding	66.00	Rolling S this Sidir	tock now on ng, Plus RS to
PMYE_DRYN_00	1	Marysland Po	ort - DeHart Ya	rd			Main Line		be Set C	ut minus RS to
SMT010		East Slo	be Coal Mine		Stac	k Mountain	Industrial Siding	26.00		a up.
SMT011	E	ast Slope Co	al Mine South I	Leg	Stac	k Mountain	Industrial Siding	16.00	<u> 14.5</u>	<u>N</u>
SMT012	E	ast Slope Co	al Mine North I	_eg	Stac	k Mountain	Industrial Siding	20.00	Remaini	ng Track
			0.0	son sul					Length 1	for this Siding
iing Stock no	iw at this Staing		Sort Un	lid List					11.5	<mark>/0</mark>
Siding Id	SMTO	10							-	
olling Stock ID	Current Stop	Mdl Length	Туре	Subtype	AAR		Roadname	Number		
RDG802_IM	JUMIneShip	5.00	Locomotive	Diesei		1	keading Company	802		
RDG8U326-1	JDMineShip	3.25	Freight Car	Hopper Car 1	HFA	ŀ	(eading Company	80326		
RDG80326-2	JDMineShip	3.25	Freight Car	Hopper Car 1	HFA	F	Reading Company	80326		
RDG80331-1	JDMineShip	3.25	Freight Car	Hopper Car 1	HFA	F	Reading Company	80331	-	
Illing Stock e	oming to this Sidi	ing via fut	uro Mavhil	Sort Child21	ist					
nlling Stock ID	Current Ston	Mdl Lenath	Тупе	Subtyne	AAR		Roadname	Number Wa	whill # Ready	
B&O189090	BlueGrayInterchng	3.75	Freight Car	Hopper Car 3	HM	Baltin	nore and Ohio Railroad	189090	42 Y	
B&O189090	BlueGrayInterchng	3.75	Freight Car	Hopper Car 3	HM	Baltin	nore and Ohio Railroad	189090	40 Y	
B&O189090	BlueGrayInterchng	3.75	Freight Car	Hopper Car 3	HM	Baltin	nore and Ohio Railroad	189090	72 Y	
	1	1	1 - 1					I		-1
olling Stock	Ionuing this Sidir	a via futu	to Maubill	C - A CLIHOL	and a					
unnig stock	reaving uns siun	iy via iutu	e waynin	Soft United L	ISC					-
B&O189090	BlueGravinterchoo	Mai Lenga	Freight Car	Honner Car 3	HM	Batin	Roadname	189090	Jan Keady	
B80190000 0	BlueCrayInterching	2.75	Eroight Cor	Hopper Car 3	L UM	Boltin	are and Ohio Railroad	180000	42 V	
Beoreenee	DiveGravinterching	3.75	Every Cer	Henner Car 3		Datin	tore and Ohio Naliroad	103030	43	
D&U169090-2	DiveGrayInterching	3.75	Freight Car	Hopper Car 3		Batin	iore and Onio Kaliroad	189090		

Rolling Stock at Stops

Even if the siding has space for the car(s) to be setout or if the pickups are available, there may be complications at the siding and a good conductor and dispatcher will want to know about it before the train gets there. Since a siding can have multiple stops along its length, there may be many other cars that will have to be moved to get to the stop or car. This tab page helps you analyze these types of issue.

olling Stock State	ıs Manager									
lling Stock at Siding	Rolling Stock a	at Stop Rolling	Stock Adjustmer	nts						
Stops		<-	(<u>< </u> ≥ >	> 🛛	ADSI	ibl <u>Erm <u>B</u>fs <u>Print</u></u>	Filter Set Clear	Sort Mas	ter	
Stop ID		Sit	e Name		Siding ID	Citytown ID	Division ID		Dock	
AmyDieseWrks_R	ve A	myville Diesel W	orks Co. Receivi	ing	AMY050	Amyville	Gray			
AmyDieseMVrks_S	hip A	Amyville Diesel V	/orks Co. Shippir	ng	AMY050	Amyville	Gray			
AmyvilleInterchn	3	Amyville Railro	ad Interchange	Í	AMY010	Amyville	Gray			
AmyvilleStation		Amyville Ra	ilroad Station	- i -	MYN_AMYS_001	Amyville	Gray			
BlueGrayInterchr	g B	llue and Gray Ra	ilroad Interchan	ge	SOJ040	Soozie Junction	Gray			
olling Stock nov	v at this Sto	p	Sort Chil	d List		<i>"</i>				
Current Stop	BlueGravin	iterchna							Sum of the	lengths of
Rolling Stock ID	Mdl Length	Туре	Subtype	AAR		Roadname	Number		Rolling Stoo this Siding	k now on Plus RS to
B&O189090	3.75	Freight Car	Hopper Car 3	B HM	Balt	imore and Ohio Railroad	189090	_	be Set Out	minus RS to
B&O189090-2	3.75	Freight Car	Hopper Car 3	B HM	Balt	imore and Ohio Railroad	189090	-	be Picked L	Jp.
BAR2245	3.25	Freight Car	Boxcar 1	XF	Bangi	or and Aroostook Railroad	2245	-	4.25	
SOO29628	3.25	Freight Car	Livestock Car	1 SA		Soo Line Railroad	29628			
Rolling Stock co	ming to this	Stop via fut	ure Waybill	Sort C	hild2 List					_
Rolling Stock ID	Current Stop	p Mdl Lengt	h Type	Subtyp	e AAR	Roadnam	ne	Number	Waybill # Ready	
					4					
Rolling Stock le	aving this St	op via tuture.	Waybill	Sort C	hild2 List					3
Rolling Stock ID	Current Stop	p Mdl Lengt	h Type	Subtyp	e AAR	Roadnam	ne Notice d	Number	Waybill # Ready	•
BAR2245	BlueGrayIntercr	ing 3.25	rreight Car	Boxcar	1 AF	Dangor and Aroost	ook Kaliroad	2245	20 Y	
	BlueGrayInterch	ing 3:25	Freight Car	Livestock	Car1 SA	Soo Line Rai	llroad	29628	31 Y	
SU029628		-luf	LIEreight Car	Specialty (Car1 LIC	Trailer Train	n Co.	56842	I 12 IY	
DTTX56842	DeHartYardTrac		i reigni cai	Speciality						

Rolling Stock Adjustments

In the event that some rolling stock problems persist after the train is set to run or while running, this tab page lets you make 'adjustments' for a successful run.

	Rolling Stock Stat	tus Editor		$\langle \langle \underline{\langle} \underline{\langle} \underline{\rangle} \rangle \rangle \rangle$	<u>X A D S I</u>	ibl <u>Erm <u>R</u>fs <u>Print</u></u>	<mark>⊢Filter:</mark> S <u>e</u> t	<u>C</u> lear	Sort Master
Γ	Rolling Stock ID	Waybill #	In Service	Current Stop	Next Stop	Home Yard R	eady 2 Roll E	mpty/Ful	I Action Date
	RDG80326-1	98	Assigned	JDMineShip	HollandIronRcve	DeHartYardTrack2	Y	E	6/28/02
ľ	RDG80326-1	26	Assigned	JDMineShip	HollandIronRcve	DeHartYardTrack2	Y	F	6/26/02
ľ	RDG80326-2	25	Unassigned	JDMineShip	Shen-SawmillRove	DeHartYardTrack2	D	E	6/26/02
ľ	RDG80326-2	1	Unassigned	JDMineShip	Shen-SawmillRove	DeHartYardTrack2	Y	F	6/26/02
ľ	RDG80326-3	27	Unassigned	HollandIronRcve	Dehart Rail Yard	DeHartYardTrack2	Y	E	6/26/02
ľ	RDG80331-1	23	Unassigned	JDMineShip		DeHartYardTrack2	Y	E	6/26/02

MRRM_Operate_DCC

Decoder Manufacturer Models

The list of Digital Command Control decoder manufacturers is managed with this tab page.

Manufacturer	Decoders << <	<u>≥ >> X A D S Ibl Erm B</u> fs <u>Print</u> Filter S <u>et</u> <u>C</u> lea
Decoder Model	Manufacturer	Description
DN149K2	Digitrax	1.0 amp;Back EMF; Transponder; auto analog opns; 4 ftns; 128 speed table;
DN146A	Digitrax	1.0 amp;4 ftns;
DN122K2	Digitrax	1.0 amp;back EMF; Transponder; automatic analog;
DN141K2	Digitrax	1.0 amp; back EMF; transponder; automatic analog; 4 ftns;
DN148K	Digitrax	1.0 amp; 4 functions;
LE062XF	Lenz	1.0 amp; 2 functions; 128 speed steps;

Decoder Data Labels

Each decoder data set identifies the data label set to be used. This tab page is used to manage the decoder data label sets for up to 100 CV's.

Decoder Data Labels	
Decoder Label Se	t ID <mark>Digitrax Mobile</mark>
Cv 01: Short Address	Cv 51: Background Sounds
Cv 02: Start Voltage	Cv 52: Foreground Sounds
Cv 03: Acceleration Rate	Cv 53: Power Up Control
Cv 04: Deceleration Rate	Cv 54: Exhaust Sync Rate
Cv 05: Maximum Voltage	Cv 55: Speed Stabilization ;Exhaust Tone
Cv 06: Mid Point Voltage	Cv 56: Speed Stabilization;Exhaust Volume
Cv 07: Version Number	Cv 57: Speed Stabilization Ctl

Decoder Data Settings

Up to 100 Configuration Variables per decoder can be managed with MRRM. The label associated with the data can be managed separately in the decoder data labels table. This allows differing intended usage of a given CV by two or more manufacturers where standards permit.

Decoder Data Settings	<< ≤ ≥ >> X A D S IBI Em Bfs Print Filter Set Clear Sort Mast Sort Ma
DCC Data ID: <mark>Digitrax Test</mark>	DCC Label ID: Digitrax Mobile
Cv 01: 16 Short Address	Hex Value 00 Cv 51: 255 Background Sounds
Cu 02: 15 Start Voltage	Bits 0 0 0 0 0 0 0 Cv 52: Foreground Sounds
Cv 03: 14 Acceleration Rate	Cu 53: Power Up Control
Cv 04: 13 Deceleration Rate	Cu 54: Exhaust Sync Rate
Cv 05: 12 Maximum Voltage	Cv 55: Speed Stabilization (Exhaust Tone
Cv 06: 11 Mid Point Voltage	Cv 56: Speed Stabilization;Exhaust Volume
Cv 07: 10 Version Number	Cv 57: Speed Stabilization Ctl

DCC Locomotive Standards

Each locomotive, having a decoder, identifies its data set and manufacturer.

Decoder Locomotiv	ve Standards	<<	_ ≤	2	\rightarrow	X	A	D	<u>S</u>	ТЫ	E
Loco ID	Decoder Model		DC	C Da	ata II	D		Se	rial #	ł	
loco777 🗾 🗸	DN141K2		Di	gitra	x Tes	t					

MRRM_Consoles

Introduction to Consoles

MRRM is designed to be used by one person at one computer or by a team at multiple consoles using a shared database.

The Personal Edition of MRRM provides access to multiple console controls using a workflow metaphor. In Advanced User mode the Consoles menu is active. Through this menu you can access functions performed by any of the persons participating in railroad operations. In addition to the Dispatcher, arguably the central role, MRRM supports Freight Forwarders or Freight Agents, Railroad Back Office Staff, Yard Masters, Roundhouse Foremen or Power Desks, Conductors and Engineers. MRRM allows you to have multiple persons perform the same function within distinct trains or geographic regions across your railroad. For example, you can have as many concurrent Conductors active at any given point in time, each assigned to a different train number. Or as many Yard Masters as you have yards.



The text in Blue on the right side of each console or workflow tab page (e.g. Manifest Status) is actually a hot link into the program. Click the blue text and the associated tab page will open in another window for you to use.

Freight Forwarder

A Freight Forwarder arranges the movement of a Seller's Shipment from the Shipper's dock to the Consignee's dock. Freight Forwarders are like travel agents for goods. The goods may travel by rail from dock to dock or they may be moved initially and finally by truck with intermediate moves made by rail, air or sea. You can have as many Freight Forwarders, Shippers and Consignees as you want.

When a Buyer submits an Order to a Seller, the Seller creates a Shipment. The documentation required to move the shipment from shipper to consignee, is often prepared by the Freight Forwarder who contacts the various carriers to arrange transport. Carriers provide a Bill of Lading as a contract to move the goods between two points.

In MRRM we use a modified version of this process. For each pair of adjacent stops en route from Shipper to Consignee, the Freight Forwarder appends a route leg to the shipment document. Each route leg is used to generate a Waybill (or route hop) used by the carrier. Prototypically, a single Bill of Lading may involve multiple Waybills by rail, however.

A Freight Forwarder, as an Agent of the Buyer/Consignee Industry, can Order commodities from a Seller/Shipper Industry using the automated shipment features of the Buyer/Seller matching capability.

Alternately, the Shipment may be created manually. When creating the shipment, or modifying a shipment, emulate the dialog that the Freight Forwarder (travel agent!) would have with the carrier (your Railroad). As the physical routing a defined, enter the appropriate route legs.

When the shipment is completed, assign the Industry's rolling stock to the shipment or get the rolling stock assigned by the railroad and update the shipment. (Provide

for movement of empty to shipper's shipping dock as required.)

Begin the actual shipment process by creating a set of waybills corresponding to the set of shipment route legs.

The Freight Forwarder can view the Shipment Status screen to track the movement of each shipment initiated.

Railroad Back Office

The Railroad Back Office (RBO) team bids on and is awarded transportation contracts with Shippers, Consignees, or Freight Forwarders. The RBO sells a reservation for and assigns a Waybill number to each route leg of each shipment. The RBO manages general railroad planning and operations such as:

Defining the Train Classes

Establishing Regular and Extra trains

Defining Railroad Jobs

Assigning Train Crews

Assigning other Railroad Staff

Hiring Railroad Employees

Setting train Schedules

Establishing baseline stop to stop timelines and speed limits

Creating Waybills

Creating Manifests for Trains

Roundhouse Foreman

The Roundhouse Foreman is responsible for all Locomotives assigned to the Roundhouse. MRRM support as many Roundhouse Foremen as you have

distributed Roundhouses. For each Scheduled or Extra Train created by the Railroad Back Office, the appropriate Roundhouse Foreman

Reviews the Manifest to determine the maximum weight that the train will be pulling,

Reviews the maximum grade that the train will incur.

Possibly reviewing the track route for changes (for example, if a segment is out of service) which could affect the grade that the train will incur.

Reviews the weather to adjust the effective horsepower pulling capacity of a Consist

Determines the Horsepower required for the train and its operating conditions

Reviews the available locomotives to decide optimal selection for this train and other to be run soon.

Creates a Consist of one or more locomotives that meet the needed horsepower

Assigns a lead locomotive for the consist and assigns the consist to the train

Yard Master

The Yard Master is in charge of a railroad yard where cars are stored, received when full and to be delivered, received when emptied to be cleaned and/or reassigned, and stage in trains per the train manifest. MRRM allows you to have as many Yards and Yard Masters as you want.

With MRRM, a Yard Master can review the rolling stock currently in the yard

Review rolling stock en route to the yard from running or planned trains

For each Train, create a Switchlist consistent with the Manifest using rolling stock in the yard

Review the Consist assigned to each Train by the Roundhouse Master

Approve each Train's staging in the Yard including the Consist, the Rolling Stock assembled with the associated Switchlist, and optionally, the Caboose to be used with each Train.

Dispatcher

The Dispatcher is in charge of all Trains running or ready to run on a portion of your Railroad. MRRM allows you to have multiple Dispatchers.

Before permitting a Train to Run, the appropriate Dispatcher:

Reviews/Adjusts Train Manifest Status. Are all Waybills on the Manifest Ready2Roll? If a Waybill is not Ready2Roll, hold up start of train run or remove the Waybill from the Manifest

Reviews/Adjusts Waybill status if necessary. If a Waybill problem can be corrected thus allowing it to be Ready2Roll, the Dispatcher can make an informed change on this screen.

Reviews Rolling Stock status if necessary. If a Rolling Stock problem can be corrected, the Dispatcher can fix it now.

Review Siding space constraints. If there is not now or will not sufficient space for the setouts planned for a siding, the Dispatcher can hold up running of the train.

Review Stop space constraints. If there are two or more stops on a siding, is there enough space at the planned stop for a planned setout?

Approves Train movement to begin, stop, continue

If a Train is Ready2Roll and its scheduled start time is now, the Dispatcher should commence Train running. During its run, the Dispatcher will ascertain the trains' progress from stop to stop in a number of ways. Forced stops could be initiated. Continuation permissions could be granted.

Tracks movements of all Trains in the Division/Region. Using the main train manifest screen, the Dispatcher can track the movement of all trains under his authority.

Issue Train Orders as required. If problems occur, the Dispatcher can issue Train Orders to a Train's Conductor and Engineer at any time.

Conductor

A Conductor is in charge of each Train. MRRM supports multiple Conductors, each Conductor may be assigned, by the Railroad Back Office, to one or more non-concurrent Trains. The Conductor:

Reviews the Manifest for the Train. See what cars are on the train at the start and are setout and picked up at each train stop

Reviews the Caboose assigned to the Train, if any

Reviews the Consist assigned to the Train. See what locomotive is leading this train. See what slave locomotive, if any are assigned

Coordinates Train movements with the Dispatcher. As the train executes its assignment, the Conductor informs the Dispatcher of the progress.

Receives Train Orders from the Dispatcher

Manages all Pickups and Setouts at each Stop. Directs turnout changes, car movements and track usage at stop.

Engineer

An Engineer drives a Train. The Engineer reports to the Conductor who is responsible for all train activity. Each Engineer may be assigned to one or more non_concurrent Trains. MRRM allows you to have more than one Engineer each one running a Train at the same time.

Before starting work, each Engineer should check their Train assignment.

The Engineer manages the Consist of one or more locomotives and reviews its performance characteristics (DCC tables)

The Engineer receives copies of all Train Orders issued by the Dispatcher.

The Engineer operates the Train (DCC Controller)

MRRM_Workflows

Workflow Introduction

Workflows provide activity templates to guide your use of Model RailRoad Manager until you become comfortable with it. The Initial load workflow guide (see Workflows under the Help menu) provides a step by step approach to initialize your copy of the Model RailRoad Manager. The Inventory workflow not only helps you to set up MRRM for your railroad, it introduces you to many of the techniques used throughout MRRM. We have provided workflow assistants for

- ?? Total Layout Inventory
- ?? Simple Car Cards and Waybills,
- ?? Switchlists Quickly or Prototypically
- ?? Industry Activity
- ?? Train Planning
- ?? Train Workloads and Timetables

Inventory Setup

The program comprises several windows each with several tabpages. A Tabpage provide the lists and forms (or templates) used to add, change or delete information used

The typical sequence of initializing the data for this program is provided on this workflow tabpage.

The sequence is:

AAR Reporting Marks - the program's database comes preinstalled with a large number of Association of American Railroads (AAR) Reporting Marks. However, it is possible that one or more that you require are not preloaded. Also, non U.S. countries have comparable but often different coding schemes for reporting marks and will have to be added. It is suggested that you review your locomotives and other rolling stock to see if you need to add reporting marks. Click the link on the right to open the AAR Reporting Marks tabpage.

AAR Codes are provided for most types of U.S. freight and passenger car. Please review against your requirements to determine whether additions are required. Click the tabpage link to go to the AAR Code edit screen.

Rolling Stock is entered next. Rolling Stock comprises freight cars, passenger cars, locomotives, cabooses, and other railroad rolling equipment. Oftentimes this is where you begin to enter information about your railroad. A group of data fields are used for 'Operations' purposes only and should be ignored during the initial loading process. *If you are not interested in managing other inventory items or operations, no more information is required!*

Divisions that comprise your railroad or that your railroad directly interchanges with should be defined.

Cities and Towns in each Division are defined.

Sidings are track segments that make up your railroad. They may be blocks of main or branch lines, industrial sidings, interchanges, or other track segments. For each siding indicate the City or Town closest to the Siding.

Define the Industries that operate on your Railroad. They may be Industries that reside on your railroad or that visit customers on your railroad or are just passing through your railroad from one interchange to another.

Buildings are the physical structures scattered throughout your railroad. A Building may be associated with an Industry. A Building may be adjacent to one or more Stops. Industries may have one or more Buildings.

Stops are point along a Siding where a train would stop to pickup or setout goods or passengers. Multiple Stops may be associated with a Siding. For example, and industrial park siding may have many stops.

Interchanges are connection points between two or more railroads.

Intermodal stops are points where commodities are transferred between two different modes of transportation such as rail/sea, rail/air or rail/trucking. Effectively interchanges where the mode of transportation changes.

Miscellaneous entries are for any other components comprising your railroad such as cars, trucks, airplanes, ships, and other modelled items or wiring, platform, lighting and other infrastructure items.

Turnouts are added when computer control features are used.

Simple Car Cards and Waybills

To simply use the Car Card and Waybill feature of this software, selectively enter the following information in the following recommended sequence.

Input your inventory of rolling stock. Only eleven data elements per car are required: the first eight plus home yard, current stop and next stop. Ignore the other railroad (such as tracks and turnouts) and non-railroad inventory data (such as Buildings)

Review the provided Commodities and default AAR car codes. If they do not meet your needs (they should be sufficient for most Users), add or modify the choices available to meet your industry needs. Only two data elements are required: Lading ID and AAR Choice 1.

Optionally, define your Divisions for ancillary report purposes if you want. It won't hurt anything if you do not include Divisions.

Cities and Towns are also optional.

Sidings are optional for Car Card and Waybill usage also.

Enter the Stops you want to include on any of your Waybills. Only one element of information is required: Stop ID. Ignore the Division, City/Town and Siding entries if you want to. No harm will occur if you leave them as blanks.

Enter the Shippers and Consignees for optimal Waybill completeness. No harm will occur if you choose not to name your Industry Shippers and Consignees

Optionally you can create Shipments and generate your Waybills from the Shipment Route. This is the prototypical way to generate Waybills but it is not mandatory.

Generate the Waybills manually or automatically via Shipment routes

Switchlists - Quickly or Prototypically

A Switchlist is a list of car pickups and setouts for a train to perform. The Switchlist may involve activity at a single location, such as a Yard or at each stop on a Train's schedule.

There are four methods to create a Switchlist in Model RailRoad Manager - from prototypical to just have some fun without a lot of preparations.

- 1. based on manifests
- 2. based on waybills not necessarily assigned to a manifest
- 3. based on cars with preassigned current and next stops; not necessarily assigned to a waybill
- 4. based on you choices of cars, stops, load

A minimum of eleven (11) data elements must be entered for each piece of Rolling Stock that you want to use with either method 3 or 4. These are the eleven data elements needed for using car cards and waybills.

Stops need to be defiend. However, only the actual Stop ID is required. The other Stop information is not needed. Division, City/Town, Siding, Interchanges, Intermodal Stops, and Trackage are NOT REQUIRED.

To use method 3, waybills are needed. But, only seven (7) data elements must be entered for each Waybill that you want to use. The 14 other Waybill data elements are nice but not required to create effective Switchlists.

To use method 4, the waybills required for method 3 are assigned to manifests that are assigned to the switchlist.

Trains and Consists are nice but not necessary to have MRRM build the switchlists for you.

Currently, there are two Switchlist formats:

- ?? Empties First
- ?? Pickups before Setouts

Industry Activity

If you intend to Operate your Railroad, and want prototypical operation not simple Car Card and Waybill type operation, you should define your industries and generate shipments between them.

First, define the Industries that Buy (Consignees) and the Industries that Sell (Shippers) - or both buy and sell.

Next review the Commodities (lading) predefined in the program. Add new ones or modify the current ones to suit your specific industry needs and your rolling stock that can carry the commodities..

For each of your Industries, define the commodities that they buy and sell.

When a Buyer orders the a Commodity from an appropriate Seller, create Shipments from Shippers to Consignees

If you have a lot of Industries, each of which buys and sell lots of commodities, use can use the automated buyer/seller matching feature.

Train Planning

Before Operations commence, you need to define a train service plan. This plan identifies the various trains that you will run.

The first step is to define your train classes and their respective train number ranges

Assign one or more locomotive to a Consist which be used to power your train. The lead loco and each slave loco should be identified.

For each train that you want to operate, assign it a train number from its appropriate train class

For each horsepower any locomotive generates, define the number of pounds that can be pulled on a level grade, 1%, 2%, 3%, 4%, and 5% grade. You can use the default values for various conditions or modify them to meet your preferences.

Many standard railroad job title come predefined in the program. Modify this list to meet your preferences.

For each train you will run, assign a crew of railroad jobs.

Assign Dispatchers, Yard Masters, Roundhouse Foremen, Freight Forwarders, and Railroad Back Office positions to manage your Railroad assets.

Before you begin operations, be sure to assign a real person, we call them Actors, to each railroad crew job. An Actor can often perform more than one job on a train.

Next create the schedule that you will assign to a train. A schedule is a sequence of stops in the order that you want the train to proceed. The distance and speed between stops is up to you and your railroad preferences and actual dimensions.

To establish the speed and distance information between adjacent stops, create records in the stop to stop baseline. The StopClock program found in the Help menu can assist you in establishing preferred speed limits between stops.

Train Workloads and Timetables

Now that you have established your industries and their business relationships as wellas your train service plan, you can generate the traffic that will drive your railroad.

Finalize the Train Schedule by defining a start time to a schedule that you assign to a train.

Create Waybills that will move empties to shipper industries, loaded cars from shippers to consignees, possibly through intermediate stops known as interchanges or intermodal stops, and empties from consignee industries to home yards or other stops. Waybills can be generated automatically from shipments or can be created manually.

For each train that you want to run, create a manifest. Assign one or more waybills to each manifest. The waybills should be chosen consistent with the stops you plan for each train.

Create a switchlist using the manifest and the train stop sequence.

Maintenance Workflow

Model RailRoad Manager (MRRM) supports Maintenance item tracking and Preventative Maintenance scheduling.

Preventative Maintenance (PM) scheduling can be driven by calendar time or by item usage. For all items you can set a default number of days between maintenance and/or a number of times the item is used between maintenance. Those items demanding more atention can have their own time or usages between maintenance. If you are using MRRM for Inventory and Maintenance purposes but not Operations, calendar based PM is a good strategy. Whenever you use a piece of rolling stock on a waybill and complete the waybill, the usage count is incremented. Whenever a locomotive and any slaves on a consist are used on a train manifest and the manifest is completed, the locomotive usage is incremented. PM is indicated by **Yes** in the 'Due for Service' column.

MRRM organizes maintenance tracking into eight types: rolling stock, buldings, line or track segments, turnouts, indicators, sensors, signals and miscellaneous.

When you have an item requiring maintenance, you create a ticket. Every time you create or update a ticket, a log entry is made.

When you review the maintenance log, the due date, date out and status fields are flagged in red.

MRRM_Utilities

Input/Output

This chapter guides you through database data inputs and outputs through 'flat files'. A flat file is simply a text file where each database record is placed on a single line and columns of that record are separated by tabs. These files can be created or edited with a spreadsheet program like Microsoft Excel or even the Microsoft Notepad program that comes with Windows.

18	Applicatio	n Data Input and Output				
Fla	at File 1/0					
	Data Tal	bles Supported Select All Tables Modify Choices	List << 2 >>> X A D S Ibl Erm	<u>R</u> fs	Data In Input Path	Data Out Output Path
	Table Id	Table Name	Text File Name			
	17	lading	lading.txt			
	18	layout	layout.txt			
	19	layout_misc	layout_misc.txt			
	20	maintenance	maintenance.txt			
		· ·				

Each of the rows in the list refers to a single table in the database. For example Waybills refers to all of the waybills that you have in your database at this time.

Each table can be written out to a text file with tabs between columns. This file will be stored in the current directory where the MRRM program is installed unless redefined by using the button labeled 'Output Path' at the top of the tabpage.

Similarly, if you want to over-write the contents of one of the tables in your database, you can read in a text file names in the selected row from the directory where MRRM is installed; or, from the directory specified using the Input Path button at the top of the tabpage.

Data Output

Select the row containing the table you want to write to the text file. Click the 'Data Out' button. Archive this file somewhere safely. If you wany to use, say MS Excel, to add your information to this baseline or parts thereof, copy the text file that was output and read it into Excel then massage it as you desire. Save it with the SAME TEXT FILE NAME as that created by MRRM before you try to input the new data into MRRM.

Data Input

Select the row containing the table you want to over-write from the text file. Click the 'data In' button.

The current data will be ERASED. Then the new data will be imported into the table. So be careful to backup (via Data Out button and archiving the file safely somewhere before using the Data In button!)

Update Data Table Support

From time to time, MRRM may add new tables to the database. When we do, you will receive instructions for moving your data from the old database format to the new database format or provide a utility program to do it for you. The Input/Output Utility will need to 'update data table support' when such tables are added. If the database change requires such an update, we will provide a special text file which you use the 'Modify Choices List' button to complete. In general do not click this button nor the Delete button in the upper right unless asked to do so.

Utilities

Utilities are accessed through a list under the 'Help' menu item.

<u>H</u>elp

<u>H</u>elp Topics <u>A</u>bout Model RailRoad Manager

MTS Associates Home Page Bun Fastclock Run Stopclock Workflow Diagrams

Help Topics: MRRM	×
Contents Index Find	
 1 Type the first few letters of the word you're looking for. 2 Click the index entry you want, and then click Display. Administration Build Services Digital Command Control Industry Input/Output Inventory Maintenance Navigation Operate Services Overview of MRBM Run FastClock Summary of Chapters Text Conventions Train Service Plan Utilities Visit Model RailRoad Manager Home Page on Internet 	
	_
Display Print Cancel	

Run FastClock

If you or your crew are working on your railroad to a 'Schedule', a FastClock helps you to overcome derailment time and other delays by letting you play with time as clocked to your model world. Select his item from the Help menu to start up the MRRM-FastClock.

Model RailRoad Manager FastClock	
MRRM Fa	estClock
16: 2	9:36
Brought to You by: To	m Stack Hobby Shop
FastClock Factor: 6 🚔 Start Clock	email: tomstack@superpa.net
Pause	Clock

Run StopClock

The MRRM StopClock allows you to calibrate the MPH of any of your trains passing between two selected points on your railroad - like a radar trap! Select his item from the Help menu to start up the MRRM-StopClock.

<mark>%</mark> Model RailRoad Mana	ger StopClock	
	MRRM StopClack	Copyright 2002
nn	-12	1
Brought t	o You by: Tom Stack Hobby	v Shop
email	: tomstack@superpa.net	•
Scale Factor: 160.0 M	easured Run (ft) 🚺 🚔 Fas	tclock Factor 🛛 🚔
Smiles:0.12	Computed Scale M	PFH: 144.3
Start Timer	Computed Scale	MPH: 36.1
	Stop Timer	

Visit Model RailRoad Manager Home Page on Internet

Select this item under the Help menu to connect to the MRRM home page if you have an Internet connection.

This version of MRRM contains two utility programs to help you to have more fun while operating your railroad: MRRM FastClock and MRRM StopClock.

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