Our Next Generation of Operations   *by R.G. Blocks*

I've personally enjoyed each of the methods employed by the TR-C&NW for dispatching and running our rail operations. We've gone thru a series of phases each lasting a year or more. Each phase of our operations has involved more detail and paper. I cannot say that all participants have shared enjoyment. Learning by doing is always an adventure. We've thus begun anew. We are into a new phase. This is how we are getting started with JMRI.

Neither or kids, grandkids or railroad knowledgeable adults are crazy about lots of forms to shuffle. I was never pleased about the time it takes to organize an operating affair. This, we hope is a better way.

Sunlight comes after the dark cloud passes. My wife's open-heart surgery caused a four-month detour to our family plans and hobby activity. I'd finished the required hours of experience but not all paperwork for Chief Dispatcher AP and would not have much time to work on the TR-C&NW or AP paperwork during late winter.

We'd be near Milwaukee doctors and quite nicely close to Rolf Plachter (Midwest Lines RR) where I'd operated with Scott Brochhausen, Burnell Breaker (Belle City Division of Lionel Lines), Phil Bayuk (Oz Lines) and Don Strike's (Great Northern). It seemed that seven out of eight layouts that operate regularly in SE WI had converted to JMRI, an Open Source form of computer software. I became hooked.

I'm going to describe what it took to go from zero knowledge of JMRI to operations that should work for you as well. The cost will be in your time and effort as opposed to dollars. In a couple of years we'll know whether I'm giving you a good steer.

Your computer needs a complete Java Suite of current vintage. If not then get one. Then, download *JMRI PanelPro* software.   JMRI instructions provide for a complete animation panel or signaling system. There do not seem to be instructions for a middle ground. I stayed simple with the help of Scott and Phil (see above) who are believers and have helped others in SE WI get setup. We will not cover creation of an animated panel or signaling: perhaps some other time. I would like to thank both of these gentlemen for their considerable knowledge and help.

We will not use the Layout Editor in our approach. We're going to create an open loop system. JMRI software will create your trains, pickups, drops and prepare all the operations paperwork. It is not tied to your layout.   There is nothing to break. There is nothing to wire.   If you actually stop operating before the planned work is complete then simply move the train software to where it is on the layout and the next time you operate: start there. We're out to capture the cream of dispatch without all the bells and whistles.

Make a very simple sketch of your layout from one end to the other. A starting location and a finish location and a few locations in between are all that's needed. If you have more than a couple of handfuls of locations you've become too complex. We ended with six locations. A simple one-line schematic on scratch paper suffices.

We need sidings where cars come from and go to. These are spurs. Avoid including passing tracks as places to put cars. I had some 'do-over's' in this regard. Our layout boiled down to sixteen sidings where we have client businesses. Each client location is shown as one (44 ft) or two cars (88 ft) in length for a typical business on that siding. I made note of what kind of car was appropriate at that location. Some sidings were defined so several cars types could be placed there. In total I came up with 5544 feet of sidings by measure. They held 117 forty ft cars when absolutely full. I was told that I should populate my railroad with about 50% of the siding capacity or no more than say 58 cars.

Click on the *pull down* called **Operations** and choose the menu called **Settings**. There, enter your *layout name*, a *direction*, a *gauge,* and a *maximum train length* (forty foot cars are 44 feet with couplers). I chose one loco per train (a starting point) and 6 minutes for a switch. Car types would be descriptive (for visitors benefit) and my unit of measure would be feet (scale feet not real ones). Check the box called *Add Operations to Menu to Main Menu* and *go no further* (below that line starts Panel Options which you can do if desired later).

Below is a copy of our **Settings.** Simple? Sure. Do it now and computer step one is done. No big deal.

Our layout starts at NewJamestown the west end of the line, then goes to NewThomasDivn, NewOutaSiteDivn, NewMtLauraDivn, NewMtAnnaDivn and finally to NewMtLauraTerm the east end of the line. Six *locations*, not the fifty I'd started

with (giving them names like ThomasDivn). Our **Locations** have the superfluous prefix 'New' to avoid duplication when I simplified. Locations need unique names.

Backup your work frequently. It is one of the options. Next time we edit our **Locations** we will change the names to eliminate the prefix 'New'. Simplify.

Id	Name	Length	Used	Rolling Stock	Pick ups	Set outs	
129	NewJamestown	0	0	0	0	0	Edit
132	NewMtAnnaDivn	2536	548	12	0	0	Edit
131	NewMtLauraDivn	1488	440	10	0	0	Edit
133	NewMtLauraTerm	0	0	0	0	0	Edit
130	NewOutaSiteDivn	660	196	4	0	0	Edit
128	NewThomasDivn	1702	612	13	0	0	Edit

Select applicable cars types from the list. Put cabooses on a spur near where you are making up trains. We recommend you eliminate or disallow (uncheck) cabooses, passenger, baggage and engines from all but one or two locations. It simplifies.

Edit Location

Name: NewOutaSiteDivn

This location is serviced by trains traveling ☑ East ☑ West

Select the rolling stock serviced by this location

☑ Baggage	☑ Boxcar	☑ Caboose	☑ Coal	☑ Coilcar	☑ Flat	☑ Flat Timber
☑ FlatBH	☑ FlatBHPp	☑ FlatBHWd	☑ FlatTimb	☑ FlatTrail	☑ FlatWood	☑ Flatcar
☑ Gon-pipe	☑ Gon-scrap	☑ Gondola	☑ HopChem	☑ HopCmnt	☑ HopCoal	☑ HopCoal-E
☑ HopGrain	☑ HopSand	☑ Hopper	☑ MOW	☑ MOWBox	☑ Passenger	☑ Reefer
☑ Reefer Milk	☑ Reefer,Meat	☑ ReeferIce	☑ Stock	☑ Tank Chem	☑ Tank Corn Sy	☑ Tank Food

Operations at this location

◉ Spurs ○ Yards ○ Interchange ○ Staging only

Id	Spur Name	Length	Used	Reserved	Cars	Locos	Pick ups	Set outs	
130...	S112-NewT&OIC	336	88	0	2	0	0	0	Edit
130...	S113-NewSzopa1	44	44	0	1	0	0	0	Edit
130...	S113-NewSzopa2	88	64	0	1	0	0	0	Edit
130...	S114-NewSvcHouse	96	0	0	0	0	0	0	Edit
130...	S115-NewRIP	96	0	0	0	0	0	0	Edit

Within NewOutaSiteDivn we have a transfer operation to a sister railroad. So one siding (S112) acts as the T&O Railroad Interchange. I've shown that we allow all types of cars. We have *spurs* for each business or interchange at a location. The software requires that you Add the *spur* by giving it a unique name then edit the content (car types) and Save it. Simple you bet.

Edit Spur Track

Name: S112-NewT&OIC
Length: 336
This spur is serviced by trains traveling ☑ East ☑ West

Select the rolling stock serviced by this spur

☐ Baggage ☑ Boxcar ☐ Caboose ☑ Coal ☑ Coilcar ☑ Flat ☑ Flat Timber
☑ FlatBH ☑ FlatBHPp ☑ FlatBHWd ☑ FlatTimb ☐ FlatTrail ☑ FlatWood ☑ Flatcar
☑ Gon-pipe ☑ Gon-scrap ☑ Gondola ☑ HopChem ☐ HopCmnt ☐ HopCoal ☐ HopCoal-E
☑ HopGrain ☑ HopSand ☑ Hopper ☑ MOW ☐ MOWBox ☐ Passenger ☑ Reefer
☑ Reefer Milk ☑ Reefer,Meat ☑ ReeferIce ☑ Stock ☐ Tank Chem ☐ Tank Corn Sy ☐ Tank Food
☑ TankGas ☑ TankKero ☑ TankOil ☐ TankVeg ☐ Diesel ☐ Steam

(Clear all)   (Select all)

Select the roads serviced by this track
⦿ Accept all ◯ Accept only ◯ Exclude

Select loads serviced by this track
⦿ Accept all ◯ Accept only ◯ Exclude

Select trains or routes for car set outs
⦿ Any ◯ Trains ◯ Routes

Select trains or routes for car pick ups
⦿ Any ◯ Trains ◯ Routes

Next we provide some cars. I've currently defined 39 of them as you see on the **Cars** tableau below. To add a car click Add and a tableau comes up. Give that car a unique number, color, and place it where you want to start out with that particular car. It can be a yard, or spur, or stage track. Mine are currently where indicated on the cars tableau. Any number of our cars have moved while others have not. The computer software decided each move.
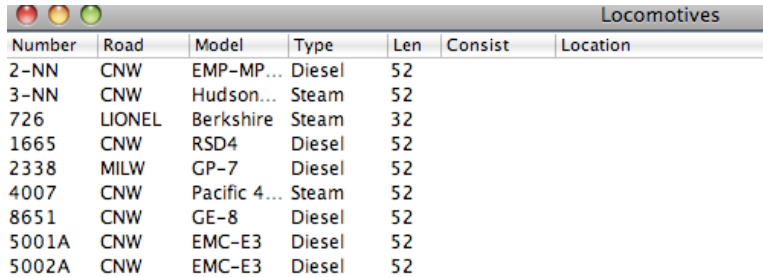

Cars

Number	Road	Type	Len	Color	Kernel	Location	Destination	Train	Moves
6415-3	SUNX	TankOil	40	Silver		NewMtAnnaDivn (S310-NewMtBesseyWnse)			2
6415-4	SUNX	TankOil	40	Silver		NewMtAnnaDivn (PS32-NewBarbBlast)			2
6456-1	LV	HopCoal-E	40	Black		NewMtLauraDivn (PS212-NewMtBesseyMine)			1
6456-2	LV	HopCoal-E	40	Black		NewMtLauraDivn (S210-NewNorwoodFrt)			1
6462	NYC	Gondola	40	Black		NewMtAnnaDivn (S313-NewIvanIC)			0
6476-1	LV	HopCoal-E	40	Black		NewMtAnnaDivn (S312-NewIvanCoal)			0
6476-2	LV	HopCoal-E	40	Black		NewMtLauraDivn (S210-NewNorwoodFrt)			1
9016	B&O	HopCoal-E	40	Yellow		NewMtAnnaDivn (PS25-NewMtAnnaPwrPlt)			1
9036	SOVX	TankOil	40	White		NewMtAnnaDivn (S313-NewIvanIC)			0
9131	D&RGW	Gondola	40	Orange		NewOutaSiteDivn (S112-NewT&OIC)			1
9142	RPX	Gondola	40	Green		NewThomasDivn (NewThomYard)			1
9415	CNW	Baggage	60	Brown		NewOutaSiteDivn (S113-NewSzopa2)			1
12561	CNW	Flatcar (C)	40	Yellow		NewMtAnnaDivn (S313-NewIvanIC)			0
16482	NS	HopCoal-E	40	Black		NewMtLauraDivn (PS25-NewMtAnnaPwrPlt)			0
18936	D&RGW	Hopper	40	Black		NewMtLauraDivn (PS25-NewMtAnnaMine)			0
25000-1	CNW	HopCoal-E	40	Yellow		NewMtAnnaDivn (PS25-NewMtAnnaMine)			1
25000-1	LV	HopCoal-E	40	Black		NewMtAnnaDivn (RS36-NewAshDump)			1
25000-2	LV	HopCoal-E	40	Black		NewMtAnnaDivn (S312-NewIvanCoal)			1
26380	NYC	Stock	40	Brown		NewMtLauraDivn (S210-NewArchieFood)			0
41980	CNW	HopCoal-E	40	Yellow		NewMtLauraDivn (PS25-NewMtAnnaMine)			0
61100	PRR	Boxcar	40	Red		NewThomasDivn (NewThomYard)			1
65400	PRR	Boxcar	40	Red		NewOutaSiteDivn (S113-NewSzopa1)			1
81000	ERIE	Boxcar	40	Red		NewThomasDivn (PS03-NewThomasvilleIC)			1
86999-1	DLW	HopCoal	40	Black		NewMtAnnaDivn (S313-NewIvanIC)			1
86999-2	DLW	HopCoal	40	Black		NewThomasDivn (PS03-NewThomasvilleIC)			1
513590	CNW	HopCoal	40	Yellow		NewMtLauraDivn (PS25-NewMtAnnaMine)			0
626379	PRR	Gondola	40	Brown		NewThomasDivn (S011-NewJamestown)			1

Sort by ⦿ Number ◯ Road ◯ Type ◯ Color ◯ Load ◯ Kernel ◯ Location ◯ Destination ◯ FD ◯ RWE ◯ Train ◯ Moves ◯ Built
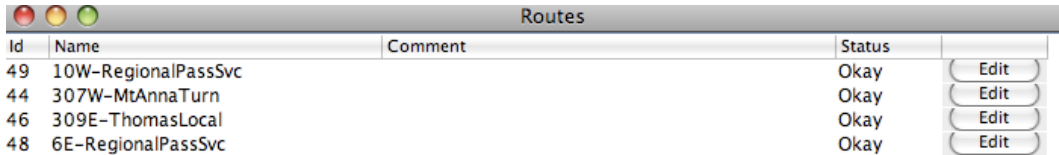
39 cars   (Add)   (Save)   (Find)

4

Forget specifying **Locomotives.** Simply do not require engines in your use of this software. By so doing we can spot have engines anywhere to help our road engines at various yards. I did specify mine (as shown next); however, they don't move since no *location* was specified. If you feel compelled (like I did) you can add Locomotives later. I wasted time both here and at locations.

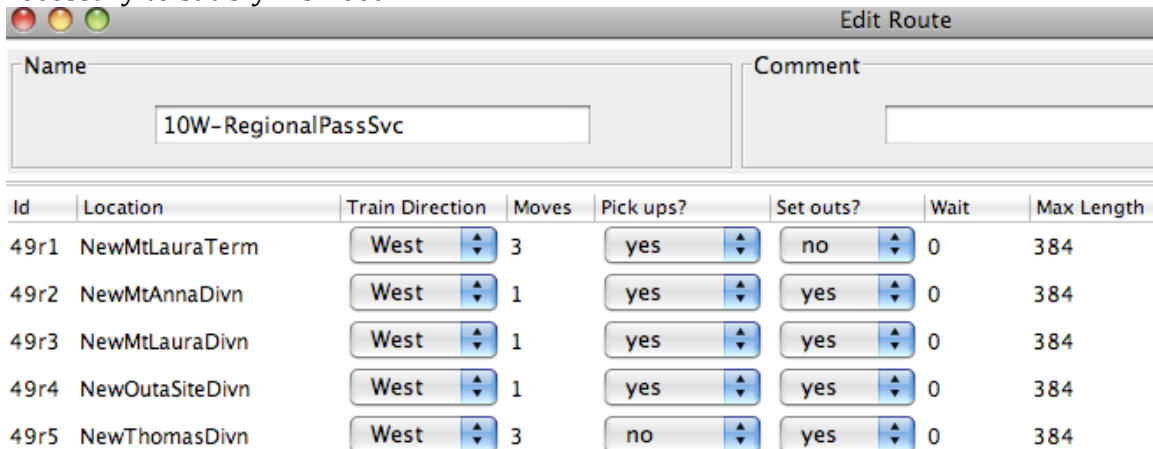| Number	Road	Model	Type	Len	Consist	Location
2-NN	CNW	EMP-MP...	Diesel	52		
3-NN	CNW	Hudson...	Steam	52		
726	LIONEL	Berkshire	Steam	32		
1665	CNW	RSD4	Diesel	52		
2338	MILW	GP-7	Diesel	52		
4007	CNW	Pacific 4...	Steam	52		
8651	CNW	GE-8	Diesel	52		
5001A	CNW	EMC-E3	Diesel	52		
5002A	CNW	EMC-E3	Diesel	52		

Below next, we created four **Routes** to serve as our initial trial routes. They are analogous to routes we had created for our pre JMRI car cards.

It seemed prudent to start with a few *routes* and see how they worked before adding many routes and potential complexity. I'd already both wasted time and screwed up my location names. We need not waste more time.

Routes

Id	Name	Comment	Status	
49	10W-RegionalPassSvc		Okay	Edit
44	307W-MtAnnaTurn		Okay	Edit
46	309E-ThomasLocal		Okay	Edit
48	6E-RegionalPassSvc		Okay	Edit

Below, enter the location and state the maximum number of cars to pickup or drop off at each point. The program will pick the particular industry or siding. It's all that simple. The system keeps track of the available client locations and types of cars necessary to satisfy his need.

Edit Route

Name: 10W-RegionalPassSvc

Comment:

Id	Location	Train Direction	Moves	Pick ups?	Set outs?	Wait	Max Length
49r1	NewMtLauraTerm	West	3	yes	no	0	384
49r2	NewMtAnnaDivn	West	1	yes	yes	0	384
49r3	NewMtLauraDivn	West	1	yes	yes	0	384
49r4	NewOutaSiteDivn	West	1	yes	yes	0	384
49r5	NewThomasDivn	West	3	no	yes	0	384

The last screen to be worked on (by you) is called **Trains.** We build a train and can click on *Move* and advance the train to each of the *Locations.* Hence, by simply clicking on Move the train moves along the route as specified and *Built.* At each location JMRI schedules your engineer / conductor to do some work. For that purpose it creates a **Switch List.**

Above is the **Trains** tableau. Each line represents a particular train. I did not attempt to hold my trains to a schedule at this time; hence, in the future I'll add that feature.

The output of a work schedule for train 301, the second train on the above Tableau is shown below as a **Switch List.** The engineer / conductor should check the line when done with the task as specified.

Scheduled work for train (301 Mount Anna Turn West) West Bound Patrol
Departs NewMtAnnaDivn at 00:00 expected arrival 00:18, arrives Westbound
[ ] Set out LV 6476 HopCoal 40' Black E<mpty> to S115-NewRIP

Visit number 2 for train (301 Mount Anna Turn West) expected arrival 01:00, arrives Westbound
[ ] Pick up LIONEL 2461 Flatcar 40' Gray L<oad> from S112-NewT&OIC
[ ] Pick up D&RGW 9131 Gondola 40' Orange L<oad> from S112-NewT&OIC

Scheduled work for train (6E-RegionalPassSvc)
Departs NewThomasDivn at 00:00 expected arrival 00:06, arrives Eastbound
[ ] Set out CNW 3200 Passenger 60' Brown to S114-NewSvcHouse
No car pick ups for this train at this location

The same train, 301 run again produces another completely different **Switch List.** Note that the following is an entirely different **Switch list**.

Scheduled work for train (301 Mount Anna Turn West) West Bound Patrol
Departs NewMtAnnaDivn Westbound at 00:00
[ ] Pick up SOVX 9036 TankOil 40' White E<mpty> from S313-NewIvanIC
[ ] Pick up LV 6476 HopCoal 40' Black E<mpty> from S312-NewIvanCoal
[ ] Pick up DLW 86999 HopCoal 40' Black L<oad> from S313-NewIvanIC
[ ] Pick up LV 25000 HopCoal 40' Black L<oad> from S312-NewIvanCoal
[ ] Pick up LV 25000 HopCoal 40' Black L<oad> from RS36-NewAshDump
[ ] Pick up NYC 6462 Gondola 40' Black E<mpty> from S313-NewIvanIC

Visit number 2 for train (301 Mount Anna Turn West) expected arrival 01:42, terminates NewMtAnnaDivn
[ ] Set out LIONEL 2461 Flatcar 40' Gray L<oad> to PS32-NewBarbBlast
[ ] Set out D&RGW 9131 Gondola 40' Orange L<oad> to PS32-NewHerzorMine
[ ] Set out CNW 513590 HopCoal 40' Yellow E<mpty> to S312-NewIvanCoal

Scheduled work for train (6E-RegionalPassSvc)
Departs NewThomasDivn at 00:00 expected arrival 00:24, arrives Eastbound
[ ] Set out CNW 3201 Passenger 60' Brown to S311-NewIvanTerminal
No car pick ups for this train at this location

The foregoing represents where we are headed. Thanks for your kind understanding. Why do I always see the same hands with questions?