

From Car Cards to OperationsPro Manifests

Overview

For Western Heritage Division NMRA - February 6

This presentation

Not a Button Pushing Tutorial - Overview of the “moving parts”

Will it work for my layout ? Proof of concept

Advice for your own exploration -

- OpsPro is big and messy. Don't expect perfection on the first try.

- Making it work is an iterative process. Start simple. Get something working.

- Apply changes, fine tune.

I'm not going to present a tutorial on the details filling out screens or pushing buttons. All of that is in the “Resources.”

This is an Overview of how the basic pieces interact, and how they apply to getting started on my little layout.

OpsPro is big and messy. Lots of moving parts. Changing one thing will change other things. Don't expect perfection on the first try.

Making it work is an iterative process. Start simple. Get something working. Apply changes to fine tune.

Here's how I got started - it's not perfect. For the most part, it works. There is a lot of fine tuning to be done, but that will be part of the fun.

Resources

Watch *Introduction to JMRI Ops for a Small Layout* by Robert J. Thomas - on NMRA ORG YouTube channel, "NMRAX Virtual Model Railroad Convention Part 2" <<https://youtu.be/tfoPC4bgbu0>> 45 minutes

Watch Steve Todd's presentation on *YouTube JMRI Operations with No Paper* - One of the best, basic, getting started videos I have seen. <<https://youtu.be/krhyvrhrxv4>> 15-30 minutes

Read David Haynes' "worked example". Examples of car movements and build reports. <<https://rcairgallery.com/stuff/Using-JMRI-Operations-A-Worked-Example.pdf>>

Read Brian Clark's article "Using JMRI Operations" in the October 2020 Dispatcher's office. Yes, you'll need to be an OpSig member. If you're not, go to <[Opsig.org](https://www.opsig.org)> and join. It's only \$10/year for the electronic membership and you'll have access to the entire library of the Dispatcher's office. If \$10 is too much, you should switch to collecting bottle caps.

Read the info at JMRI.ORG - Operations Pro. Don't worry if you're confused. It's reference material, not a great tutorial. <<https://www.jmri.org/help/en/package/jmri/jmrit/operations/Operations.shtml>>

Links to the August 30, 2020 video and PDF describing my operations on my switching layout can be found on the OpSig.org "past meetups" page. <<https://www.opsig.org/Virtual/Past>>

Here's how I would go about it -

Watch Robert Thomas' and Steve Todd's YouTube presentations, this will give you a feel for how the major pieces go together. The "without paper" part is interesting, but keep in mind you can print a paper switch list if you would like.

Then read through David Hayne's worked example. This will give you another view of how you can make the parts work. Don't worry about the detailed analysis of Build Reports unless you find that interesting.

If you are an Opsig member, look for Brian Clark's article. It's well done and adds more detail to the two previous recommendations.

Finally, read the OpsPro docs at JMRI.ORG. This is the reference documentation that you will return to many times.

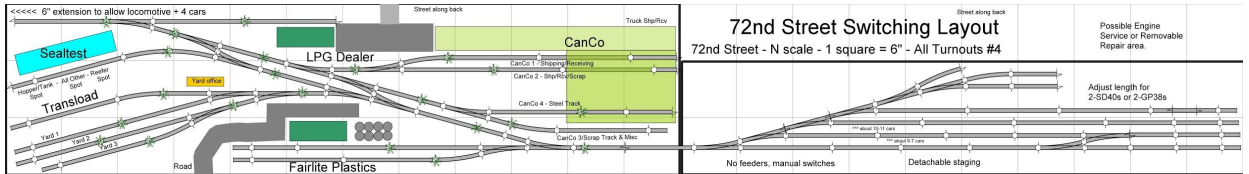
How does my layout work with Car Cards?

You have to start somewhere - here's a bit of context

Based on Union Pacific "Seymour" - 72nd & F

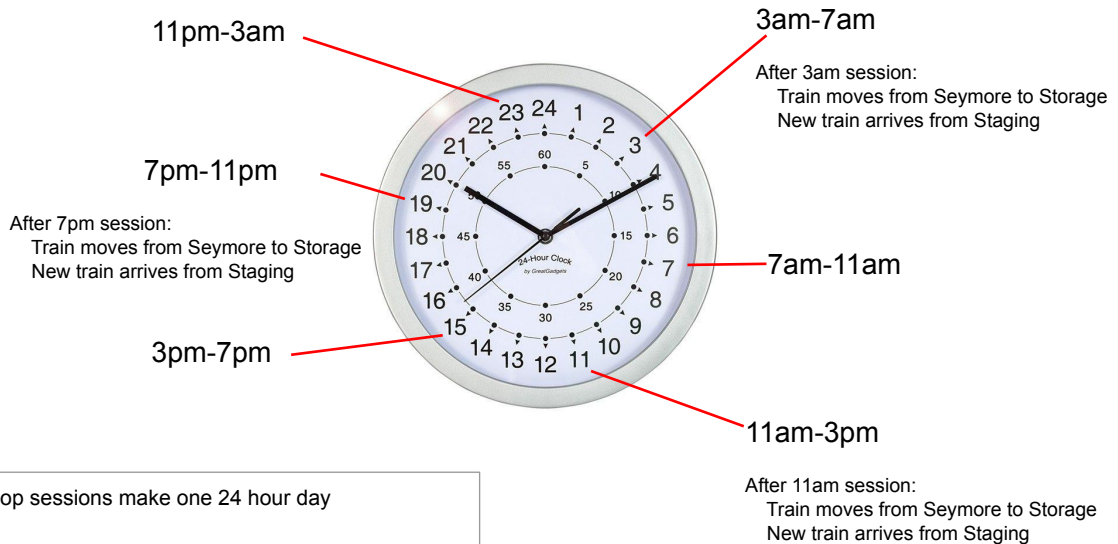
Geography and Sizes modified to fit a shelf.

Industries "inspired" by prototype.



Layout is loosely based on an industrial area around 72nd and F. Parallel to UP main & Interstate 80. Three dense areas at 72nd, 96th 132nd streets.

Each Op Session is 4 “Fast” Hours



Each operating session lasts about an hour. I usually run a session once every day.

The local switcher runs in each of the six sessions. Every other session Cars in the yard are returned to Storage, A new train move from staging to the yard.

My use of the term “staging” is to broad here. As we go forward I’ll limit “Staging” to the filling of the drawers. I need another term to describe moving from the staging drawer to the physical Seymore Yard track. In OpsPro it will be a route and train.

Restaging simulates the crew trips to the Omaha 24st. Yard (now gone.) Cars weren’t blocked in the yard. That was done at the local yard. Crews were often held up at yard, waiting for permission to get on the UP main. Omaha Plant - switched 2x per shift : Chicago Plant - 3x per shift

Car Cards and SpreadSheet

Spreadsheet determines number of Car Cards to pull for the op session

Three trips to yard in 24 hours - (*only part of spreadsheet shown*)

Car Type	Mon 7AM	Tue 7AM	Wed 7AM	Thu 7AM	Fri 7AM	Sat 7AM	Sun 7AM	Rule
Number of MT boxcars for CanCo	3	3	4	2	2	4	3	Random Selection of 2-4, excess over three? move to night shift
Number of Steel Cars for CanCo	3	4	4	4	2	4	4	Random selection of 2-4, excess over 3 goes to night shift
Total	6	7	8	6	4	8	7	excess over 12 move to night shift
Several columns are calculated, just change an empty cell to force a recalculation								
Car Type	Mon 3PM	Tue 3PM	Wed 3PM	Thu 3PM	Fri 3PM	Sat 3PM	Sun 3PM	Rule
Number of MT reefers for Sealtest	4	2	5	5	3	5	1	Random selection of 1-5, excess over 3 goes to night shift c Random Selection

Only shows upper third of complete sheet. Parts of 3pm and all of 11pm not shown. I print out 2 or 3 of these, double sided. That gives me enough for several operating sessions with no need to go back to the printer.

Car Cards are in a drawer, sorted by type.

Lots more cars than can fit on layout. So repeats are quite far apart.

For instance. Only 6-8 boxcars on layout at a time, but probably 80-100 to pick from.

Overview of Car Card flow

Car cards are pulled for three trains...

Cars are selected from storage drawers...

...and placed in 3 staging Drawers

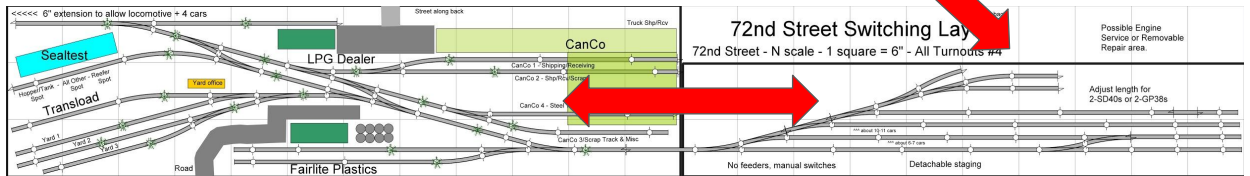


3 trains are staged and ready

One train at a time moves to the yard

Local switcher works the yard and industries

When complete, cycle is reversed



Traffic Volume is generated by a spreadsheet. The types of cars are generated according to algorithms for each industry.

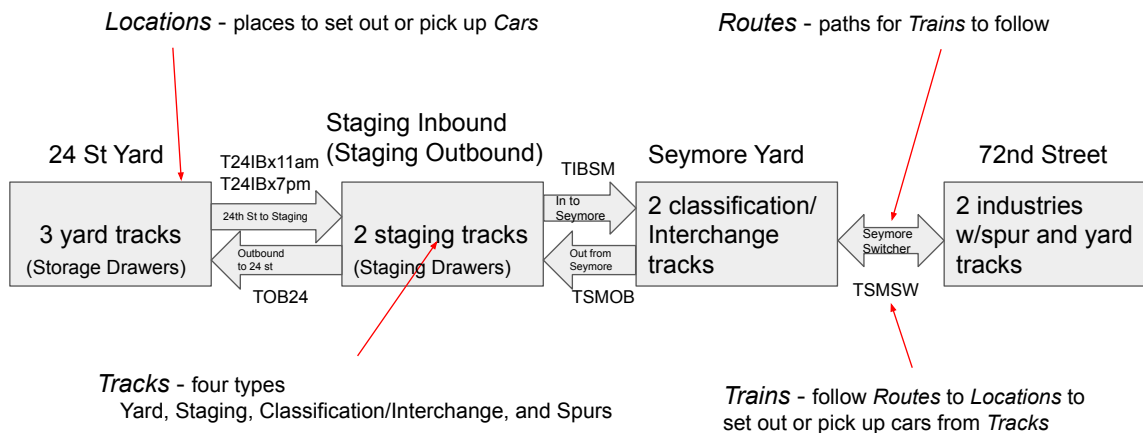
Trains are staged in between operating sessions, always having the next three trains ready to go.

The OpsPro Building Blocks

Locations - Tracks - Routes - Trains

There are a lot of features in OpsPro, but these are the fundamental building blocks. Everything else is built on these fundamental elements.

OpsPro Terminology - The Design for the Simulation



It's important to remember that the technical name for an item in OpsPro does not necessarily need to designate the function of the corresponding item on the layout. For instance, an OpsPro yard track doesn't need to be a yard track on your layout. Pick the OpsPro element that has the function you need to make things work for you.

Locations are places on your railroad that trains visit to pick up or set out cars and locomotives. Locations can be cities, towns, stations, or just places where trains need to work cars.

We have 5 locations. Staging Inbound and Staging Outbound are the same physical location. OpsPro needs them to be separate, but we can use the same drawers. There are 3 drawers on the physical layout, but testing with only two in the simulation.

The Seymore Switcher is not technically a "switcher" as defined by OpsPro. It is just another train with the name Seymore Switcher. We can discuss the differences if anyone is interested.

The Differences -

In OpsPro a Switcher does not run a route. It is limited to a single location. The direction controls "east/west or north/south" are all Un-checked. For this to work on my layout, the Interchange track at

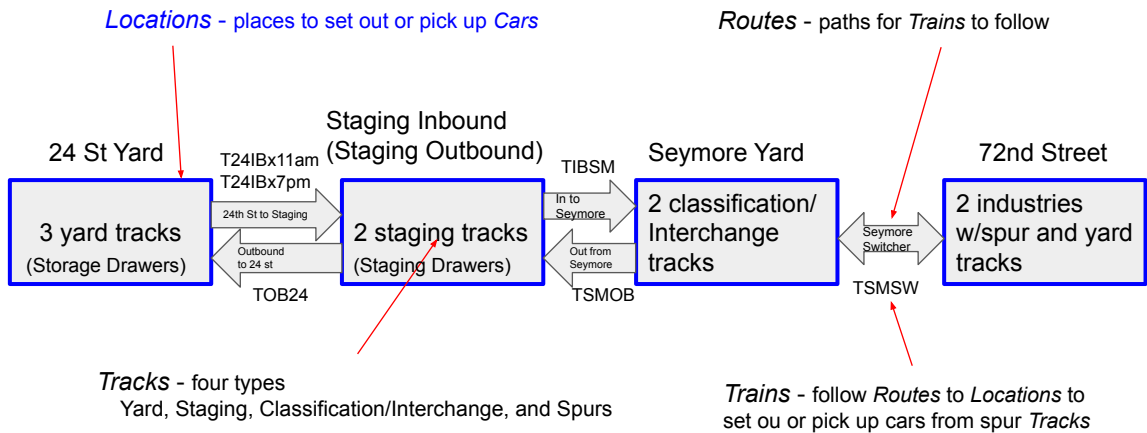
Seymore yard would need to be at the 72nd street location with the industries. This would work fine, it's just another way to implement the same thing. If the switcher were dedicated to one industry this method would likely be preferable.

Translating Cards to OpsPro

This is only one solution - there are many ways to approach the problem.
This is the first attempt.

This is unlikely to be the best solution. Some features were used only in an effort to try them out.

OpsPro Terminology - The Design for the Simulation



Locations are places on your railroad that trains visit to pick up or set out cars and locomotives. Locations can be cities, towns, stations, or just places where trains need to work cars.

We have 5 locations. Staging Inbound and Staging Outbound are the same physical location. OpsPro needs them to be separate, but we can use the same drawers. There are 3 drawers on the physical layout, but testing with only two in the simulation.

OpsPro Terminology - Locations

- Settings
- Locations**
- Cars
- Locomotives
- Routes
- Trains

We have 5 locations:

Storage Drawers = 24th Street Yard

Staging Drawers = Staging Inbound
(Staging Outbound)

Seymore Yard = Seymore Yard

Industrial Park = 72nd Street

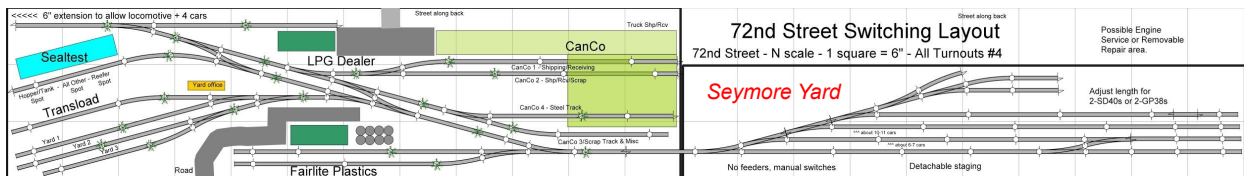
24th St. Yard



Staging I/O



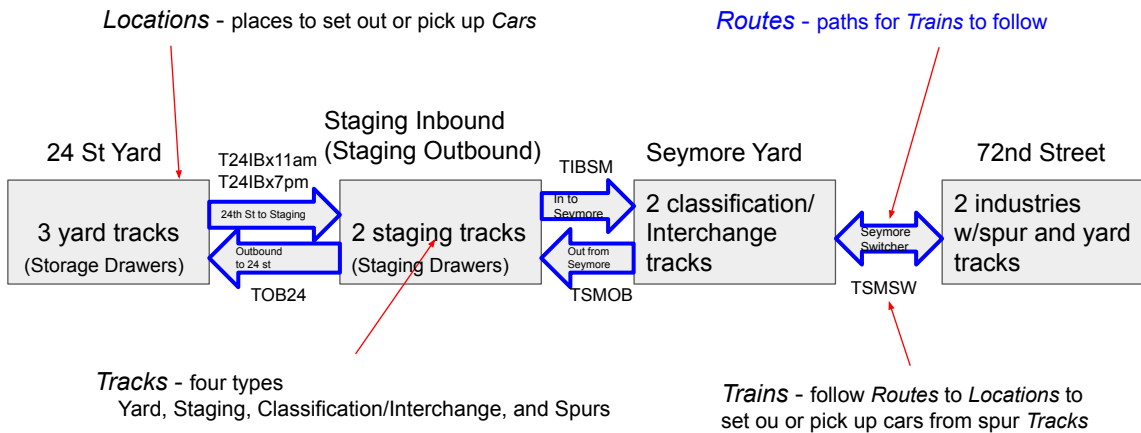
72nd Street



This is how the physical locations correspond to the Locations defined in OpsPro. On a larger layout, those three staging drawers would more likely be tracks.

Long term I've considered adding one additional module to the layout. It would be a slightly larger yard so the staging could be on the layout.

OpsPro Terminology - The Design for the Simulation



Routes define a set of locations and the order in which they will be visited. Routes can be point to point or out and back. Don't confuse routes with trains. Route is just a defined path for a train.

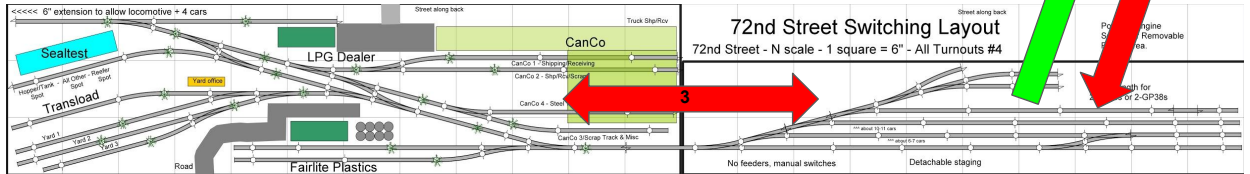
These routes only show movement between two locations, however that's specific to my needs. A route can have several locations.

OpsPro Terminology - Routes

- Settings
- Locations
- Cars
- Locomotives
- Routes**
- Trains

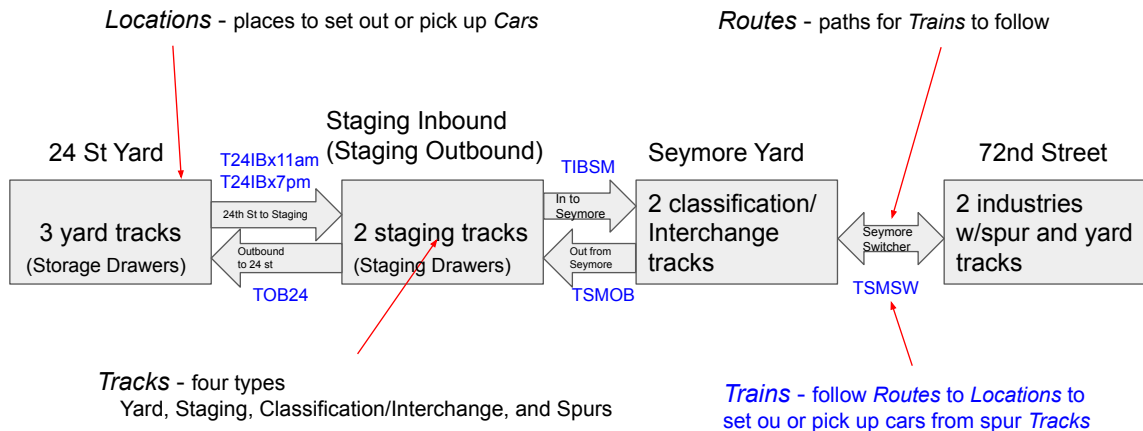
A Route is a path for a train to follow -

- 1 - 24thSt to Staging Inbound
- 2 - Staging Inbound to Seymore
- 3 - Seymore Switcher
- 4 - Seymore to Staging Outbound
- 5 - Staging Outbound to 24th Street



And here is more visual chart. For this small railroad, most of the routes are for 5 finger trains that move rolling stock on or off of the tracks.

OpsPro Terminology - The Design for the Simulation



Again - don't confuse trains with routes. A train runs along a route. And any number of trains can use the same route.

The Seymore Switcher is not technically a "switcher" as defined by OpsPro. It is just another train with the name Seymore Switcher. We can discuss the differences if anyone is interested.

The Differences -

The Seymore Switcher is more of a Turn. It goes from the Seymore Yard to the Industries and Back to the Yard.

In OpsPro a Switcher does not run a route. It is limited to a single location. The direction controls "east/west or north/south" are all Un-checked. For this to work on my layout, the Interchange track at Seymore yard would need to be at the 72nd street location with the industries. This would work fine, it's just another way to implement the same thing. If the switcher were dedicated to one industry this method would likely be preferable.

OpsPro Terminology - Trains

- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

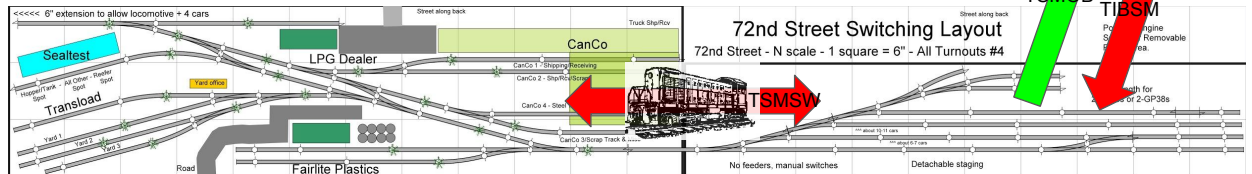
Train T24IB - Travels along Route "24thSt to Staging Inbound" 3x, once for each staging drawer

Train TIBSM - Travels along Route "Staging Inbound to Seymore"

Train TSMSW Travels Along - Route "Seymore Switcher"

Train TSMOB - Travels along Route "Seymore to Staging Outbound"

Train TOB24 - Travels along Route "Staging Outbound to 24thSt"



Here's the visual for the trains.

Trains run along routes to do work.

Before a set of OpSessions, we get ready by...

Inbound staging train T24IB runs at 7am, 3pm and 11pm to fill the three staging drawers -

Schedule looks like this. The pre-op setup is an example of 3 trains that use the same route.

T24IB fills the 3 staging drawers. In reality, it is three trains, one for each drawer

T24IB7 brings cars for CanCo and Wm. H. Harvey

T24IB11 brings cars for Sealtest and Transload

T24IB3 brings cars for Fairlite

OpsPro generates switchlists to tell what cars are moved in the 5 finger routes. These don't need to be printed. Everything is done standing in front of the drawers, you can see the computer on top of the cabinets.

The switchlists for TSMSW, the Seymore Switcher, can be printed or optionally viewed on a tablet. Most likely, none of the switch lists would be

printed. Details of that option are in Steve Todd's video.

Now - how can this be tested in OpsPro?

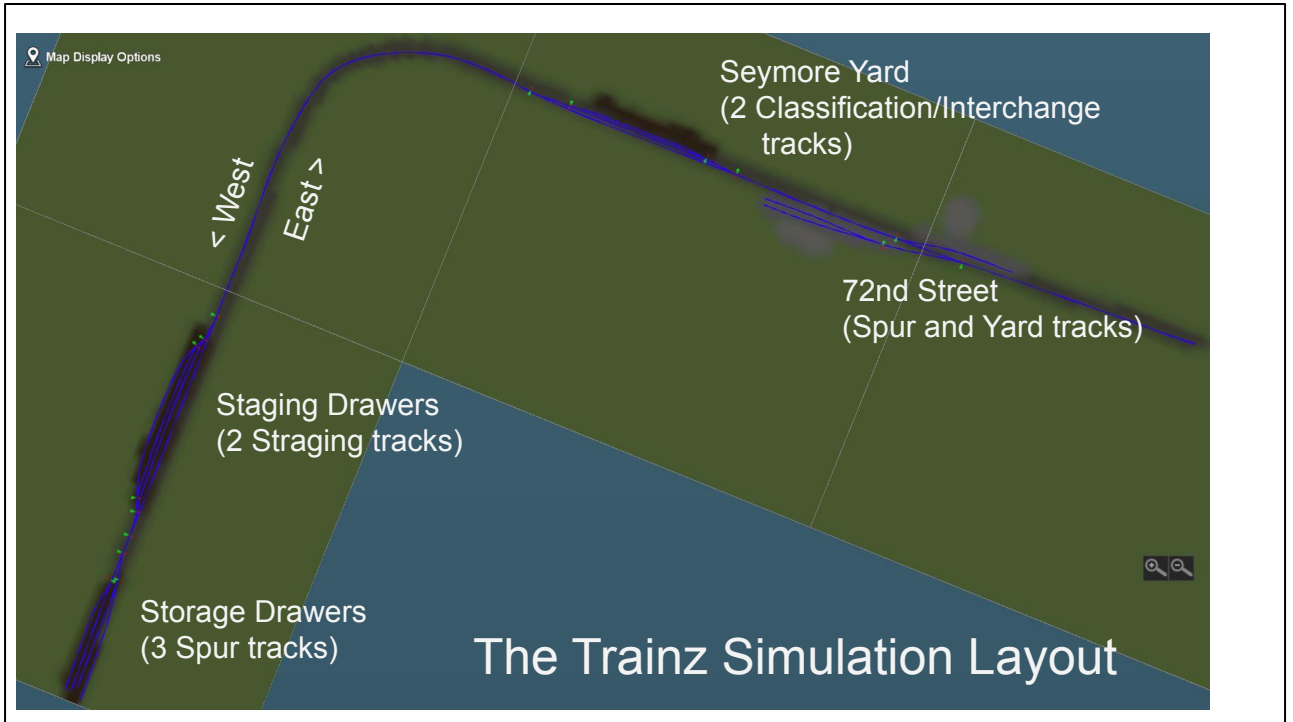
To test things out without disrupting the working railroad, a simpler simulation will be built in Auran's Trainz.

The Trainz version is only for a Proof of Concept. The entire railroad doesn't need to be simulated.

PoC at first, only covers train movements and and loads/empties.

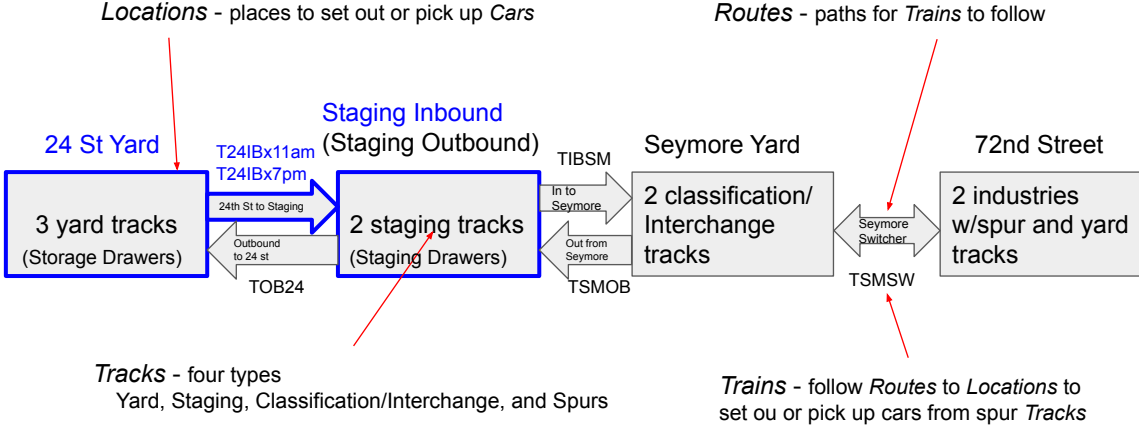
Engine/Caboose assignment (and a lot of other stuff) is not in this test.

Screen captures for illustrations are much easier than photos of physical layout.



Overview of the Trainz Simulation Layout

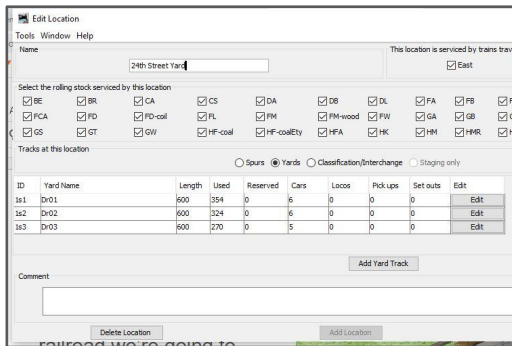
OpsPro Terminology - The Design for the Simulation



Lets get back to the test -

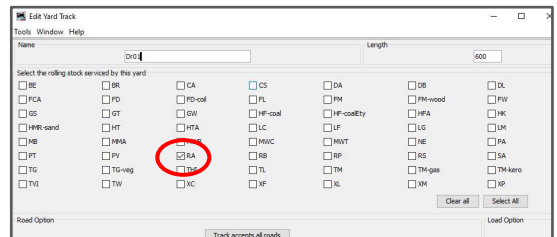
Here's how we get cars from the Storage drawers to the Staging Drawers -

Let's start with Locations - 24th St. Yard



Each of the 3 tracks in the 24th St. Yard represents one Storage Drawers and is limited to holding specific car types.

The 4th track is not defined in OpsPro - it's a conveniently located makeup track.



In the physical layout there are several storage drawers.

In OpsPro - the storage drawers will each be represented by a Yard track. Nothing happens to the state of a car in a yard track. That makes it a good match for the Storage Drawers.

In the physical world, each drawer holds on type of car. So the 24th Street Yard location is defined the same way.

The track length will accommodate the drawer's contents. A drawer will hold twenty 50'cars. Add 4 ft for couplers and $54 \times 20 = 1080$ feet per drawer.

In our simpler Trainz layout, we will only have three, much shorter, "storage drawers." OpsPro will define these as three tracks in the 24st yard.

You can see in the partial examples above - the 24st yard has all car types checked to accept all car types. Yard track 1 (dr01) will only accept Refrigerator cars, track two will only accept tank cars, and track three will accept Boxcars and Covered hoppers.

The fourth track isn't defined in OpsPro. It's a convenience track for making up the trains on their way to staging.

Locations - Staging Inbound/Outbound

Edit Location
Tools Window Help

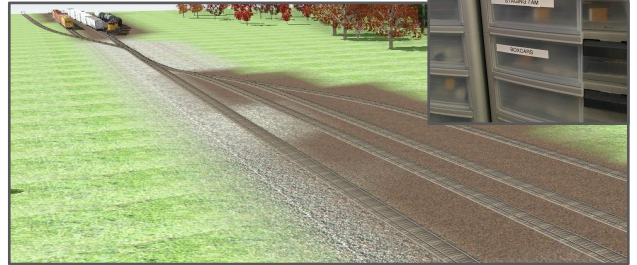
Name: Staging Outbound

Select the rolling stock serviced by this location

<input type="checkbox"/> JEC	<input type="checkbox"/> JER	<input type="checkbox"/> CA	<input type="checkbox"/> CS	<input type="checkbox"/> DA	<input type="checkbox"/> DB
<input type="checkbox"/> FCA	<input type="checkbox"/> FD	<input type="checkbox"/> FD-coal	<input type="checkbox"/> FL	<input type="checkbox"/> FM	<input type="checkbox"/> FM-wood
<input type="checkbox"/> GS	<input type="checkbox"/> GT	<input type="checkbox"/> GW	<input type="checkbox"/> HF-coal	<input type="checkbox"/> HF-coalify	<input type="checkbox"/> HFA
<input type="checkbox"/> HHR-sand	<input type="checkbox"/> HT	<input type="checkbox"/> HTA	<input type="checkbox"/> LC	<input type="checkbox"/> LP	<input type="checkbox"/> LG
<input type="checkbox"/> MB	<input type="checkbox"/> MMA	<input type="checkbox"/> MMB	<input type="checkbox"/> MWC	<input type="checkbox"/> MWT	<input type="checkbox"/> NE
<input type="checkbox"/> PT	<input type="checkbox"/> PV	<input checked="" type="checkbox"/> RA	<input type="checkbox"/> RB	<input type="checkbox"/> RP	<input type="checkbox"/> RS
<input type="checkbox"/> T6	<input type="checkbox"/> T6-reg	<input type="checkbox"/> T6E	<input type="checkbox"/> T6L	<input type="checkbox"/> TR	<input type="checkbox"/> TR-gas
<input type="checkbox"/> T10	<input type="checkbox"/> T10	<input type="checkbox"/> T10C	<input type="checkbox"/> T10P	<input type="checkbox"/> T10R	<input type="checkbox"/> T10W
<input type="checkbox"/> Steam	<input type="checkbox"/> Steam-light	<input type="checkbox"/> Steam-heavy	<input type="checkbox"/> Steam-pass	<input type="checkbox"/> Steam-mixed	<input type="checkbox"/> Switcher

Trade at this location: Spurs Yards Classified

ID	Staging Name	Length	Used	Reserved	Cars	Locos	Pick ups	Set out	Edit
3s1	Stage 01	600	0	0	0	0	0	0	Edit
3s2	Stage 02	600	0	0	0	0	0	0	Edit



We're only staging 2 trains in Trainz. Each serves one of the two industries. The staging tracks have the appropriate car types checked.

Inbound and Outbound staging are defined as two locations, however they are represented by the same tracks. In OpsPro it's sometimes necessary to have one place defined as multiple locations.

In the physical layout three drawers each hold one staged train. Remember - in the real world, this is a five finger move, but it is represented by a route and a train movement.

One feature of staging tracks is exchanging loads for empties. I'm only using that feature on Outbound Staging. Inbound staging just collects the appropriate cars into a train.

This is one example of the same item having two definitions is OpsPro. Why two locations for one place in OpsPro?

A staging yard will flip the status of a car from load to empty (or empty to load.) We only want this to change as the car is returning to the storage yard. So - the feature is turned on in one direction only.

Building Trains

The screenshot displays a software interface for managing train operations. At the top, there is a menu bar with 'Tools', 'Operations', 'Window', and 'Help'. Below it is a table listing various train runs with columns for Time, Build, Function, Name, Description, Load, Route, Departs, Terminates, Current, Status, Action, and Edit. One train, 'T2418x11P', is highlighted in blue. Two red arrows point from the text 'This Train runs along this Route' to the 'Route' column of this train and to a 'Partial Clip of Route' window. This window shows a table with columns for ID, Location, Train Direction, and Moves, with two entries for '24th Street Yard' and 'Staging Inbound', both moving 'East' for 9 moves. To the right, a 'Print Preview' window titled 'Drawers to Stage Inbound' shows a manifest for train (T2418x11P) with scheduled work at 24th Street Yard and Staging Inbound, including pickup and set-out instructions for various tank cars.

Time	Build	Function	Name	Description	Load	Route	Departs	Terminates	Current	Status	Action	Edit
00:00	<input type="checkbox"/>	Build	TIBSM	Inbound Staging to Seym...		In-seymore one way	Staging Inbound (DrS...	Seymore Yard		Terminated 10/05/20...	Reset	Edit
00:00	<input type="checkbox"/>	Build	TOB24	Outbound Staging - Put c...		Outbind to 24 St Dra...	Staging Outbound (S...	24th Street Yard		Terminated 10/05/20...	Reset	Edit
00:00	<input type="checkbox"/>	Build	TSMOB	Seymore Yard to Outbou...		seymore to out - one...	Seymore Yard	Staging Outbound (S...		Terminated 10/05/20...	Reset	Edit
00:00	<input type="checkbox"/>	Build	TSM5W	Seymore Switcher	A 13	Seymore Switcher	Seymore Yard	Seymore Yard		Train reset	Reset	Edit
19:00	<input type="checkbox"/>	Build	T2418x7P	Drawers to Stage Inbound		24St Storage to Stagi...	24th Street Yard	Staging Inbound (DrS...		Terminated 10/05/20...	Reset	Edit
23:00	<input checked="" type="checkbox"/>	Previ...	T2418x11P	Drawers to Stage Inbound		24St Storage to Stagi...	24th Street Yard	Staging Inbound (DrS...	24th Street Yard	Partial 1/9 cars	Reset	Edit

ID	Location	Train Direction	Moves
2	24th Street Yard	East	9
3	Staging Inbound	East	9

```

Print Preview: Drawers to Stage Inbound
-----
Drawers to Stage Inbound - 1 - October 12, 2020 11:07 AM
OpsProtoTestTrains

Manifest for train (T2418x11P) Drawers to Stage Inbound
Valid 10/12/2020 11:07

Scheduled work at 24th Street Yard, departure time 23:00
[ ] Pick up CRGX 16816 Tank Veg 50' Black Soy Oil from Dr02
[ ] Pick up GATX 215095 Tank Oil 50' Black Lqd Petrol from Dr02
[ ] Pick up DAKX 29992 Tank Oil 50' Black Lqd Petrol from Dr02
Train departs 24th Street Yard Eastbound with 3 cars, 162 feet, 255 tons

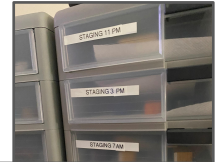
Scheduled work at Staging Inbound, arrival time 23:10
[ ] Set out CRGX 16816 Tank Veg 50' Black Soy Oil to Instage 03
[ ] Set out GATX 215095 Tank Oil 50' Black Lqd Petrol to Instage 03
[ ] Set out DAKX 29992 Tank Oil 50' Black Lqd Petrol to Instage 03
Train terminates in Staging Inbound
    
```

Generating a train is called “Building”

The result is a switch list

For a very detailed example - see David Hayne’s “worked example” linked in the resources.

Filling the Staging Drawers



```
Drawers to Stage Inbound - 1 - September 18, 2020 2:02 PM
OpsProTestTrains
Manifest for train (T24IBk7P) Drawers to Stage Inbound
Valid 9/18/2020 14:02

Scheduled work at 24th Street Y
[ ] Pick up AOMW 111199 RA 50'
[ ] Pick up AOMW 768158 RA 50'
[ ] Pick up AOMW 76044 RA 50'
[ ] Pick up UP 76024 LO 50' Wb
[ ] Pick up ABOC 50813 XM 50'
[ ] Pick up UP 850155 XM 50' Bk
[ ] Pick up UP 163535 XM 50' Bk
[ ] Pick up UP 77822 LO 50' Wb
Train departs 24th Street Yard

Scheduled work at Staging Inbound
[ ] Set out AOMW 111199 RA 60'
[ ] Set out AOMW 768158 RA 50'
[ ] Set out AOMW 76044 RA 50'
[ ] Set out UP 76024 LO 50' Wb
[ ] Set out ABOC 50813 XM 50'
[ ] Set out UP 850155 XM 50' Bk
[ ] Set out UP 163535 XM 50' Bk
[ ] Set out UP 77822 LO 50' Wb
Train terminates in Staging Inbound

Drawers to Stage Inbound - 1 - September 18, 2020 2:19 PM
OpsProTestTrains
Manifest for train (T24IBk11F) Drawers to Stage Inbound
Valid 9/18/2020 14:19

Scheduled work at 24th Street Yard, departure time 23:00
[ ] Pick up GATX 215095 T 50' Black L from Dr02
[ ] Pick up ADEX 25643 T 50' Gray L from Dr02
[ ] Pick up DAMEY 29992 T 50' Black L from Dr02
Train departs 24th Street Yard Eastbound with 3 cars, 162 feet, 255 tons

Scheduled work at Staging Inbound, arrival time 23:10
[ ] Set out GATX 215095 T 50' Black L to InStage 01
[ ] Set out ADEX 25643 T 50' Gray L to InStage 01
[ ] Set out DAMEY 29992 T 50' Black L to InStage 01
Train terminates in Staging Inbound
```



After OpsPro generates the switch lists for the two trains - we move the cars from the “storage drawers” to the “Staging Drawers.”

Both Trains are T24IB. At 7pm it only pulls Sealtest. At 11am it only pulls Wm. H. Harvey.

In our simulation that’s a move from the 24 St. Yard to Staging Inbound.

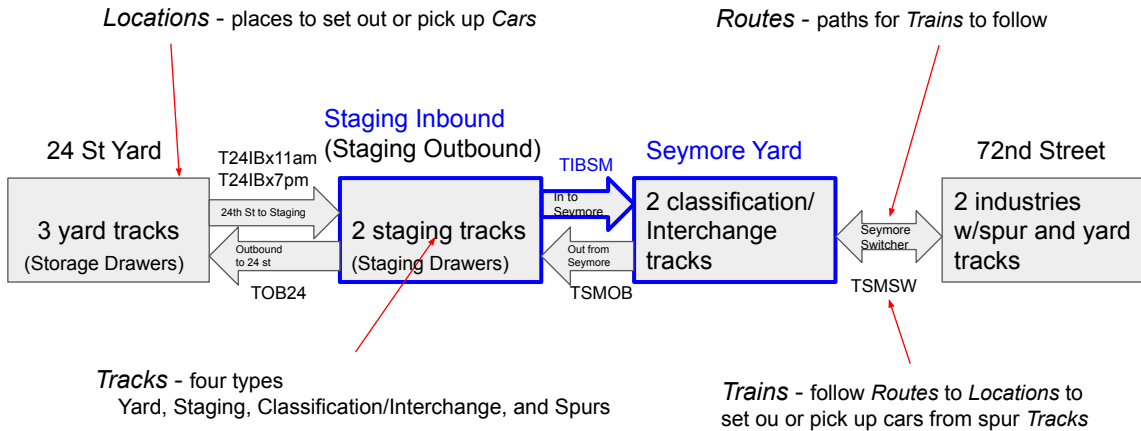
In the physical layout three drawers each hold one staged train. Remember - in the real world, this is a five finger move, but it is represented by a route and a train movement.

Types of cars for each train are defined in the train screen.

Why two locations for one place in OpsPro?

A staging yard will flip the status of a car from load to empty (or empty to load.) We only want this to change as the car is returning to the storage yard. So - the feature is turned on in one direction only.

OpsPro Terminology - The Design for the Simulation



The next step moves a train from a Staging Drawer to Seymore Yard (on the actual layout.) We'll also learn about Classification/Interchange tracks.

Locations - Seymore Yard

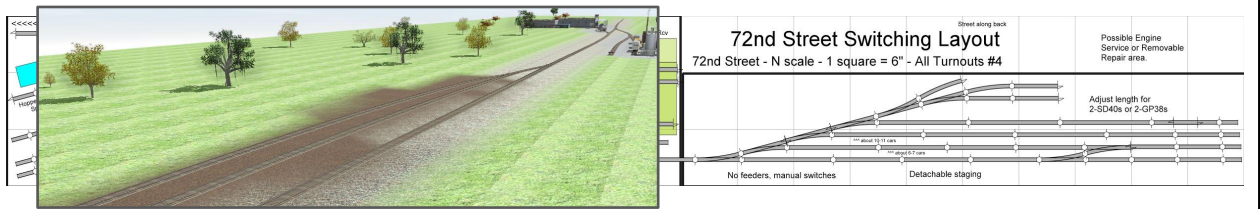
Seymore only needs a couple of tracks in our simulation. The form looks a lot like the staging yard so it's not displayed.

Seymore, however, is a classification/interchange yard. Load status doesn't flip, and consist makeup doesn't change. What goes in, must go out.

Cars set out by one train can only be picked up by a different train that runs on a different route.

That's how we will exchange cars between the "Inbound Staging to Seymore Yard" Trains and the Seymore Switcher

In the real world, we finally have real tracks for our trains.



In the real world, we finally get a train onto the tracks. Remember, in the real world this is another 5 finger move.

Moving from Inbound Staging to Seymore Yard

One last five finger move to Seymore Yard -

The Seymore Switcher is waiting, the road engine returns lite.

The switch list shows the cars set out on two tracks, I've fixed that.*



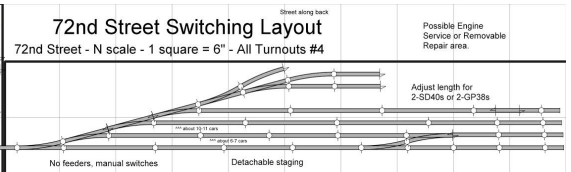
```

Inbound Staging to Seymo          - f -          September 18, 2020 2:49 PM
OpsProTestTrainz

Manifest for train (TIBSM) Inbound Staging to Seymore Yard - one way
Valid 9/18/2020 14:49

Scheduled work at Staging Inbound, departure time 00:00
[ ] Pick up GATX 215095 T 50' Black L from InStage 01
[ ] Pick up DAKX 29992 T 50' Black L from InStage 01
[ ] Pick up ADMX 25643 T 50' Gray L from InStage 01
Train departs Staging Inbound Eastbound with 3 cars, 162 feet, 255 tons

Scheduled work at Seymore Yard, arrival time 00:10
[ ] Set out GATX 215095 T 50' Black L to SM01
[ ] Set out DAKX 29992 T 50' Black L to SM01
[ ] Set out ADMX 25643 T 50' Gray L to SM02
Train terminates in Seymore Yard
    
```

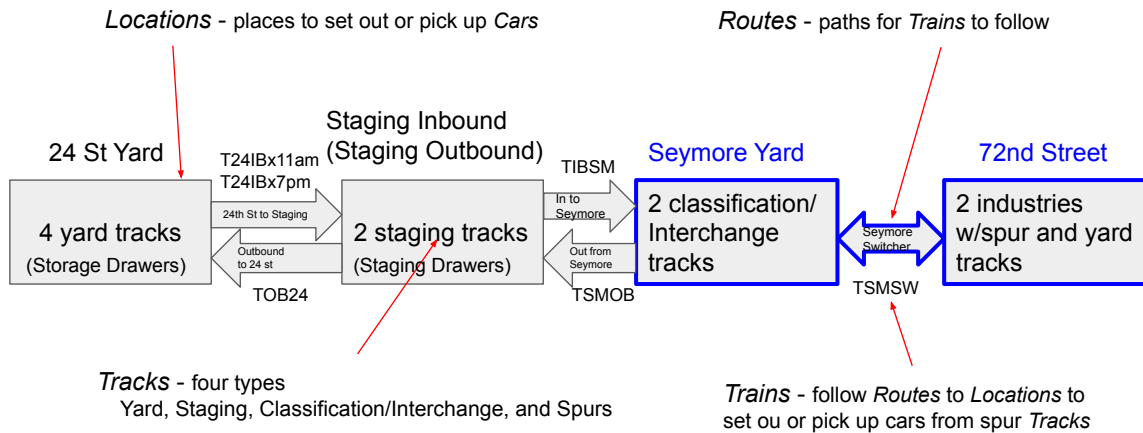


Dan Hayne's PDF has examples of building trains and reading the Build Reports.

In our simulation, the road engine returns lite to the 24th St. yard.

For some reason I don't understand, the C/I tracks have been designed to breakup the consist and randomly place the cars on the C/I tracks. The solution, if you have more than one C/I track, is to limit the car types, or perhaps trains, that a particular track can service..

OpsPro Terminology - The Design for the Simulation



Finally, we get to do some switching work. We'll also talk about spur tracks.

The Seymore Switcher is not technically a "switcher" as defined by OpsPro. It is just another train with the name Seymore Switcher. We can discuss the differences if anyone is interested.

The Differences -

In OpsPro a Switcher does not run a route. It is limited to a single location. The direction controls "east/west or north/south" are all Un-checked. For this to work on my layout, the Interchange track at Seymore yard would need to be at the 72nd street location with the industries. This would work fine, it's just another way to implement the same thing. If the switcher were dedicated to one industry this method would likely be preferable.

Locations - 72nd St. Industrial Park

There are only 2 industries and 3 tracks in the simulation, Sealtest and Wm. H. Harvey.

72nd St has 4 spurs and 2 yard tracks listed. The reason will be evident in the next few slides.

Edit Location

Tools: Window Help

Name: This location is serviced by trains to: East

Select the rolling stock serviced by this location

<input type="checkbox"/> BE	<input type="checkbox"/> BR	<input type="checkbox"/> CA	<input type="checkbox"/> CS	<input type="checkbox"/> DA	<input type="checkbox"/> DB	<input type="checkbox"/> DL	<input type="checkbox"/> FA	<input type="checkbox"/> FE
<input type="checkbox"/> PCA	<input type="checkbox"/> PD	<input type="checkbox"/> PD-coal	<input type="checkbox"/> FL	<input type="checkbox"/> FM	<input type="checkbox"/> FM-wood	<input type="checkbox"/> FW	<input type="checkbox"/> GA	<input type="checkbox"/> GB
<input type="checkbox"/> GS	<input type="checkbox"/> GT	<input type="checkbox"/> GW	<input type="checkbox"/> HP-coal	<input type="checkbox"/> HP-coalEly	<input type="checkbox"/> HFA	<input type="checkbox"/> HK	<input type="checkbox"/> HM	<input type="checkbox"/> HP
<input type="checkbox"/> HMR-sand	<input type="checkbox"/> HT	<input type="checkbox"/> HTA	<input type="checkbox"/> LC	<input type="checkbox"/> LP	<input type="checkbox"/> LG	<input type="checkbox"/> LH	<input checked="" type="checkbox"/> LI	<input type="checkbox"/> LP
<input type="checkbox"/> HIG	<input type="checkbox"/> HMA	<input type="checkbox"/> HMB	<input type="checkbox"/> HMC	<input type="checkbox"/> HMT	<input type="checkbox"/> HE	<input type="checkbox"/> HA	<input type="checkbox"/> HAE	<input type="checkbox"/> HB
<input type="checkbox"/> PT	<input type="checkbox"/> PV	<input checked="" type="checkbox"/> RA	<input type="checkbox"/> RB	<input type="checkbox"/> RP	<input type="checkbox"/> RS	<input type="checkbox"/> SA	<input type="checkbox"/> SC	<input type="checkbox"/> SB
<input type="checkbox"/> TG	<input type="checkbox"/> TG-wg	<input type="checkbox"/> TH	<input type="checkbox"/> TL	<input type="checkbox"/> TM	<input type="checkbox"/> TM-gas	<input type="checkbox"/> TH-Hero	<input type="checkbox"/> TH-coil	<input type="checkbox"/> TH
<input type="checkbox"/> TVI	<input type="checkbox"/> TW	<input type="checkbox"/> XC	<input type="checkbox"/> XF	<input type="checkbox"/> XL	<input type="checkbox"/> XM	<input type="checkbox"/> XP	<input type="checkbox"/> XT	<input type="checkbox"/> EX
<input type="checkbox"/> Steam	<input type="checkbox"/> Steam-light	<input type="checkbox"/> Steam-heavy	<input type="checkbox"/> Steam-pass	<input type="checkbox"/> Steam-mixed	<input type="checkbox"/> Switcher			

Tracks at the location

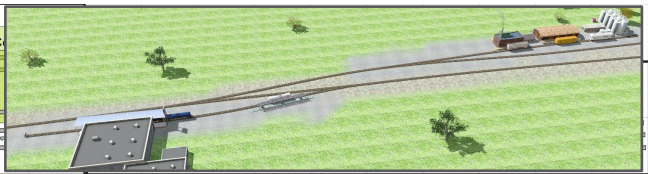
Spurs Yards Classification/Interchange Staging only

ID	Track Name	Length	Used	Reserved	Wheels	Cars	Locos	Pk-ups	Set outs	Schedule	Load	Restrictions	Alternate Track	ESL
20	Sealtest 02	70	0	0	0	0	0	0	0	Sealtest Schedule 1, 2	Sealtest 01		Yes	ESL
205	Sealtest 01	70	0	0	0	0	0	0	0	Sealtest Schedule 1, 2	Sealtest 02		Yes	ESL
206	Sealtest 03	140	0	0	0	0	0	0	0	Sealtest Track 01, 0, 2	Sealtest 01	0, 1, 2, 11	Yes	ESL
21	Wm. H. Harvey	65	0	0	0	0	0	0	0	Harvey Schedule 1, 2	Harvey Alternate		Yes	ESL

Tracks at the location

Spurs Yards Classification/Interchange Staging only

ID	Track Name	Length	Used	Reserved	Wheels	Cars	Locos	Pk-ups	Set outs	Schedule	Load	Restrictions	Alternate Track	ESL
24	Harvey Alternate	60	0	0	0	0	0	0	0	Schedule			Yes	ESL
22	Sealtest 01	80	0	0	0	0	0	0	0		A, 11		Yes	ESL



Spur tracks exchange loads for empties.

The yard tracks are alternates. Yards don't flip loads/empties. The reason for that choice will be evident in the next few slides.

The Seymore Switcher -

The Seymore Switcher has some work to do.

The switchlist says:

Pickup the incoming cars from Seymore Yd.

Service Wm. H. Harvey and Sealtest

Return all pickups to Seymore Yd.

In this session we're picking up everything at Sealtest. So let's look at the details of Harvey.

OpsProTestTrainz

Manifest for train (TSMW) Seymore Switcher
Valid 9/19/2020 10:05

Scheduled work at Seymore Yard, departure time 00:00

[] Pick up GATX 215095 T 50' Black L from SM01
[] Pick up DAKX 29992 T 50' Black L from SM01
[] Pick up ADMX 25643 T 50' Gray L from SM02

Train departs Seymore Yard Eastbound with 3 cars, 162 feet, 255 tons

Scheduled work at 72nd Street, arrival time 00:10

[] Set out GATX 215095 T 50' Black L to Harvey Alternate
[] Set out DAKX 29992 T 50' Black L to Harvey Alternate
[] Set out ADMX 25643 T 50' Gray L to Harvey Alternate
[] Move CRGX 16816 T 50' Black L from Harvey Alternate to Wm. H. Harvey
[] Pick up ARNN 725361 RA 50' White L from Sealtest 02
[] Pick up UPFE 448585 XM 50' Yellow E from Sealtest 03
[] Pick up UP 77467 LO 50' Gray L from Sealtest 04
[] Pick up HKOX 155661 T 50' White E from Wm. H. Harvey

Train departs 72nd Street Westbound with 4 cars, 216 feet, 226 tons

Scheduled work at Seymore Yard, arrival time 01:50

[] Set out ARNN 725361 RA 50' White L to SM01
[] Set out UPFE 448585 XM 50' Yellow E to SM01
[] Set out UP 77467 LO 50' Gray L to SM02
[] Set out HKOX 155661 T 50' White E to SM02

Train terminates in Seymore Yard

72nd St. - Wm. H. Harvey

Harvey has 1 spot at the unloading rack, but takes delivery of several cars at a time.

In OpsPro the rack is defined as 1 spur, the additional spots are defined as an alternate yard track.

Three tank cars are inbound from Seymore Yard, the next slide shows how this is handled.

The Sealtest Spurs are similar, more on that later.



72nd St. - Wm. H. Harvey

The switcher has some work to do at Harvey

Scheduled work at 72nd Street, arrival time 00:10

```
[ ] Set out GATX 215095 T 50' Black L to Harvey Alternate
[ ] Set out DAKX 29992 T 50' Black L to Harvey Alternate
[ ] Set out ADMX 25643 T 50' Gray L to Harvey Alternate
[ ] Move CRGX 16816 T 50' Black L from Harvey Alternate to Wm. H. Harvey
[ ] Pick up ARMY 725361 RA 50' White L from Sealtest 02
[ ] Pick up UPFE 448585 XM 50' Yellow E from Sealtest 03
[ ] Pick up UP 77467 L0 50' Gray L from Sealtest 04
[ ] Pick up HKOX 155661 T 50' White E from Wm. H. Harvey
Train departs 72nd Street Westbound with 4 cars, 216 feet, 226 tons
```

Pickup

Move these three incoming cars
to the alternate yard track.

Move this car
to unloading rack



If the alternate was defined as a spur, it would flip the loads/empty status. We want them to not flip.

Also a yard track has the option of being serviced FIFO, LIFO, or Normal. Normal is random. I'm testing LIFO, but Normal is probably more active.

72nd St. - Sealtest

The switcher finishes by picking up everything from Sealtest

Then returns to Seymore Yard

Scheduled work at 72nd Street, arrival time 00:10

- [] Set out GATX 215095 T 50' Black L to Harvey Alternate
- [] Set out DAKX 29992 T 50' Black L to Harvey Alternate
- [] Set out ADMX 25643 T 50' Gray L to Harvey Alternate
- [] Move CRGX 16816 T 50' Black L from Harvey Alternate to Wm. H. Harvey
- [] Pick up ARMN 725361 RA 50' White L from Sealtest 02
- [] Pick up UPFE 448585 XM 50' Yellow E from Sealtest 03
- [] Pick up UP 77467 L0 50' Gray L from Sealtest 04
- [] Pick up HKOX 155661 T 50' White E from Wm. H. Harvey

Train departs 72nd Street Westbound with 4 cars, 216 feet, 226 tons



4 hours later - a new session begins

This session there are no staging moves -

The only thing to do is run the Seymore Switcher

In our simulation there isn't a lot to do, because we only defined a couple of industries.

All the cars have been picked up up from Sealtest in the last session. So the switcher only needs to service Wm. H. Harvey.

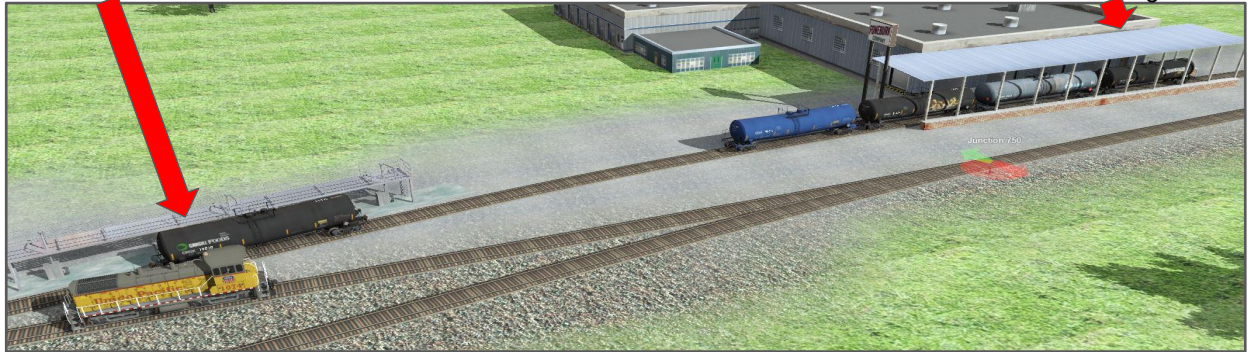
72nd St. - Wm. H. Harvey (again)

When the switcher's work is done, it will return to Seymore Yard with the tank car

```
Seymore Switcher - 1 - September 19, 2020 11:11 AM
OpsProTestTrainz
Manifest for train (TSMW) Seymore Switcher
Valid 9/19/2020 11:11
No work at Seymore Yard, departure time 00:00
Scheduled work at 72nd Street, arrival time 00:10
[ ] Pick up CRGX 16816 T 50' Black E from Wm. H. Harvey
[ ] Move GATX 215085 T 50' Black E from Harvey Alternate to Wm. H. Harvey
Train departs 72nd Street Westbound with 1 cars, 54 feet, 28 tons
Scheduled work at Seymore Yard, arrival time 00:50
[ ] Set out CRGX 16816 T 50' Black E to SH02
Train terminates in Seymore Yard
```

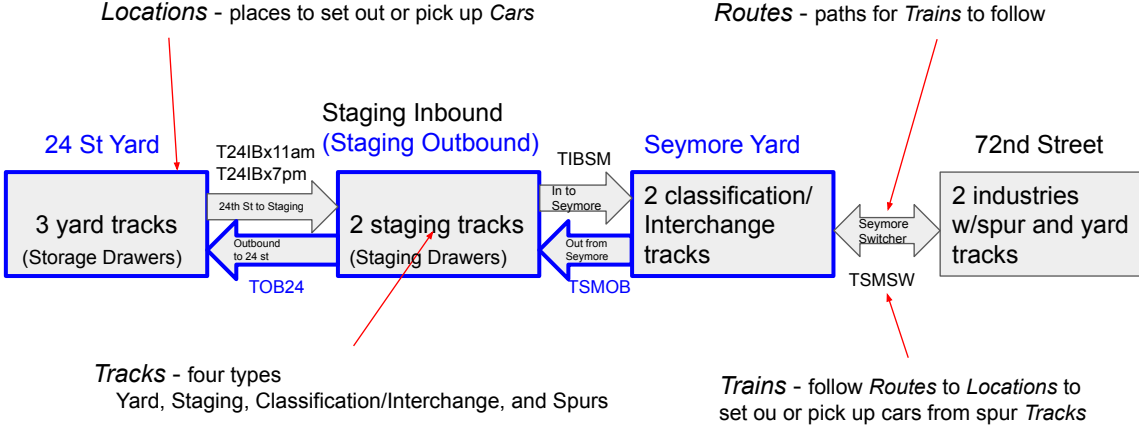
Pickup

Move this car
to unloading rack



In these examples the yard track was set to "Normal." I have experimented with LIFO and FIFO.

OpsPro Terminology - The Design for the Simulation



Now the cars need to go back to Storage. On the way, they stop at the Outbound Staging to have their loads exchanged for empties.

Seymore Yard Back to Staging

The Seymore Switcher's has assembled the outbound train to be picked up by the road crew.

The cars will be returned to outbound staging, then to the storage yard (the drawers)

Seymore Yard to Outbound - f - September 19, 2020 11:46 AM
OpsProTestTrains

Manifest for train (TSMOB) Seymore Yard to Outbound Staging - one way
Valid 9/19/2020 11:46

Scheduled work at Seymore Yard, departure time 00:00

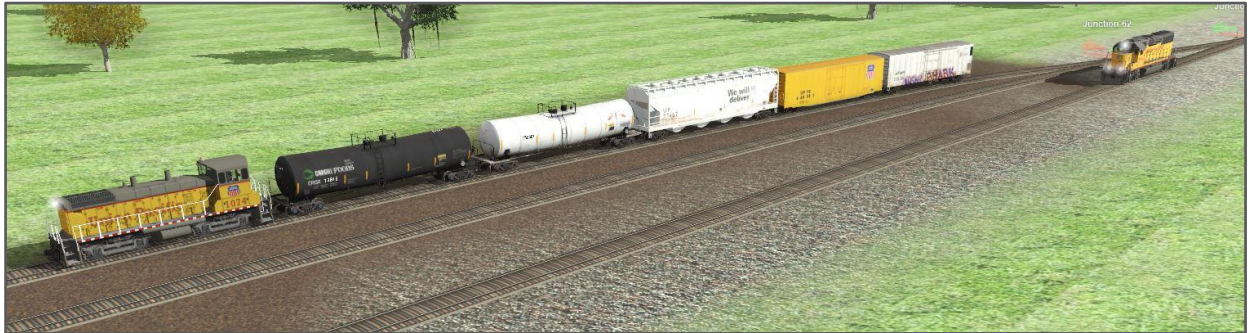
- [] Pick up UFPE 446585 XM 50' Yellow E from SMO1
- [] Pick up ARMN 725361 RA 50' White L from SMO1
- [] Pick up CRGX 16816 T 50' Black E from SMO2
- [] Pick up UP 77467 LO 50' Gray L from SMO2
- [] Pick up HKDX 155661 T 50' White E from SMO2

Train departs Seymore Yard Westbound with 5 cars, 270 feet, 254 tons

Scheduled work at Staging OutBound, arrival time 06:10

- [] Set out UFPE 446585 XM 50' Yellow E to Stage 02
- [] Set out ARMN 725361 RA 50' White L to Stage 02
- [] Set out CRGX 16816 T 50' Black E to Stage 02
- [] Set out UP 77467 LO 50' Gray L to Stage 02
- [] Set out HKDX 155661 T 50' White E to Stage 02

Train terminates in Staging OutBound



Seymore to Outbound Staging then to Storage

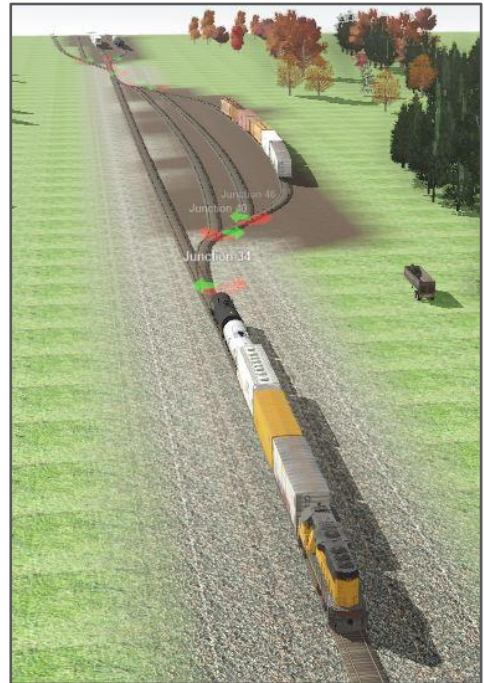
Train TSMOB - Travels along *Route "Seymore to Staging
Outbound"*

Train TOB24 - Travels along *Route "Staging Outbound to 24thSt"*

And our first two sessions are complete -

You can see the Sealtest train (to the right) on an
inbound staging track, waiting for the start of the next
session.

The basics of the routes, trains, and spurs have been
successfully tested. Now - on to the decision -
proceed with layout conversion or stay with car cards?



The Next Sessions

Sealtest's Alternate Tracks - an example

The next session

The TIBSM (inbound staging to Seymore Yard) runs again...

This time it brings cars for Sealtest. We rejoin the Seymore Switcher as it has serviced both Harvey and Sealtest. Sealtest also has an alternate spur, but it's use is shared among 3 other spurs --

ST02 holds
2 reefers

ST03 holds
1 boxcar

ST04 holds
1 hopper



Seymore switcher has also serviced Harvey -
it's now on the way to Seymore Yard

ST01 holds 6 cars total -
Cars may be any of the three types

Just a note - I have limited train length to 8 cars. That's the capacity of my physical yard tracks. If I increased the train length, it's likely that the inbound train would have brought more cars.

Just as in Wm. H. Harvey example, ST01 is defined as an alternate yard track.

So how would this play out on my layout

Quickly, just in case.

Getting Ready - filling the staging drawers

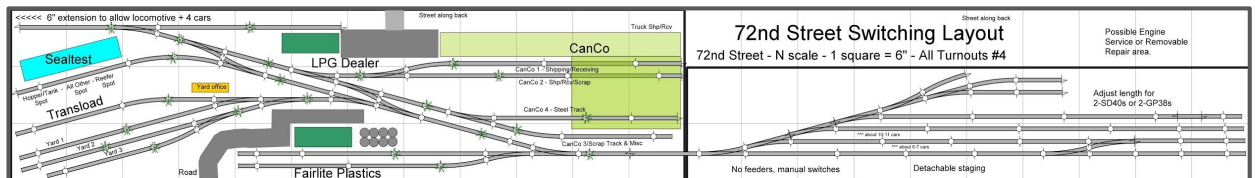
- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

Train T24IB - Travels along Route "24thSt to Staging Inbound"

This is a "5 finger loco"

This train runs 3 times, to fill the 3 staging drawers.

On your railroad, if you have an actual staging yard, this might be 3 tracks.



Ops Pro will treat each of the Storage Drawers as a yard track. It will define the Staging drawers as tracks in a staging yard.

If you layout is physically large enough, these may be actual tracks, and you would use a real locomotive.

T24IB fills the 3 staging drawers. In reality, it is three trains, one for each drawer

T24IB7 brings cars for CanCo and Wm. H. Harvey

T24IB11 brings cars for Sealtest and Transload

T24IB3 brings cars for Fairlite

OpsPro generates switchlists to tell what cars are moved in the 5 finger routes. These don't need to be printed. Everything is done standing in front of the drawers, you can see the computer on top of the cabinets.

The switchlists for TSMWS, the Seymore Switcher, can be printed or optionally viewed on a tablet.

Session 1 - 7am to 11am

- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

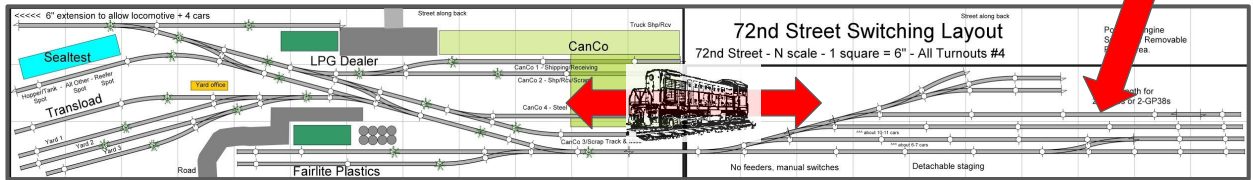
Train TIBSM - Travels along Route "Staging Inbound to Seymore"

Train TSMSW Travels Along - Route "Seymore Switcher"

Two trains run in this session -

TIBSM will take cars from the 7am staging drawer to Seymore Yard. (5 finger loco, again)

TSMSW services the industries, returns any pickups to Seymore Yard.



Every other session, one staged train moves from a drawer to Seymore Yard. In that same session, the Seymore Switcher (TSMSW) services the industries.

Again, OpsPro generates switchlists to tell what cars are moved in the 5 finger routes. These don't need to be printed. Everything is done standing in front of the drawers, you can see the computer on top of the cabinets.

The switchlists for TSMSW, the Seymore Switcher, can be printed or optionally viewed on a tablet.

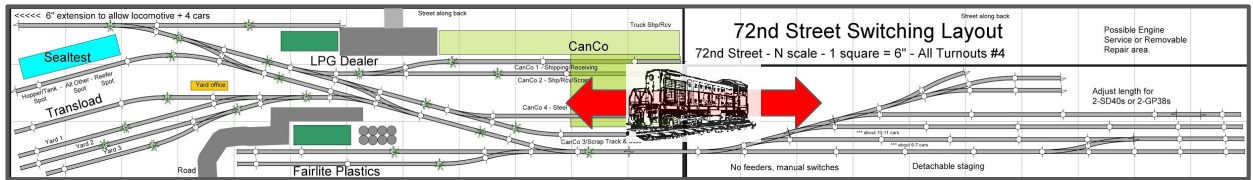
Session 2 - 11am to 3pm

- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

Train TSMSW Travels Along - *Route "Seymore Switcher"*

Four hours later....

TSMSW runs again to service the industries, returning any additional pickups to Seymore Yard.



In the next session - The Seymore Switcher (TSMSW) runs again.

Remember, each session is four fast hours. The Seymore Switcher runs in every session. A train running from Staging to Seymore Yard runs every other session.

After Session 2 - housekeeping

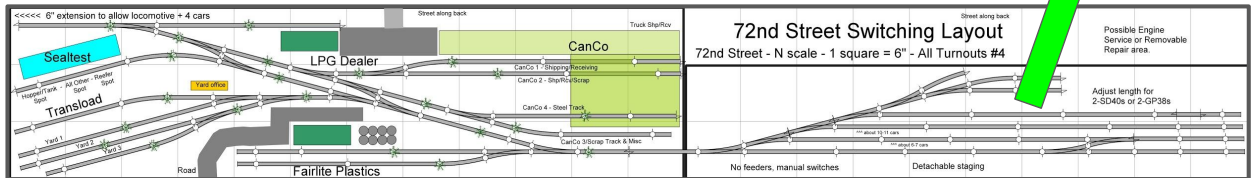
- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

Train TSMOB - Travels along Route "Seymore to Staging Outbound"

Train TOB24 - Travels along Route "Staging Outbound to 24thSt"

Two trains run - TSMOB returns the cars from Seymore Yard to the empty staging drawer, then TOB24 returns those cars to their respective storage drawers.

This also flips Load/Empty status - more about that later.



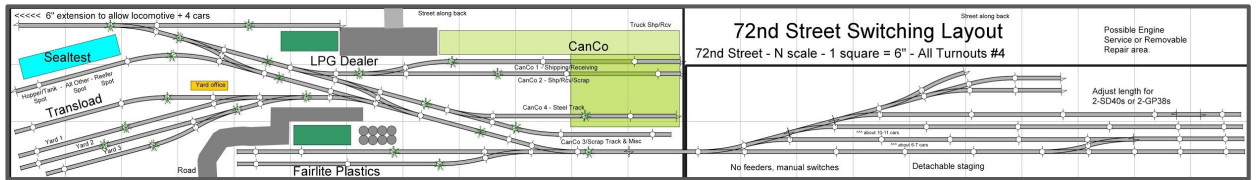
Just because of the way I chose to do this demonstration, it takes two trains to get this done. It will make more sense later when we talk about loads/empties and the features of classification/interchange tracks and staging tracks. In reality, it only takes a couple of minutes to run the two trains. A different design could make this one train.

The reason, if you can't wait, I chose to use a staging track to flip the load empty status of the cars going to 24th St. A staging track can only be at the beginning or end of a route, not in the middle. So I could not do a "Seymore Yard - Staging Drawer - 24st" route. There are other ways to accomplish this, but the point of the exercise was to use different types of tracks as a learning experience.

4 more sessions complete the 24 hour day

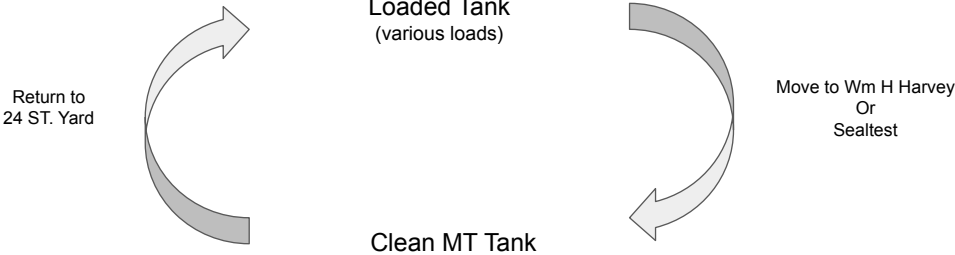
- Settings
- Locations
- Cars
- Locomotives
- Routes
- Trains**

Session 3 - 3pm to 7pm -looks like Session 1
 Session 4 - 7pm to 11pm - looks like Session 2
 Session 5 - 11pm to 3am - looks like session 1
 Session 6 - 3am to 7am looks like session 2
 At the end of session 6, everything starts over



Rinse and repeat for the remaining sessions to complete the 24 hour cycle.

Custom Loads and Schedules - Simple car path



If you want something more interesting than L or E, you'll need a custom load. Then Add a schedule to determine where it goes. This will likely reduce traffic a bit, but you'll be in control.

Custom Loads and Schedules - finer traffic control

Wm H Harvey - Needs three types of tank car loads, returns empties to 24th street yard

Current	Type	Random	Delivery	Road	Receive	Ship	Destination	Track	Pickup	Hits	Wait	Up
	Tank Oil	↓	↓	↓	Lqd Petrol	Clean MT	24th Street Yard	Dr02	↓	7	1	
	Tank Veg	50	↓	↓	Soy Oil	Clean MT	24th Street Yard	Dr02	↓	8	2	
-->	Tank Oil	↓	↓	↓	Lqd Petrol	Clean MT	24th Street Yard	Dr02	↓	8	0	
	Tank Oil	↓	↓	↓	Lqd Petrol	Clean MT	24th Street Yard	Dr02	↓	6	1	
	Tank Veg	50	↓	↓	Soy Oil	Clean MT	24th Street Yard	Dr02	↓	13	2	
	Tank Oil	20	↓	↓	Polyureth...	Clean MT	24th Street Yard	Dr02	↓	1	0	

Sealtest ST03 - Needs tanks of Soy Oil (and other loaded hoppers)

Type	Random	Delivery	Road	Receive	Ship	Destination	Track	Pickup	Hits	Wait	Up
HopGrain	↓	↓	↓	Cocoa Pwdr	Clean MT	24th Street Yard	Dr03	↓	11	1	
Tank Veg	↓	↓	↓	Soy Oil	Clean MT	24th Street Yard	Dr02	↓	6	1	
HopGrain	↓	↓	↓	Sugar	Clean MT	24th Street Yard	Dr03	↓	5	1	
Tank Veg	↓	↓	↓	Soy Oil	Clean MT	24th Street Yard	Dr02	↓	7	1	
HopGrain	↓	↓	↓	Sugar	Clean MT	24th Street Yard	Dr03	↓	5	1	
HopGrain	↓	↓	↓	Salt	Clean MT	24th Street Yard	Dr03	↓	9	0	

Here are the schedules, showing two destinations for loaded tank cars.

The next slide shows the other end of the process.

Custom Loads and Schedules - finer traffic control

24th Street Yard track DR02 - tank car storage drawer

Type	Random	Delivery	Road	Receive	Ship	Destination	Track	Pickup	Hits	Wait	U
Tank Veg	▼	▼	▼	Clean MT ▼	Soy Oil ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	3	0	
Tank Veg	▼	▼	▼	Clean MT ▼	Soy Oil ▼	72nd Street ▼	Sealtest 04 ▼	▼	1	0	
Tank Oil	▼	▼	▼	Clean MT ▼	Lqd Petrol ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	2	0	
Tank Veg	▼	▼	▼	Clean MT ▼	Soy Oil ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	5	0	
Tank Oil	▼	▼	▼	Clean MT ▼	Lqd Petrol ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	2	0	
Tank Oil	▼	▼	▼	Clean MT ▼	Lqd Petrol ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	0	0	
Tank Veg	▼	▼	▼	Clean MT ▼	Soy Oil ▼	72nd Street ▼	Sealtest 04 ▼	▼	3	0	
Tank Oil	▼	▼	▼	Clean MT ▼	Lqd Petrol ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	1	0	
Tank Oil	▼	▼	▼	Clean MT ▼	Lqd Petrol ▼	72nd Street ▼	Wm. H. Harvey ▼	▼	0	0	

24th Street Yard track DR03 - hopper and boxcar car storage drawer

Type	Random	Delivery	Road	Receive	Ship	Destination	Track	Pickup	Hits	Wait	U
HopGrain	▼	▼	▼	Clean MT ▼	Cocoa Pwdr ▼	72nd Street ▼	Sealtest 04 ▼	▼	1	0	
Boxcar	▼	▼	▼	Clean MT ▼	Dried Fruit ▼	72nd Street ▼	Sealtest 03 ▼	▼	0	0	
HopGrain	▼	▼	▼	Clean MT ▼	Salt ▼	72nd Street ▼	Sealtest 04 ▼	▼	2	0	
Boxcar	▼	▼	▼	Clean MT ▼	Nuts ▼	72nd Street ▼	Sealtest 03 ▼	▼	1	0	
HopGrain	▼	▼	▼	Clean MT ▼	Sugar ▼	72nd Street ▼	Sealtest 04 ▼	▼	1	0	
Boxcar	▼	▼	▼	Clean MT ▼	Dried Fruit ▼	72nd Street ▼	Sealtest 03 ▼	▼	1	0	
Boxcar	▼	▼	▼	Clean MT ▼	Nuts ▼	72nd Street ▼	Sealtest 03 ▼	▼	1	0	

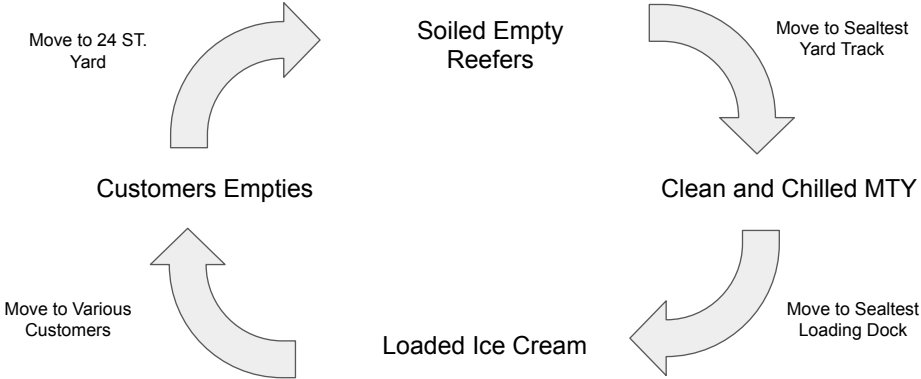
These are the storage drawers that hold tank cars, hoppers and boxcars. You can see the destination spurs.

Custom Loads and Schedules - switchlist reflects load info

```
Scheduled work at 72nd Street, arrival time 00:10
[ ] Pick up ARMN 111107 Reefer 60' White Ice Cream from Sealtest 02
[ ] Pick up UPFE 448585 Boxcar 50' Yellow Clean MT from Sealtest 03
[ ] Pick up CRGX 16816 Tank Veg 50' Black Clean MT from Wm. H. Harvey
[ ] Set out ARMN 111198 Reefer 60' White Chilled MT to Sealtest 01
[ ] Set out ARMN 902095 Reefer 50' White Chilled MT to Sealtest 01
[ ] Set out ARMN 725361 Reefer 50' White Chilled MT to Sealtest 01
[ ] Set out UP 77822 HopGrain 50' White Salt to Sealtest 01
[ ] Set out ARMN 76044 Reefer 50' White Chilled MT to Sealtest 01
[ ] Move ARMN 111109 Reefer 60' White Chilled MT from Sealtest 01
  to Sealtest 02
[ ] Set out SP 850155 Boxcar 50' Brown Dried Fruit to Sealtest 03
[ ] Set out UP 76024 HopGrain 50' White Salt to Sealtest 04
[ ] Set out UP 77467 HopGrain 50' Gray Cocoa Pwdr to Sealtest 04
Train departs 72nd Street Westbound with 3 cars, 172 feet, 150 tons
```

This is a sample switchlist for the Seymore Switcher. Now the custom loads show up instead of L and E.

Custom Loads and Schedules - example car path



You are not limited to one pair of destinations.

Track Pools - Multiple, Off-layout Industries Share a Spur/Drawer

DR01 Reefer Storage with Pools

ID	Spur Name	Length	Used	Reserved	Moves	Cars	Locos	Pick ups	Set outs	Schedule	Pool	Edit
Is1	Dr01	600	54	0	0	1	0	0	0	Yard Reefer track	Reefer_DR01	Edit
Is2	Dr02	600	54	0	0	1	0	0	0	Tank Yard Track		Edit
Is3	Dr03	600	108	0	0	2	0	0	0	HopperBox Yar...		Edit
Is4	HyVee_DR01	70	0	0	0	0	0	0	0	Yard Reefer track	Reefer_DR01	Edit
Is5	Publix_DR01	60	0	0	0	0	0	0	0	Yard Reefer track	Reefer_DR01	Edit

Modified Sealtest Shipping Schedule

Edit Schedule for Spur "Sealtest 02"																			
Tools Window Help																			
Name		Comment										Mode							
Reefer Schedule		Targets 4 reefers per run																	
ID	Current	Type	Random	Delivery	Road	Receive	Ship	Destination	Track	Pickup	Hits	Wait	Up	Down	Delete				
1c1		Reefer	50	↓	↓	Chilled MT	↓	Ice Cream	↓	24th Street Yard	↓	HyVee_DR01	↓	↓	12	1	Up	Down	Delete
1c2		Reefer	50	↓	↓	Chilled MT	↓	Ice Cream	↓	24th Street Yard	↓	Publix_DR01	↓	↓	13	2	Up	Down	Delete
1c3		Reefer	50	↓	↓	Chilled MT	↓	Ice Cream	↓	24th Street Yard	↓	Dr01	↓	↓	18	1	Up	Down	Delete
1c4	-->	Reefer	50	↓	↓	Chilled MT	↓	Ice Cream	↓	24th Street Yard	↓	HyVee_DR01	↓	↓	19	0	Up	Down	Delete
1c5		Reefer	50	↓	↓	Chilled MT	↓	Chilled MT	↓	24th Street Yard	↓	Publix_DR01	↓	↓	2	1	Up	Down	Delete

Switchlists are a tool for the crew. So they don't show the details of the cars actual destination. They just show the next "spot" on the layout.

Here you can see the Reefer Storage Track Pool. It has shared space for all of the Off-Layout Ice Cream customers.

So - even though the final consignee is shown. It is only shown on the final switch list from staging to storage.

Pros and Cons

Both require a lot of setup. CCWB seems more straightforward. In reality, a lot of the procedural details are held in someone's brain or captured in text.

OpsPro is more complex, checking a box have big consequences. Learning to read "build reports" is important. Lots of fine tuning. OpsPro has several "debugging" tools. (build reports, track lists, car location lists....)

Locations, Routes, Trains are needed for both, but must be formally defined in OpsPro.

Casual changes can be easier with CCWB.

If you like Switch Lists, you'll prefer Ops Pro to a stack of Car Cards. (but you can make your own with CCWB.)

With OpsPro I could remove the Card boxes from the layout fascia.

With OpsPro - most likely would use tablets for switch lists.

Car Cards tell the story of the shipment, Switchlists are a tool for the train crew.

For instance -

After an operating session, generate a track list with their contents. Walk it down and make sure everything was where it was supposed to be. If a misplaced car is found, check the "cars" screen to see where it should be placed.

Ok it works - Now what?

Experiment with Locomotive and Caboose assignments.

Explore Train Schedules (on a larger test layout.)

Time	Name	Description	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
00:00	TIBSM	Inbound Staging to S...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00	TOB24	Outbound Staging - P...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00	TSMOB	Seymore Yard to Out...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00:00	TSMSW	Seymore Switcher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19:00	T24IBx7P	Drawers to Stage Inb...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23:00	T24IBx11P	Drawers to Stage Inb...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Modify simulation layout to for a test of interchanges, and multiple locations

If I had to decide today?

The physical layout would stay with car cards and waybills

Car Cards tell the story of the shipment, Switchlists are a tool for the train crew.

Operations Pro, though it can be frustrating, is fun and can be a hobby in and of itself.

OpsPro significantly enhanced my enjoyment of the Trainz simulator.

Build a new, larger, simulation layout based around OpsPro's capabilities.

End here

Compressed Speed Curve -

Max Speed 10 mph

High momentum
smooths transition
between throttle notches

Above notch 4 - only
sound changes

High momentum enables
long "coast" time

Variable Brake enhances
slow speed operation

