
Yards, Trains and Destinations: Planning Model RR Operations



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What IS Model RR “Operations”?

(My opinion): A model railroad “designed for Operations” is designed to replicate the look, feel, purpose and tasks of actual railroad operations.



That means moving traffic for a purpose

- Haul coal?
- Passenger service?
- Granger service?
- Bridge line?
- Branch line?
- Single industry?
- Port service?
- Class-1 (Manifest freight, unit trains and yards?)



Ways to move freight and serve customers

- Pickup/setout via trains out of staging
- Local trains and turns from on-layout yards.
- Peddler freights or way freights staged on the layout.
- Switchers dedicated to a town or industry.

All above can be designed **WITH**
and **WITHOUT** yards

But there is still an origin and
destination for traffic.

Common needs for all:

- Train(s) to run
- Cars to deliver and pickup
- Industries, towns, stations or
locations to service



Getting Started Planning your operation

- Make a list of all the industries, or industry spurs, or towns, you are modeling.
- Creating a 'schematic', or simple line drawing, showing the towns or industries, in order, can help.



- Decide how trains will serve each town:
 - Run directly from staging to the town or industry?



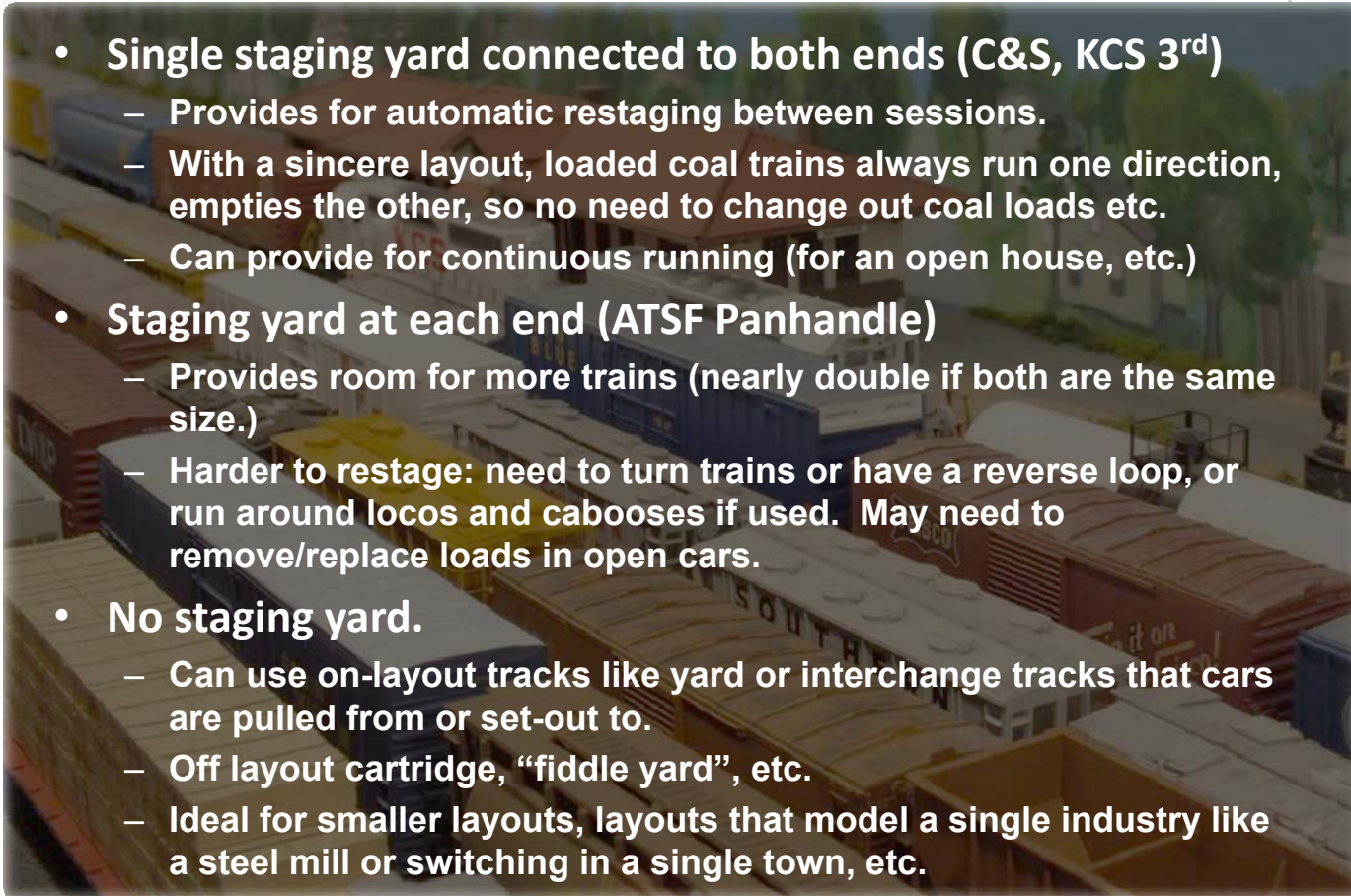
Originate from a yard, town or other industry?

– Work **WITHIN** the industry?

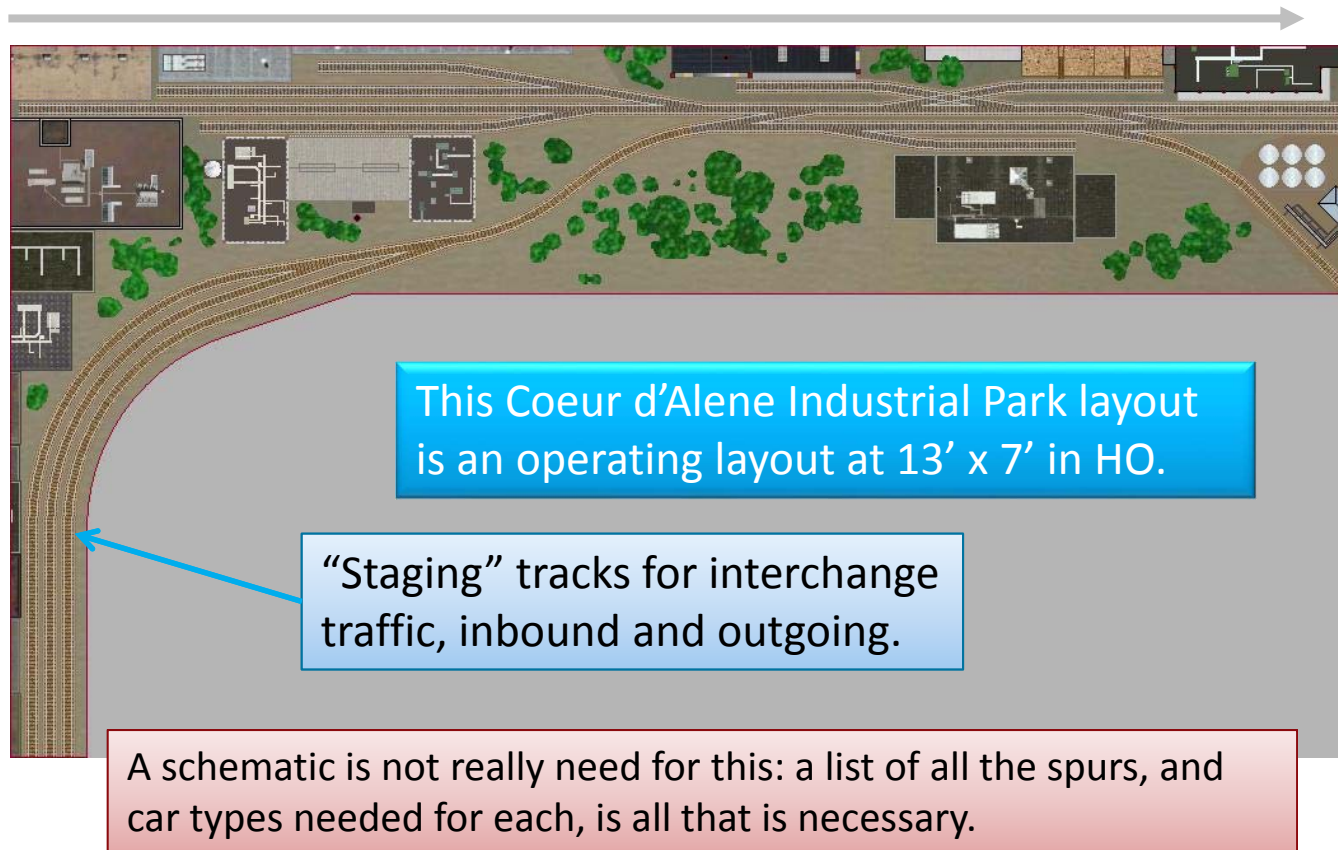


Location of Staging Yard(s) (OPTIONAL)

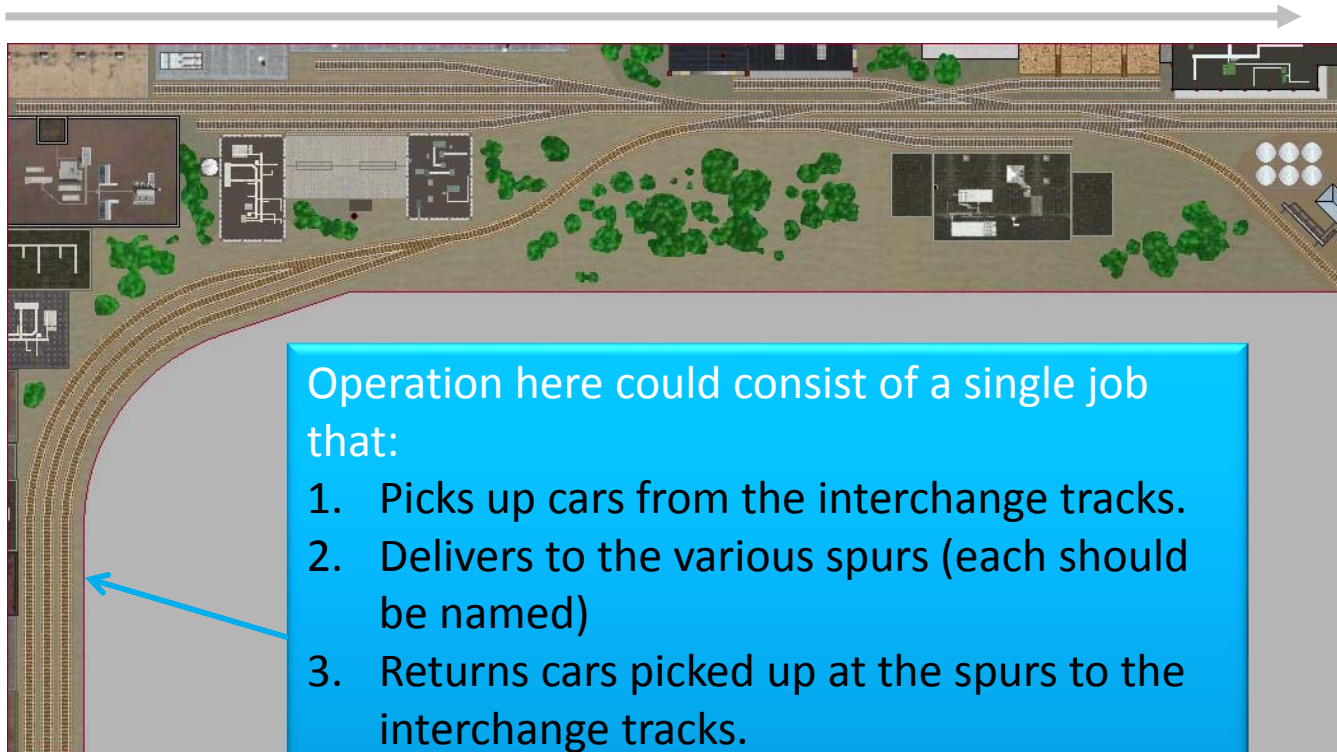
- **Single staging yard connected to both ends (C&S, KCS 3rd)**
 - Provides for automatic restaging between sessions.
 - With a sincere layout, loaded coal trains always run one direction, empties the other, so no need to change out coal loads etc.
 - Can provide for continuous running (for an open house, etc.)
- **Staging yard at each end (ATSF Panhandle)**
 - Provides room for more trains (nearly double if both are the same size.)
 - Harder to restage: need to turn trains or have a reverse loop, or run around locos and cabooses if used. May need to remove/replace loads in open cars.
- **No staging yard.**
 - Can use on-layout tracks like yard or interchange tracks that cars are pulled from or set-out to.
 - Off layout cartridge, “fiddle yard”, etc.
 - Ideal for smaller layouts, layouts that model a single industry like a steel mill or switching in a single town, etc.



On-layout staging: Coeur d'Alene



A simple example: Coeur d'Alene



















Operation here could consist of a single job that:

1. Picks up cars from the interchange tracks.
2. Delivers to the various spurs (each should be named)
3. Returns cars picked up at the spurs to the interchange tracks.

For a new session, just flip the car cards or generate a new switch list.

Coeur d'Alene Industry Switchlist Example

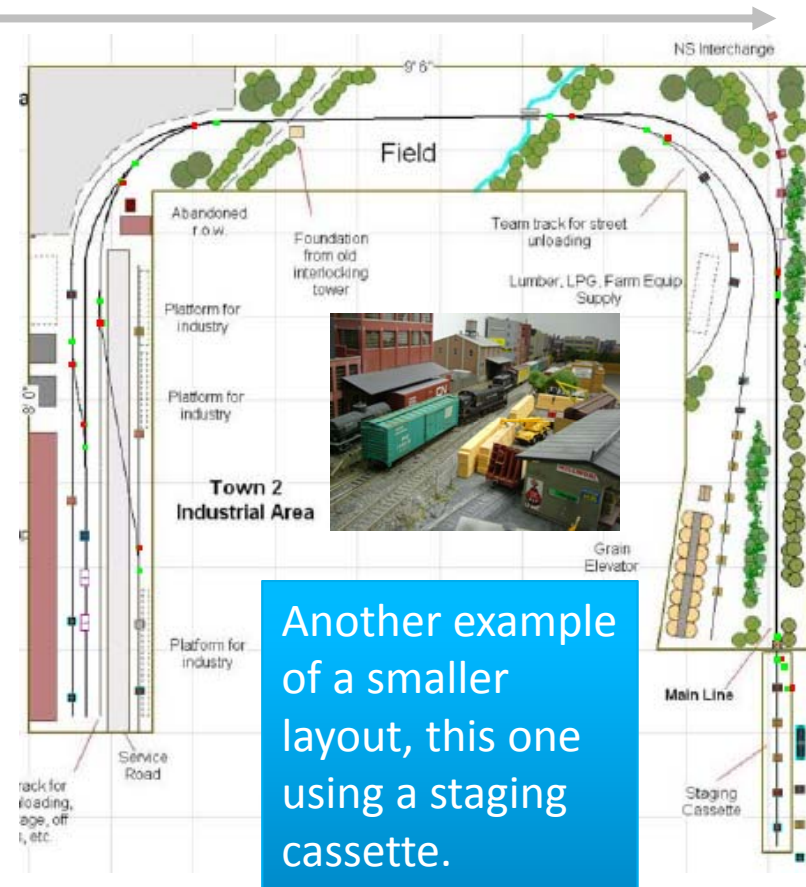
Color	Action	Type	Car	To/At	Load	From	Image	Done
	Deliver	reefer	RS47	Denson Fruit	beef	Elm St Yard		
	Deliver	50ft box	XM7	Russet Potato...	potatoes	Elm St Yard		
	Send	50ft box	XM5	Team Track	Empty	Elm St Yard		
	Send	50ft box	XM11	Idaho Springs...	Empty	Elm St Yard		
	Send	50ft box	TM20	General Electric	Empty	Elm St Yard		
	Deliver	50ft box	SM29	Idaho Springs...	tinplate	Elm St Yard		
	Return	50ft box	XM8	Elm St Yard	appliances	General Electric		
	Return	reefer	RS211	Elm St Yard	frozen foo...	Russet Potato...		

Switchlist and diagram from Train Player™ Software. This software, available at <http://www.trainplayer.com/> is a great tool for designing and then testing the operations on a model railroad, before committing to build it. An operating version of the KCS 3rd Sub is included.

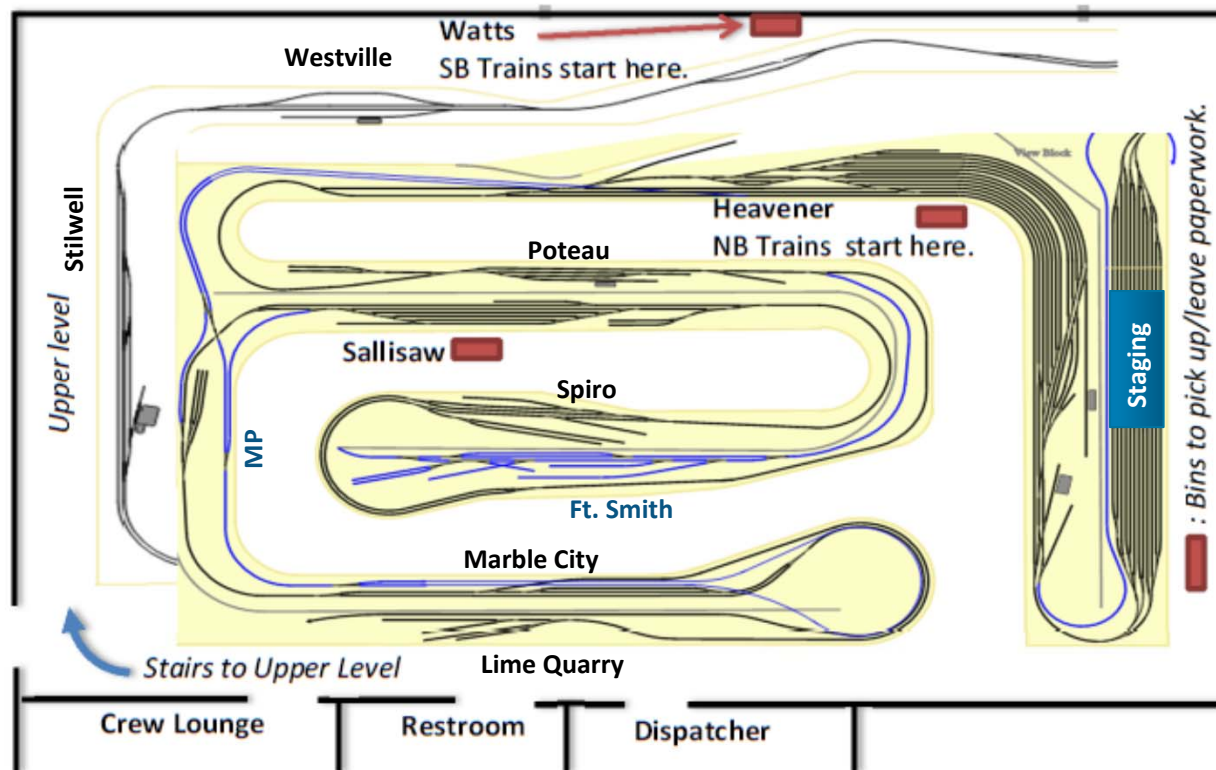
This would work just as well with car cards: just flip the cards each session.

A small layout with more operating options

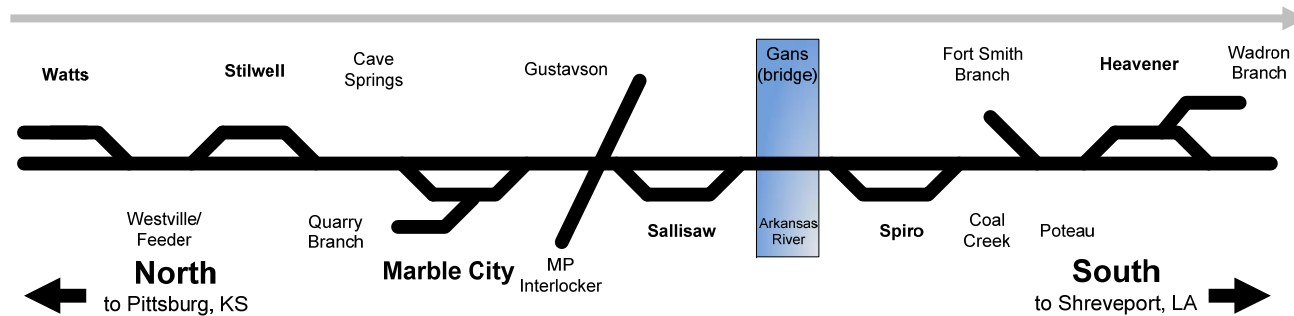
- Could run a “road switcher” from the staging cassette to Town 2.
- Main line running through “Field”
- Local switcher in Town 2
- Interchange traffic w/ NS.
- Can you think of other ways to operate this?



Same diagram with less detail



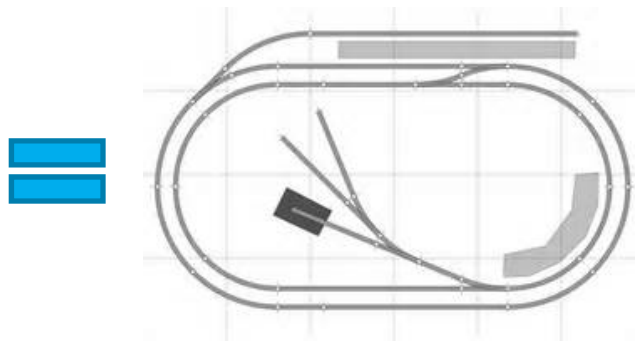
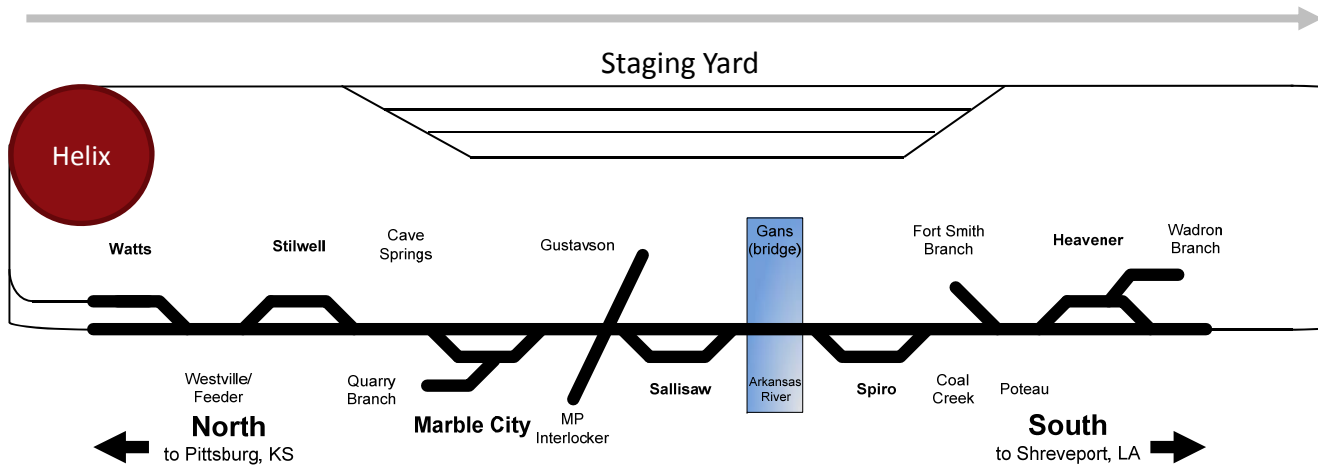
The layout reduced to a simple line drawing



- **HOW?** “Play train”: look at the track diagram, and follow it, listing or putting the towns/industries in order as you encounter them.
- The complicated looking KCS 3rd sub, for a southbound train starting at north staging, consists of the following towns in order:
 - Watts
 - Stilwell
 - Marble City
 - Sallisaw
 - Spiro
 - Poteau

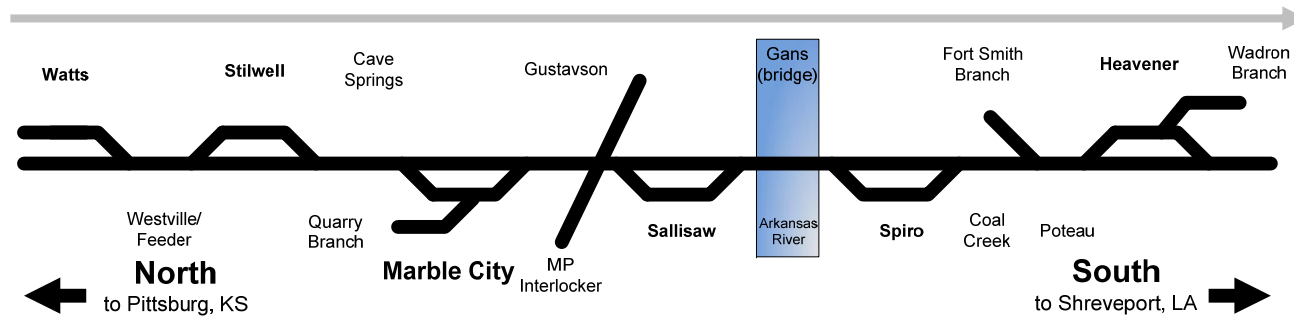
Not shown: There is a small yard in Sallisaw, major yard in Heavener, and branch lines at Marble City and Heavener.

ANY layout can operate as a “point to point”



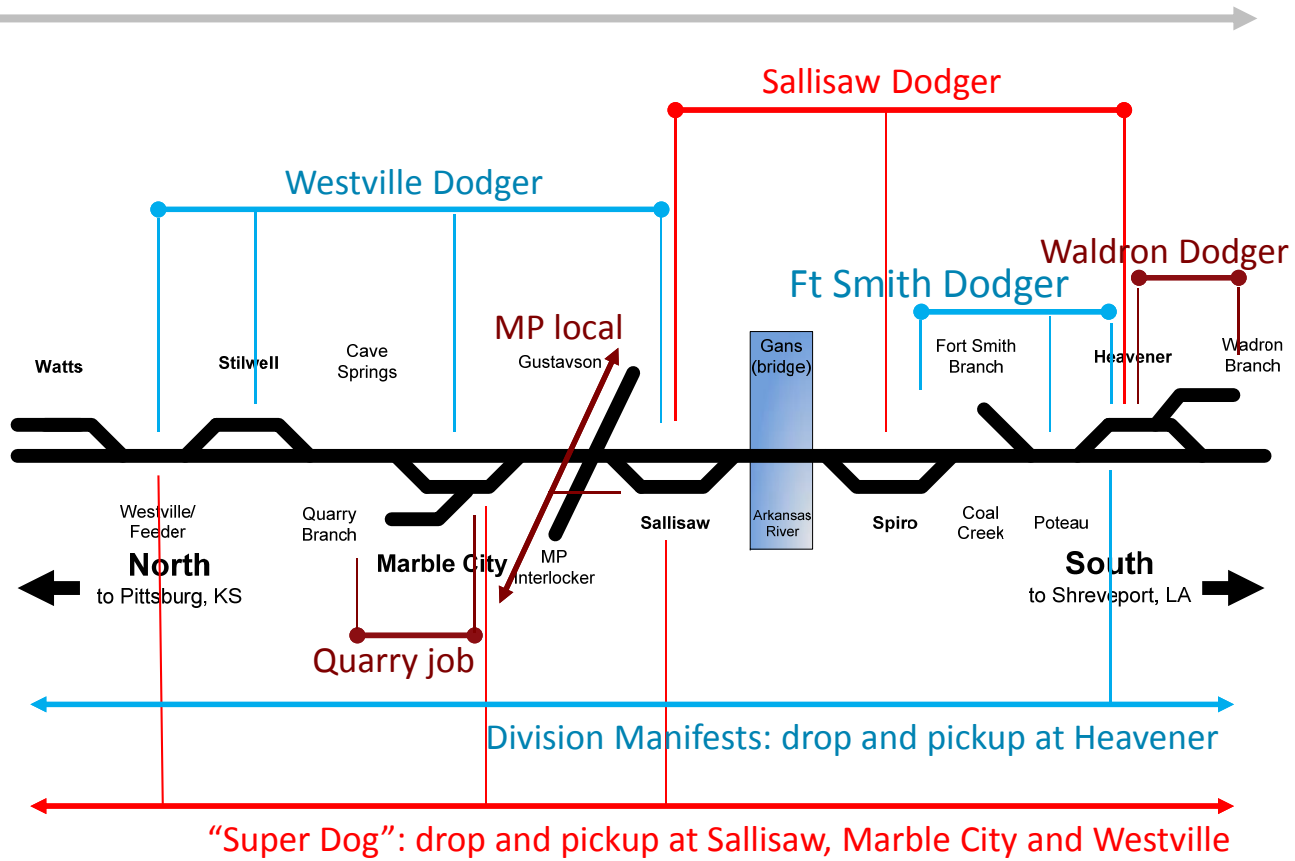
The KCS 3rd is actually a circle! So are the C&S and Green Country. So you CAN do this with any layout. Not so different from the “basic oval” at right!

So how did we decide how to operate this?



- (We cheated: we just copied the prototype.) BUT with the C&S, which is a similar layout, we had to invent the operation. It turns out both operations are VERY similar.
- Some trains just run across the layout from staging to staging.
- Others run the whole layout but drop cars at various locations.
- Some trains originate from one of the two yards (from cars delivered there by other trains) to service one or more towns or industries.
- Some jobs are local and start and end on a branch line, industry, or in a yard or town.

Train routes on the KCS 3rd



KCS 3rd Example Work for a Dodger

Waldron Dodger

SWITCH CARS CAREFULLY AND SAFELY
AVOID ROUGH HANDLING

Engine: KCS 799	Train: WD
Departs: 11:20	Origin: Heavener

CREW:

RN	CAR INFO	TRACK
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Manifest Leaving Heavener at: 11:20

Waldron PICKUPS:

KCS	153294 Box Brown L	006 Furniture
GATX	91713 Tank Chem Black E	007 Furniture
ATSF	308205 Hop Cov-Food Tuscan L	009 Scott County Feed
KCS	310538 Hop Cov-Food Tuscan E	009 Scott County Feed
KCS	503045 Woodchip Brown E	011 Intl Paper
GATX	8184 Tank Food Gray E	005 ValMac
ACFX	88588 Tank Food Black E	005 ValMac
ATSF	300358 Hop Cov-Food Brown L	005 ValMac
AMCX	6809 Hop Cov-Chem Gray L	007 Furniture
KOTX	879 Tank Oil White E	010 Citgo

Waldron SETOUTS:

DRGW	15307 Hop Cov-Food Gray E	005 ValMac
KCS	308684 Hop Cov-Food Tuscan E	005 ValMac
CNW	490026 Hop Cov-Food Yellow L	005 ValMac
WP	4006 Box Brown L	006 Furniture
RAIX	6183 Tank Chem Blue E	007 Furniture
GATX	98934 Tank Chem White L	007 Furniture
SP	496668 Hop Cov-Food Gray L	009 Scott County Feed
SCLX	516 Tank Oil Orange E	010 Citgo



Note: this is a PARTIAL switchlist.

Yard Basics

- **Purpose**
 - Prototype yards generally exist to sort and route cars.
 - Some are used to store cars until needed.
- **Yard capacity (considerations for smooth operations)**
 - If trains will be built at the beginning of the ops session, there should be room for all cars needed to make up outbound trains.
 - If trains are built “just in time”, (after arrival of trains with inbound cars) room is only needed for the number of cars that will be dropped.
- **Operation**
 - Switched by passing or originating crews
 - Dedicated Yard crew(s)
- **Configuration**
 - Single-ended
 - Double-ended



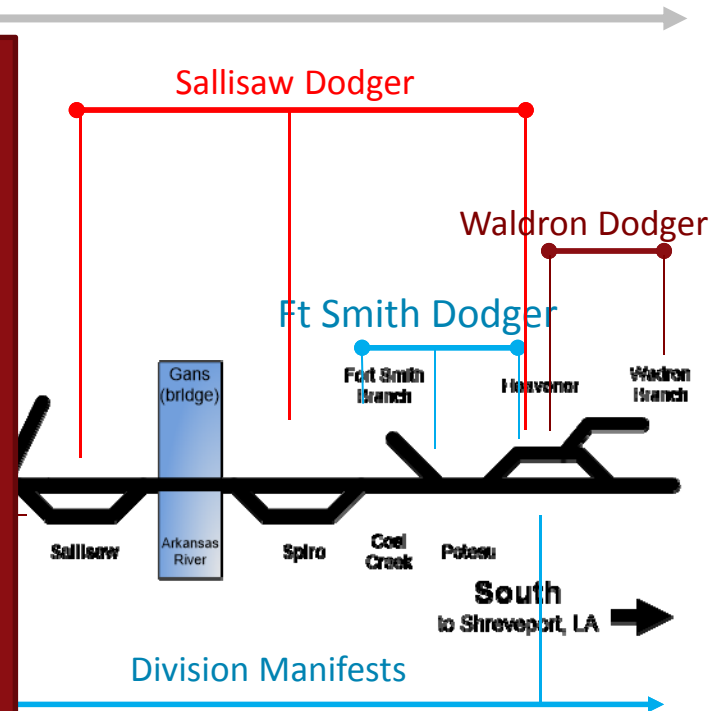
Car Routing Analysis: Heavener Yard

Trains:

- 2 NB Manifests
- 2 SB Manifests
- Sallisaw Dodger
- Ft. Smith Dodger
- Waldron Dodger
- Heavener local

Concept:

1. Cars move between off-layout (Shreveport, Pittsburg) and Heavener.
2. Cars move from Heavener to various towns and industries.
3. Cars delivered to Sallisaw may move on another train.



Yard Design

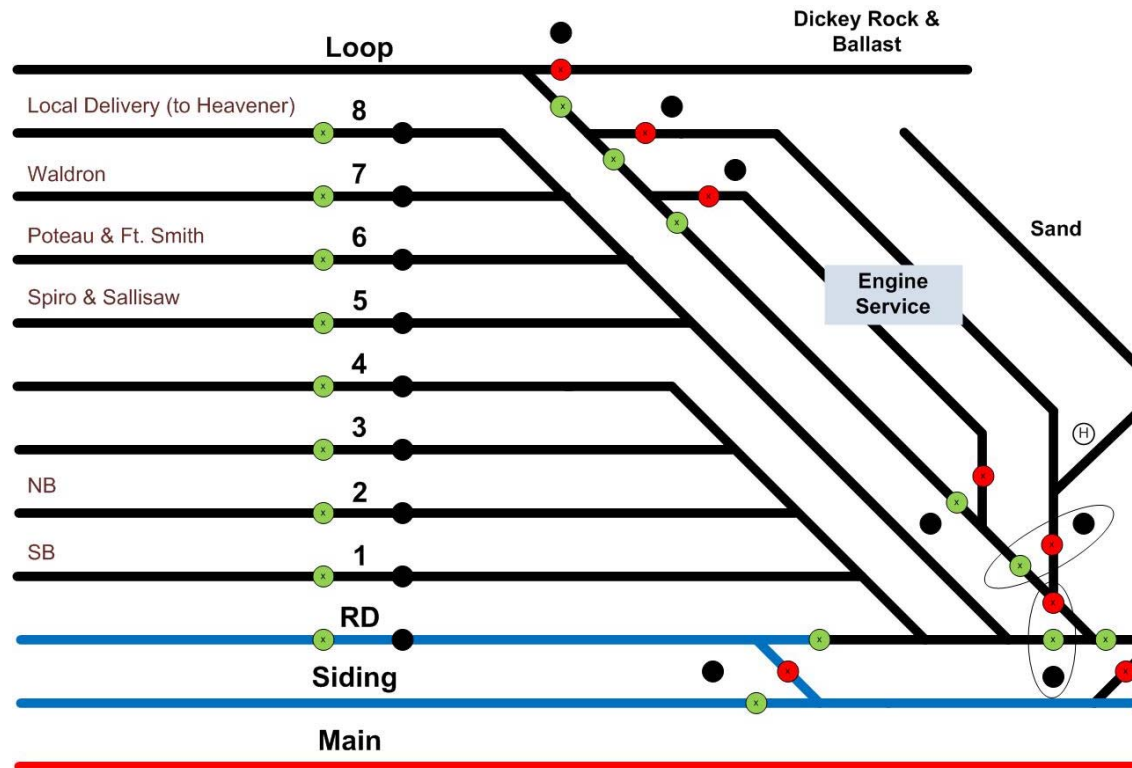


Yard Design

- Ideally, there should be a track dedicated to each major town or destination, or for each outbound train.
- Can be based on prototype if you have sufficient information on how the prototype operated, and sufficient room for the required tracks.
- If space is lacking, tracks can be shared for multiple destinations, but, there should be a way to indicate the destination so cars are easily marshalled for outbound trains or trains exchanging cars.



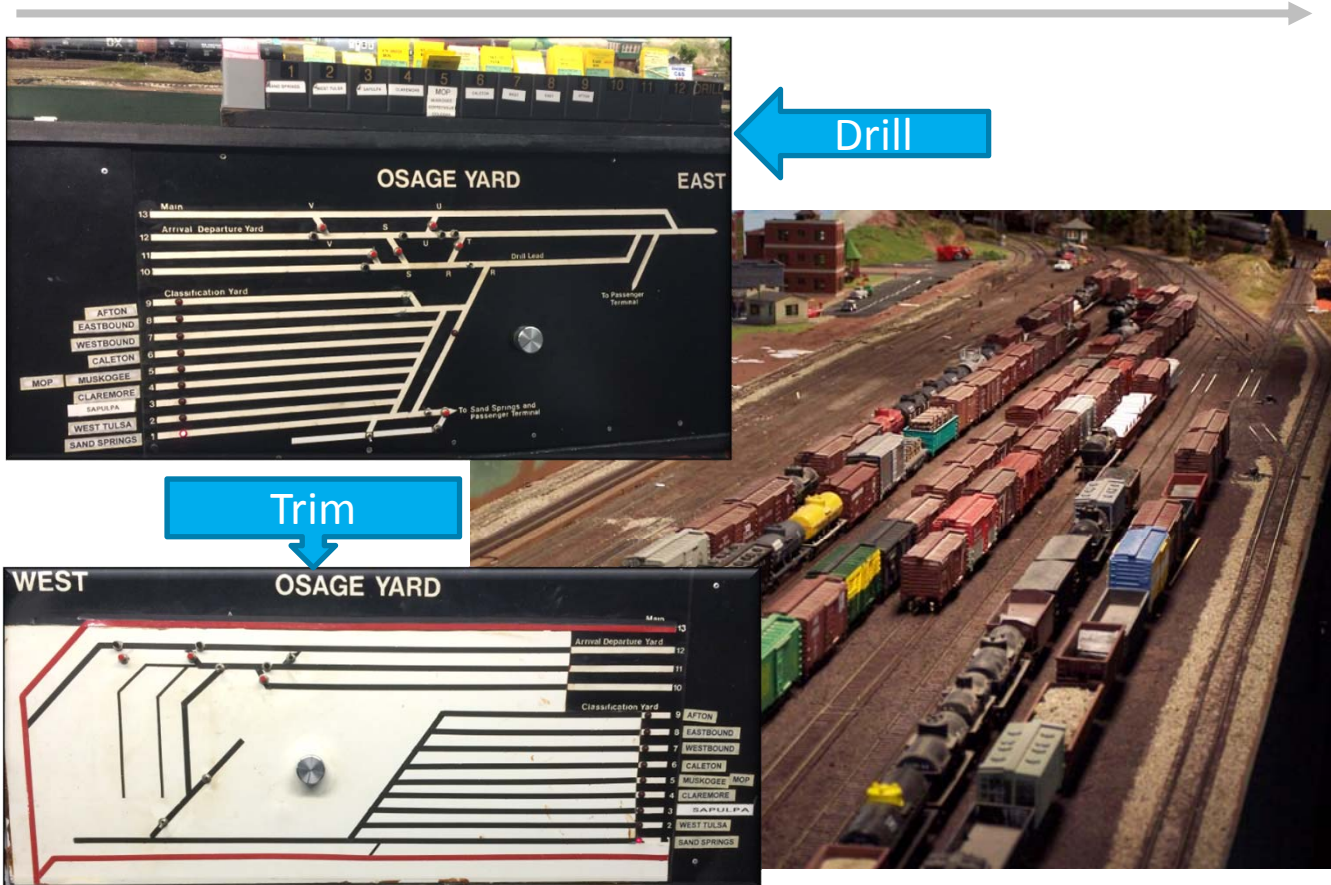
KCS Heavener Yard Schematic



KCS Heavener Yard (Drill end) Pictures



C&S Osage Yard

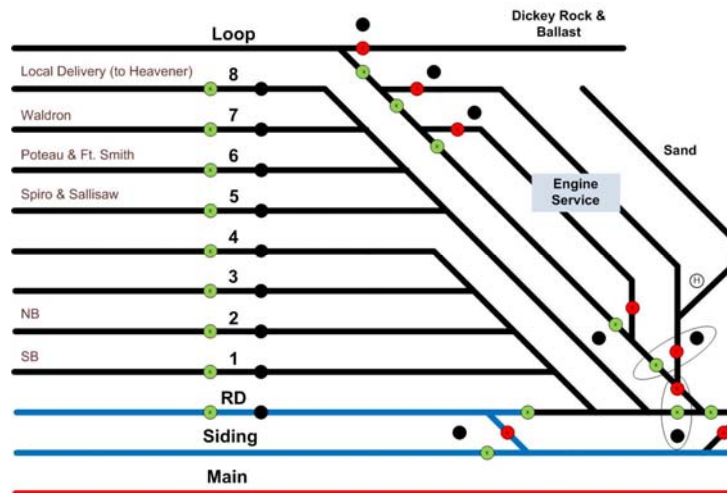


Example: KCS 3rd Drill Switchlist for train 82

Scheduled work for train (82) SVKC

Departs Shreveport LA at 07:40 expected arrival 07:58, arrives Northbound

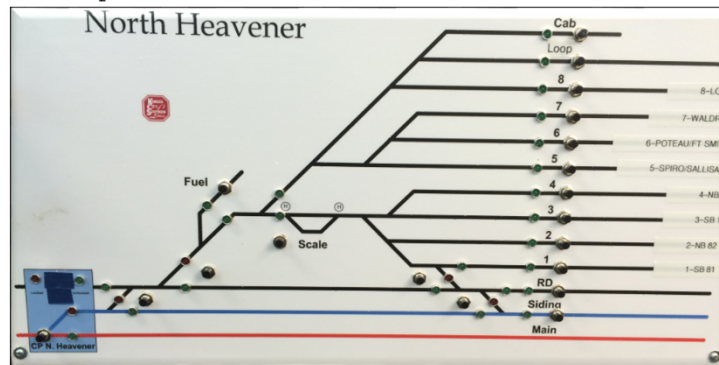
[]	Set out SHPX	17054	Tank Gas	White	to 5 Spiro & Sallisaw
[]	Set out MILW	98577	Hop Cov	Yellow	to 5 Spiro & Sallisaw
[]	Set out SSW	36061	Box	Brown	to 6 Poteau & Ft Smith
[]	Set out ACPX	27014	Hop Cov	White	to 6 Poteau & Ft Smith
[]	Set out KCS	153282	Box	Brown	to 6 Poteau & Ft Smith
[]	Set out ACPX	51527	Hop Cov	White	to 8 HV Local
[]	Set out CRR	7034	Box	Brown	to 8 HV Local
[]	Set out MTW	4113	Box	Green	to 8 HV Local
[]	Set out USLX	26278	Hop Cov	Green	to 8 HV Local
[]	Set out KCS	5415	Hop Cov	Tuscan	to 8 HV Local



Collecting cars from the classification tracks

Scheduled work for train (FSD) Ft Smith Dodger
 Departs Heavener Northbound at 06:30

[]	Pick up	KCS	4106	GP30	from 5 Spiro & Sallisaw	ADDRESS 4103	
[]	Pick up	KCS	4103	GP30	from 5 Spiro & Sallisaw	ADDRESS 4103	
[]	Pickup	KCS	61024	Box	Red from 6 Poteau & Ft Smith	-> Poteau	} Poteau Block
[]	Pickup	WP	38214	Box	Brown from 6 Poteau & Ft Smith	-> Poteau	
[]	Pickup	KCS	116131	Box	Tuscan from 6 Poteau & Ft Smith	-> Poteau	
[]	Pickup	KCS	17927	Box	Brown from 6 Poteau & Ft Smith	-> Poteau	
[]	Pickup	RBOX	34431	Box	Orange from 6 Poteau & Ft Smith	-> Poteau	
[]	Pickup	ABOX	51238	Box	Yellow from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	UTLX	70873	Tank Oil	Black from 6 Poteau & Ft Smith	-> Ft Smith	} Ft Smith Block
[]	Pickup	ACSX	933025	Tank Gas	Gray from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	ACFX	79621	Tank Oil	Black from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	NP	76905	Hop Cov	Gray from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	CCR	6207	Box	Blue from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	CP	80977	Box	Green from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	KCS	29900	Hop Cov	Brown from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	VUHX	103	Hop Cov	Green from 6 Poteau & Ft Smith	-> Ft Smith	
[]	Pickup	KCS	331	Caboose	Silver from Caboose	-> Heavener	



'Trim' job collects cars from the classification tracks, and blocks them in switching order. The train crew could also do this themselves.

Delivering the freight



Thank you.



Want more information?

See the KCS 3rd Sub web site (and sign up to operate if you like!) at

kcs3.webs.com/

Or email Steve Davis at SteveDavis@skylinecomputing.com