

# Operations on the Pennsylvania Southern Railroad

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# Operations on the Pennsylvania Southern

- Introduction
- Layout tour
- Train descriptions
- Rolling stock
- Session setup
- Car routing
- Dispatching
- Yard operations
- Local operations
- Staffing



# Introduction

- HO scale freelance line linking Pittsburgh with the South
- Modeled portion from Pittsburgh to West Virginia state line
- Single track with passing sidings
- Lots of industry and through traffic
- Era: 1980

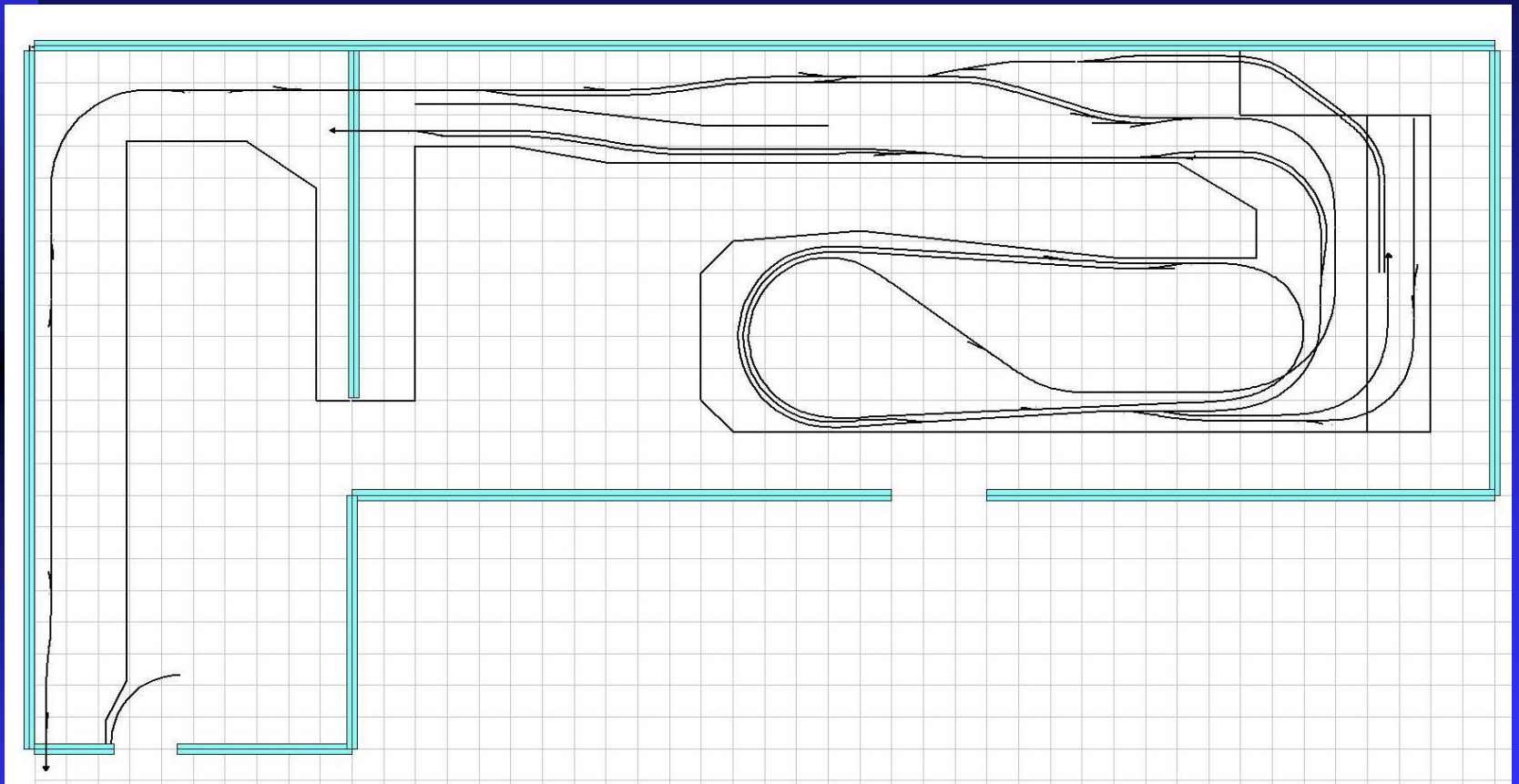
# In 1980....

- Lots of Incentive Per Diem and Railbox boxcars
- GP50s and GP38-2s were brand new
- Trains still had cabooses
- Conrail just 4 years old
- Seaboard System not formed until early 1980s
- Norfolk Southern (a regional carrier in North Carolina) was part of Southern Railway

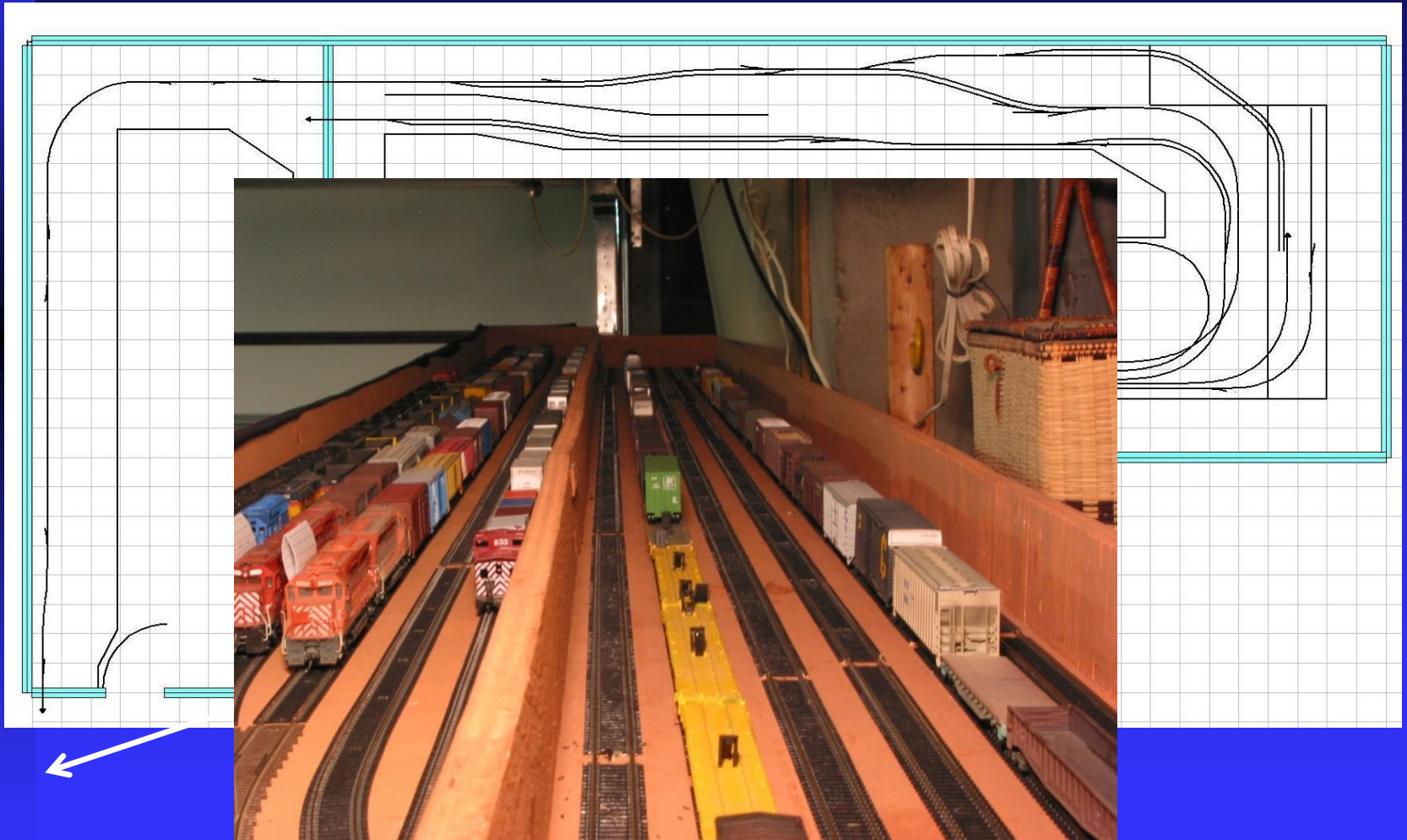
# Introduction

- NCE DCC
- 2 Pro Cab programmable throttles
- 5 Cab 06 throttles
- Extensive use of back EMF decoders
- All locomotive speed curves match for complete compatibility

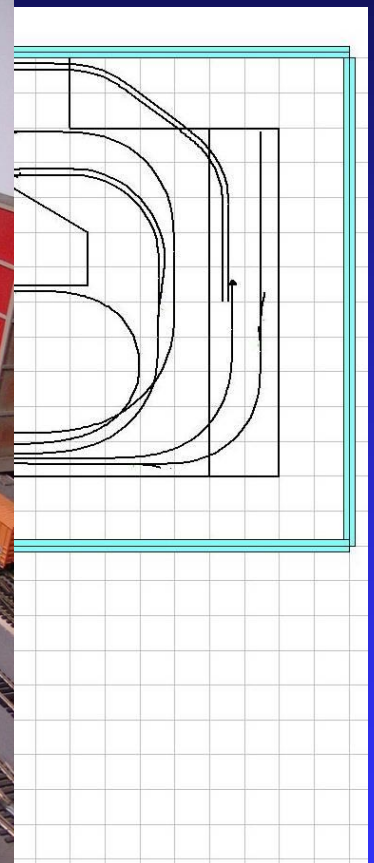
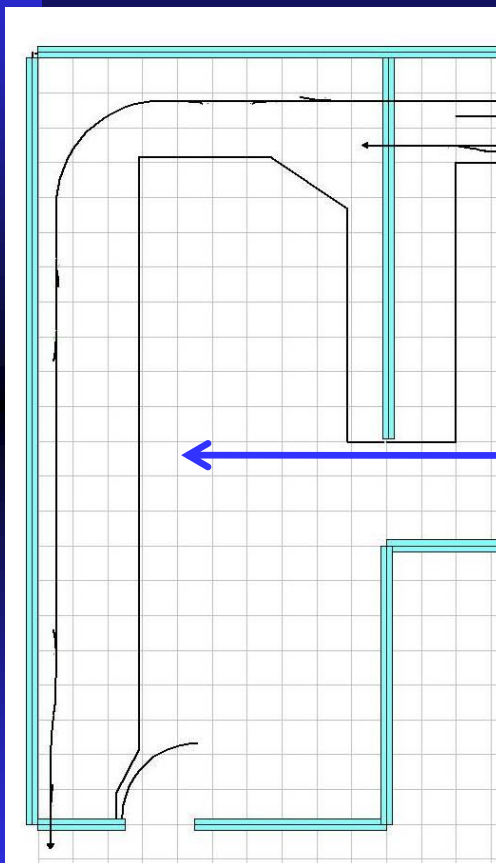
# Layout Tour



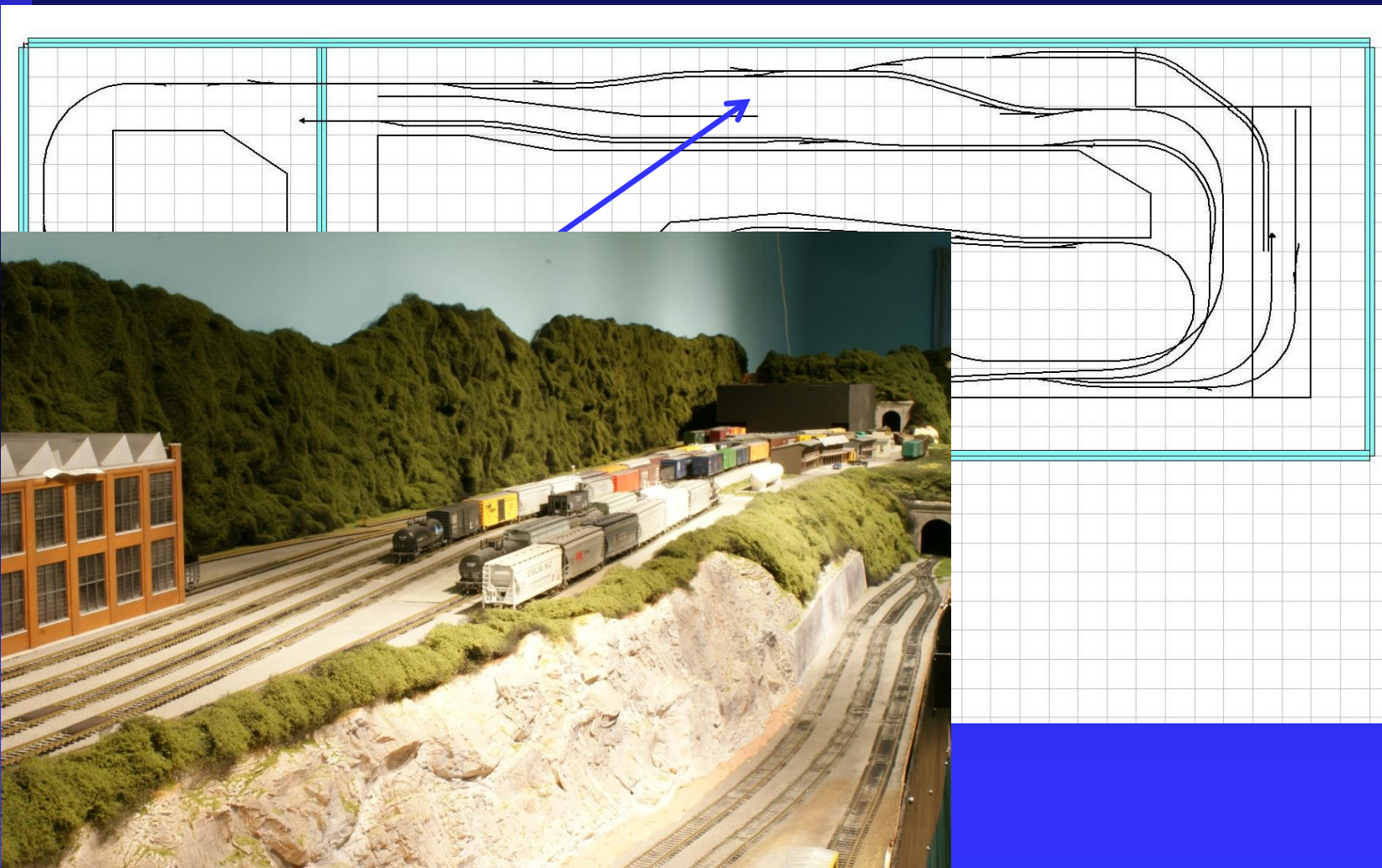
# Layout Tour – North Yard



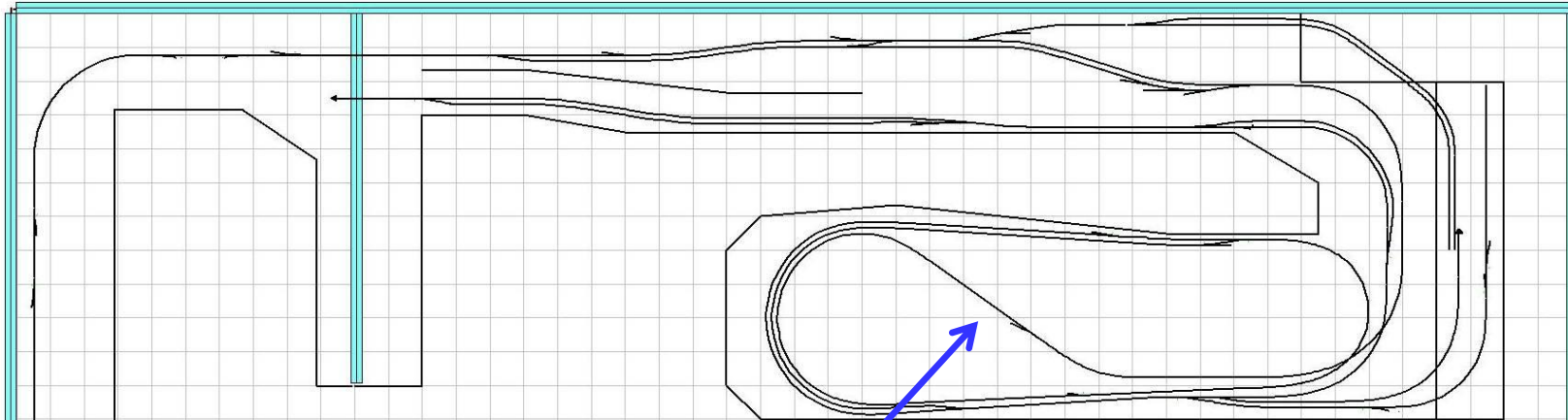
# Layout Tour - Pittsburgh



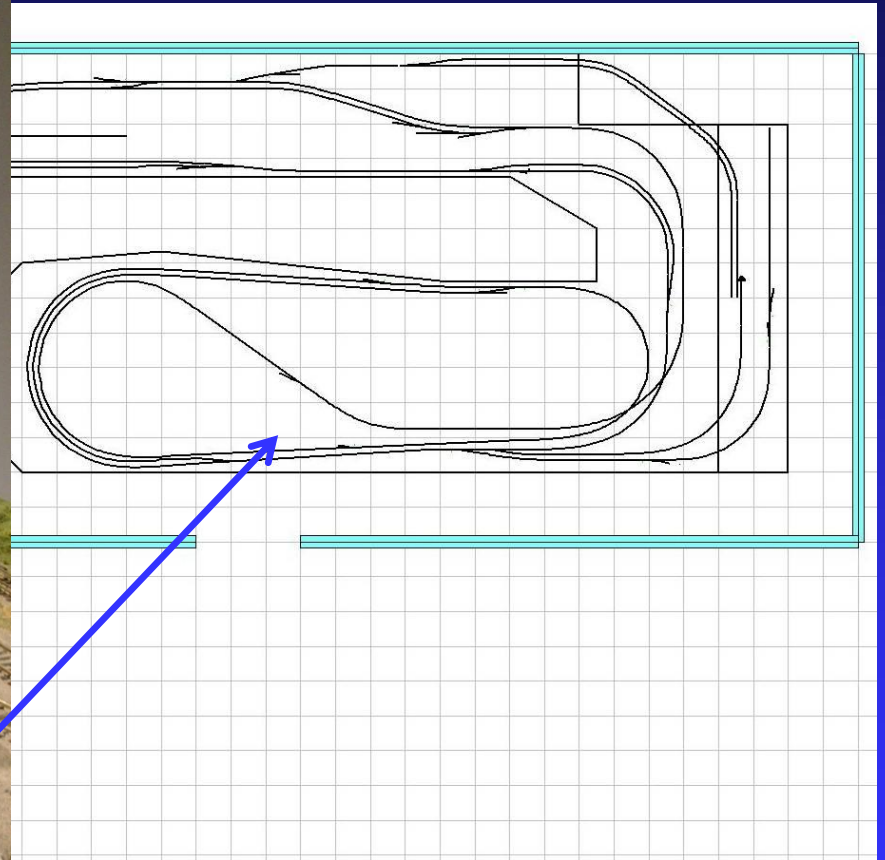
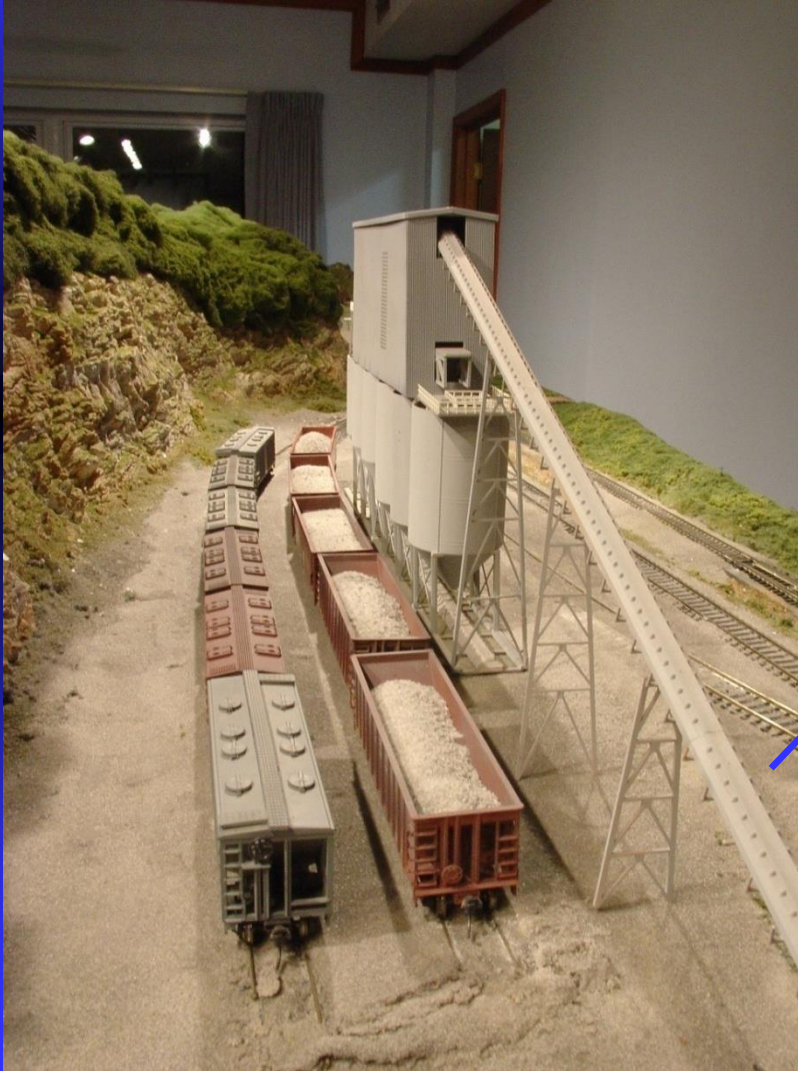
# Layout Tour



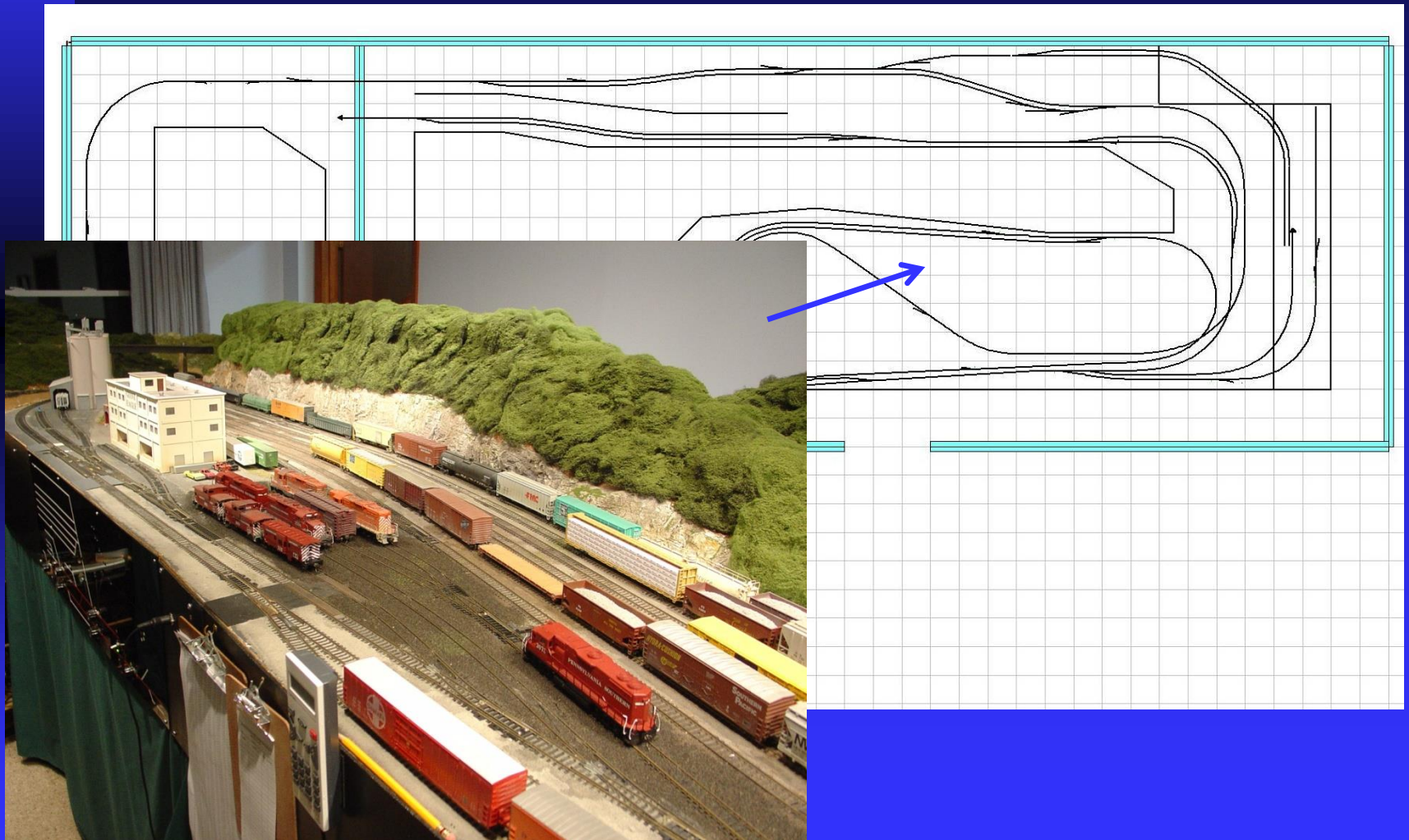
# Layout Tour - Canonsburg



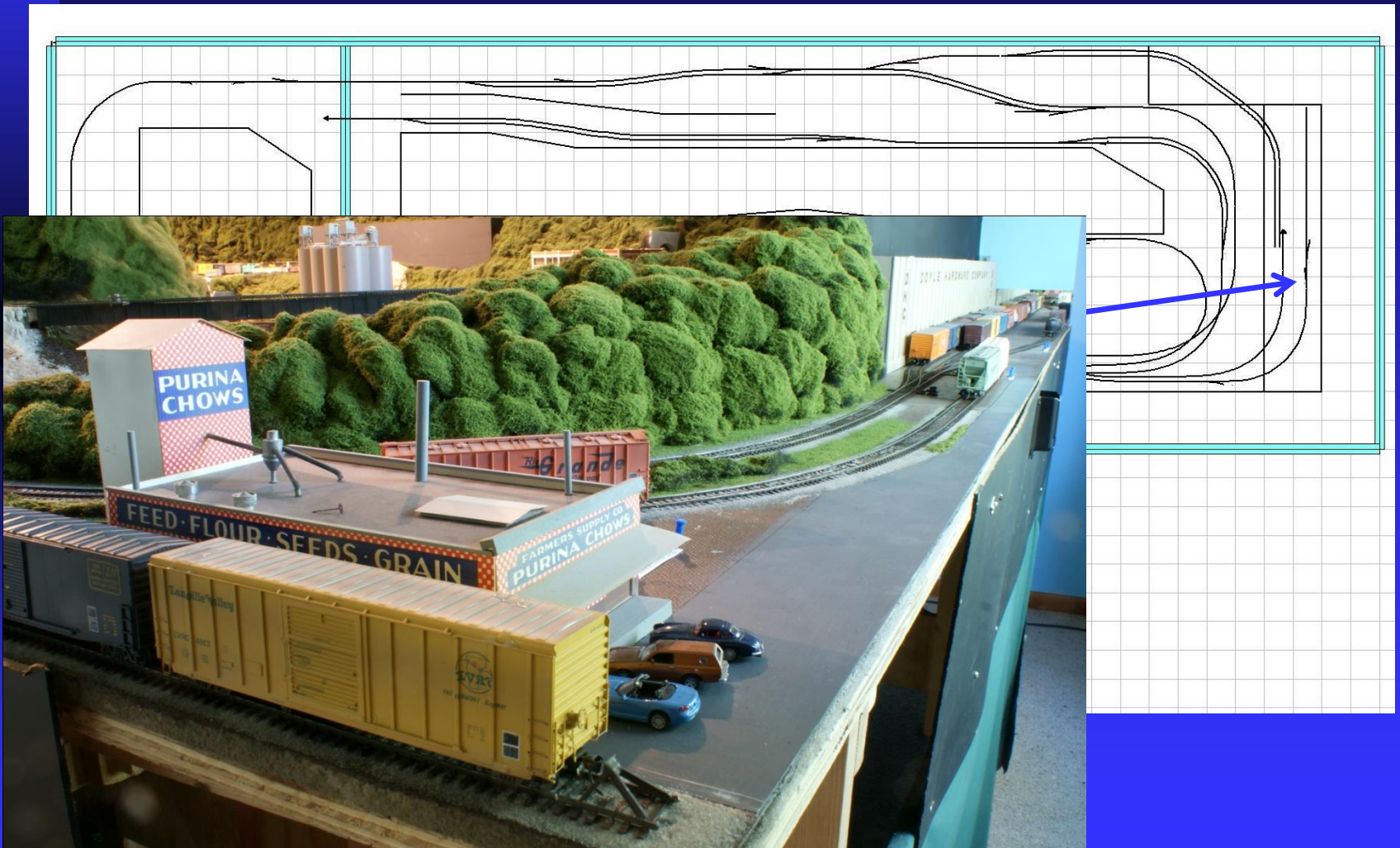
# Layout Tour - Houston



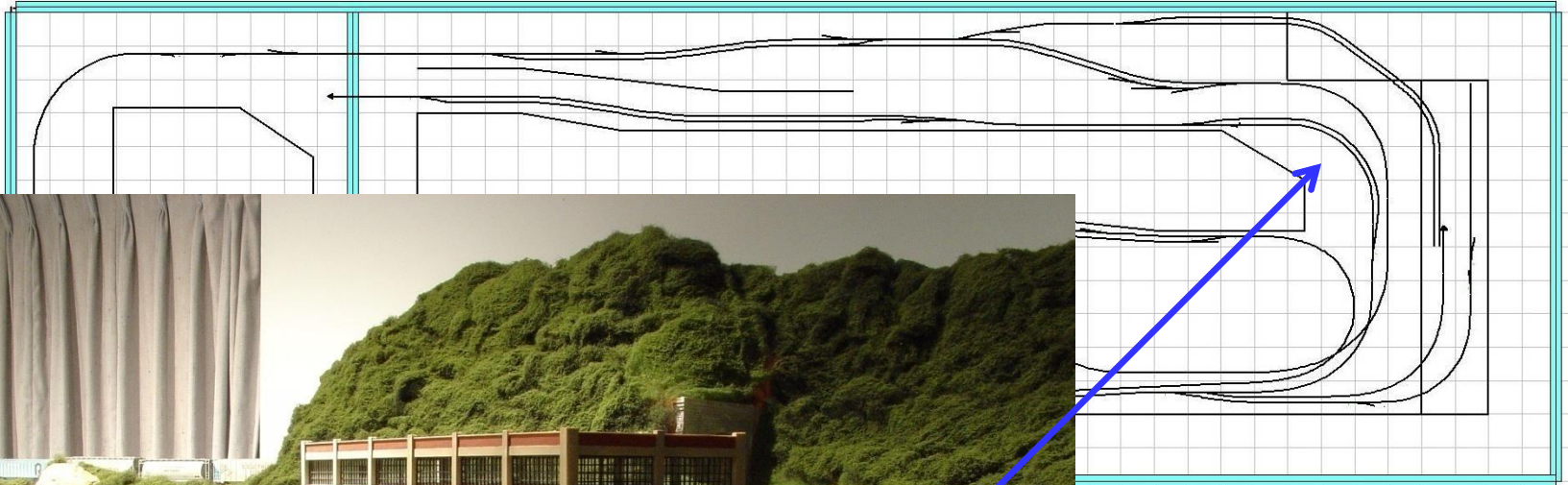
# Layout Tour



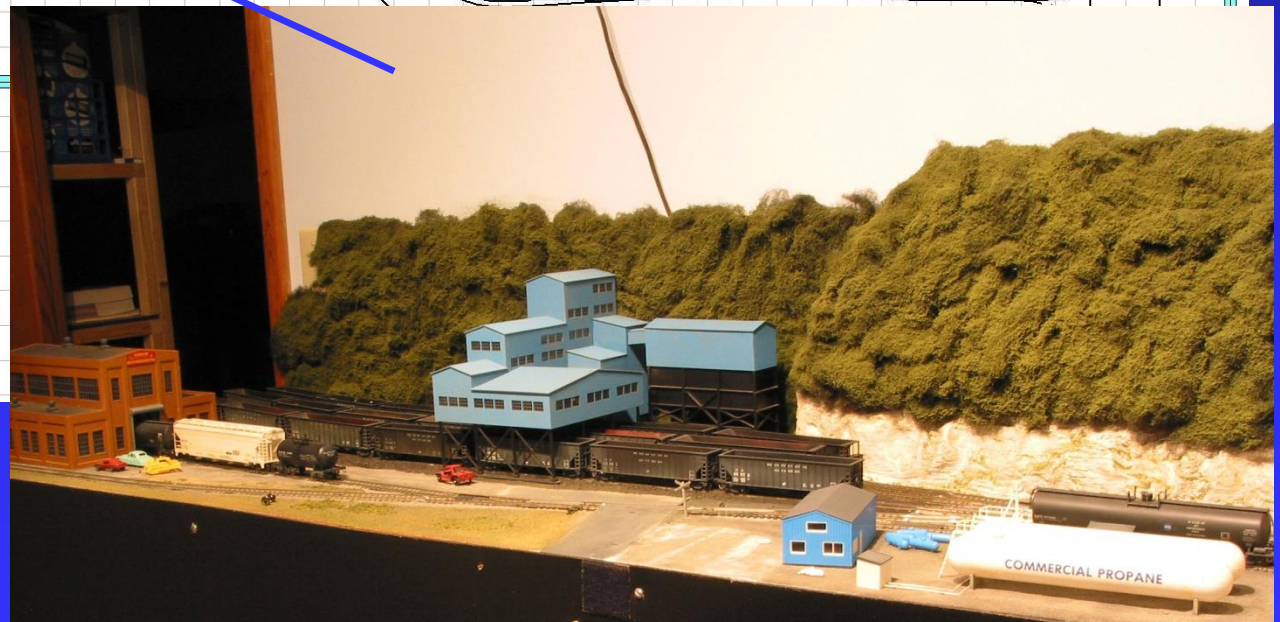
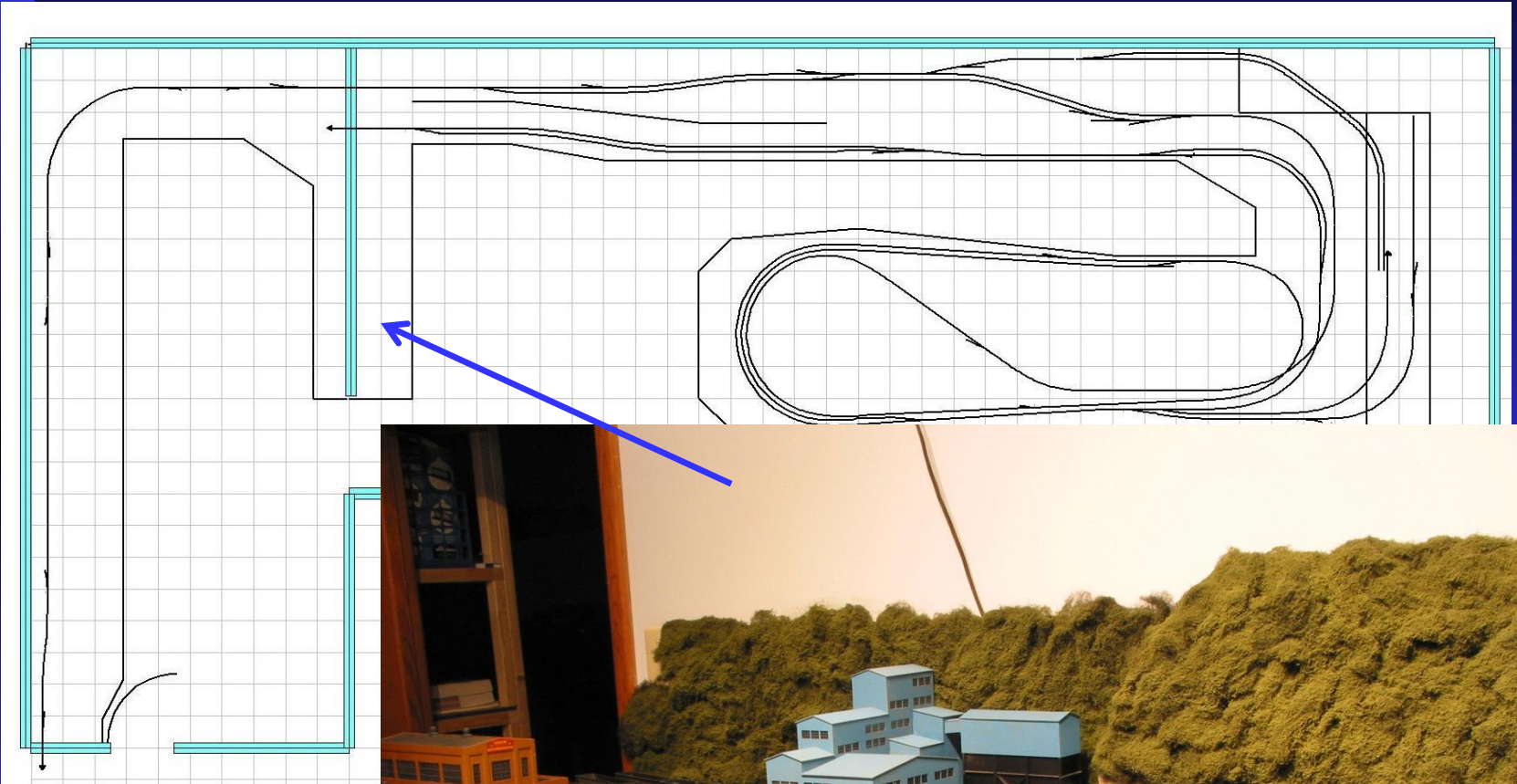
# Layout Tour - Baker



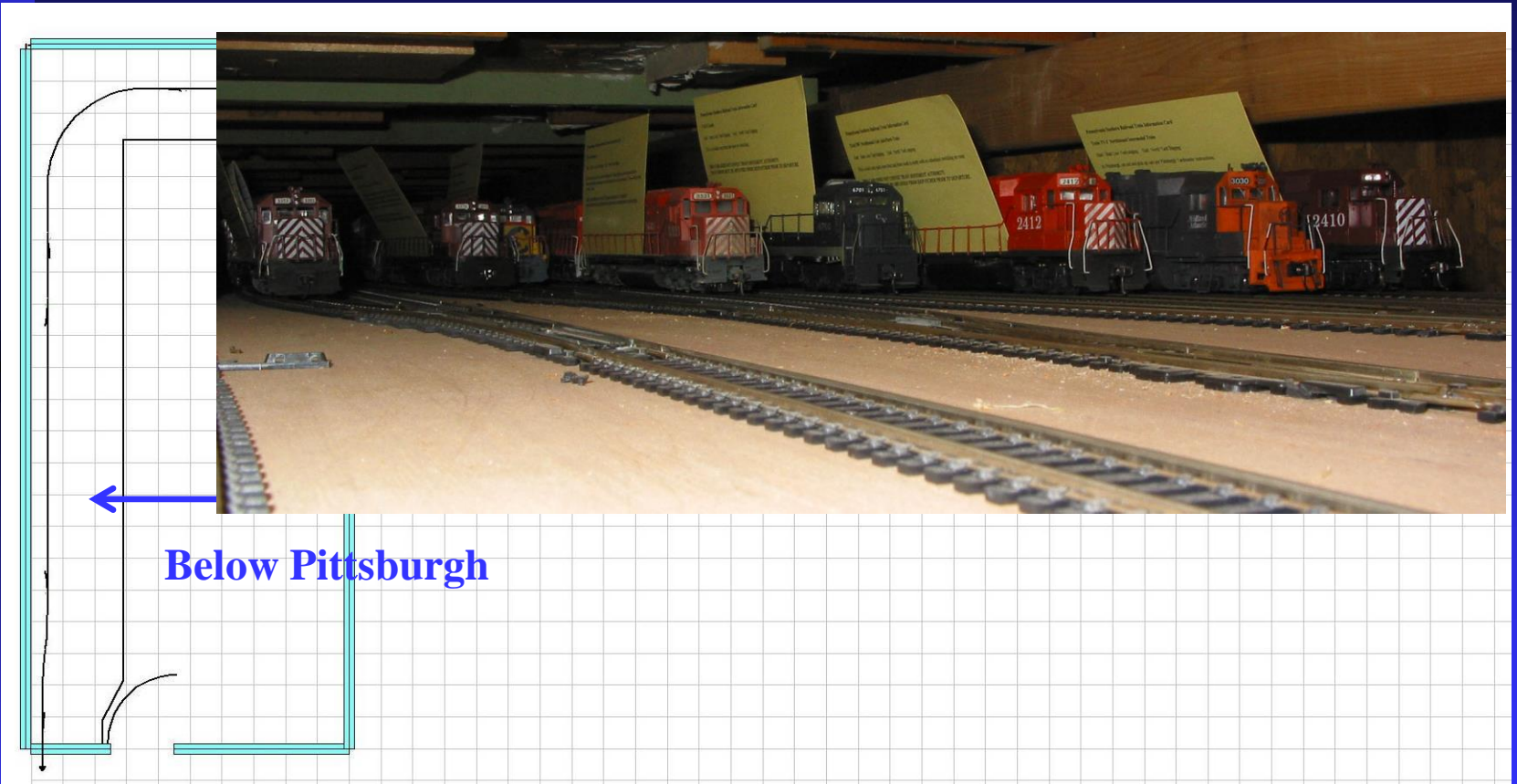
# Layout Tour – West Union



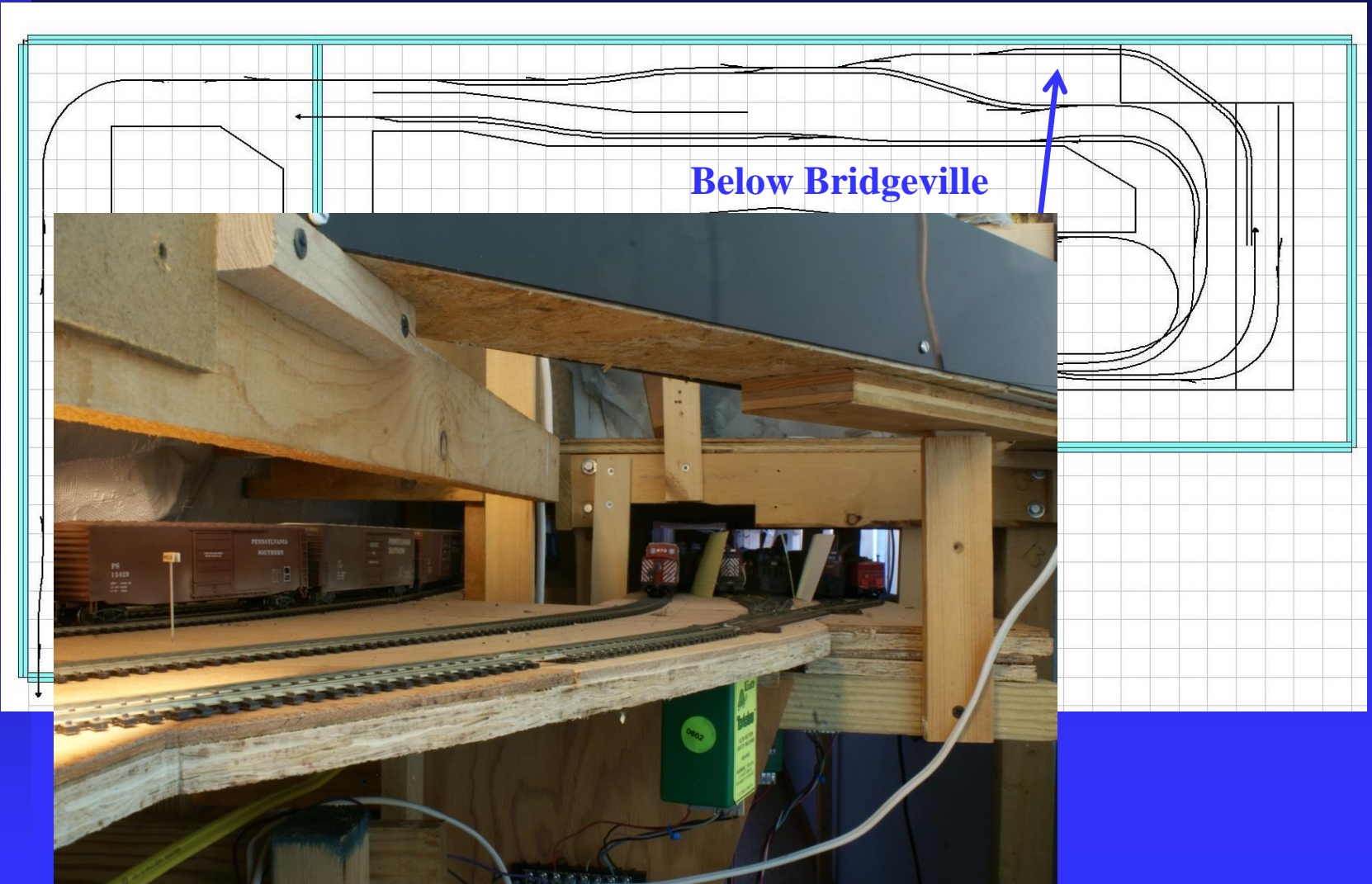
# Layout Tour - Waynesburg



# Layout Tour – State Line Yard



# Layout Tour - Wheeling



# Train Descriptions

- Through Trains – Road Locals
  - ◆ 5 in each direction
  - ◆ Run from staging to staging
  - ◆ Drop blocks of cars for processing at Pittsburgh and Washington yards
  - ◆ Pick up cars for their destinations at Pittsburgh and Washington
  - ◆ May shuttle cars blocks of cars between Pittsburgh and Washington
  - ◆ Do no other switching en route

# Train Descriptions

- Through Trains – Run Throughs
  - ◆ Run from staging to staging
  - ◆ Typically run through from south with Southern or L&N power as well as PS power
  - ◆ No switching en route

# Train Descriptions

## ■ Intermodal

- ◆ Run from staging to staging
- ◆ One train each trailers/containers and autoracks
- ◆ Autoracks northbound with trailers southbound, alternate each session
- ◆ Each train sets out and picks up block of cars in Pittsburgh

# Train Descriptions

## ■ Locals

### ◆ Bridgeville jobs

- Work between Pittsburgh and Bridgeville
- Drop cars for Bridgeville
- Pick up cars for Pittsburgh
- Bridgeville switcher switches industries

# Train Descriptions

## ■ Locals

### ◆ Waynesburg Turn

- Originates at Washington
- Switches West Union (southbound)
- Switches Waynesburg
- Turns at Waynesburg
- Switches Baker (northbound)
- Terminates at Washington

# Train Descriptions

## ■ Inter Yard Shuttles

- ◆ Pittsburgh and Washington Extras: run as needed to move cars between yards
- ◆ Switches Houston southbound
- ◆ Switches Canonsburg northbound

# Train Descriptions

## ■ N&W Trains

- ◆ One pair of trains runs between Wheeling and North Yard
- ◆ One pair of trains runs between Wheeling and State Line Yard
- ◆ Alpha Jets continue through Pittsburgh to the B&O as part of the Alphabet Route
- ◆ No switching although Alpha Jet trains swap blocks in Pittsburgh

# Train Descriptions

## ■ Wheeling Trains

- ◆ One pair of trains runs between Wheeling and North Yard
- ◆ One pair of trains runs between Wheeling and State Line Yard
- ◆ All trains may pick up cars for their destinations at Washington and Pittsburgh

# Train Descriptions

## ■ Unit Trains

### ◆ Various coal trains

- Loads to power plant in Pittsburgh
- Loads to steel mill in Bridgeville, continues to North Yard with empty ore cars
- Loads to and from prep plant at Bridgeville
- Detroit Edison loads out of mine at Waynesburg
- Wisconsin Electric loads out of mine at Waynesburg

# Train descriptions

## ■ Unit Trains

- ◆ Iron ore train from North Yard to Bridgeville, continues south to State Line Yard with coal empties
- ◆ Rock trains to and from Houston
- ◆ Typically run to keep crews occupied
- ◆ Also run when yards are swamped

# How Many Trains?

- North Yard: 12 tracks, 17 trains originate and terminate here
- State Line Yard: 11 tracks, 15 trains originate and terminate here
- Very rarely will 2 trains fit on 1 track
- Fiddle staging

# Fiddle Staging

- Several meetings required to use up all the trains
- Most trains to staging come off the layout.
- Others replace them before the crews come back the next month



# Rolling Stock

## ■ Locomotives

- ◆ Heavy use of SD40-2s and SD45s for through trains
- ◆ Variety of four axle EMD power with a focus on GP7s, GP40s, and GP38-2s
- ◆ Several operator owned units on long term loan
- ◆ Foreign lines represented as needed

# Rolling Stock

- PS cars represent about 35% of all cars on layout.
- PS fleet concentrates on many copies of few types of cars.
- Primary connections well represented
- Secondary connections less well represented
- Lots of Railbox and IPD cars
- Lots of shipper owned cars

# Session Setup

- All staging stub ended
- Session ends with
  - ◆ All cars delivered to industries and
  - ◆ Staging tracks full of trains pointed away from layout
- All trains must be turned

# Session Setup

- Special note about sessions
  - ◆ Session defined as one trip through the entire operating schedule of trains
  - ◆ Session can take 15 to 20 hours!
  - ◆ With monthly meetings, it takes 3 to 4 months to run through a single session
  - ◆ All the setup work suddenly does not look so onerous

# Session Setup

- New car destinations generated
- All trains turned and blocked as needed
- Train lengths equalized as needed
- Train switchlists prepared as needed
- All open cars loaded or unloaded as needed
  - ◆ All coal, ore, gravel, and wood chips are live loads
- Staging yard report prepared for dispatcher

# Session Setup

## Pennsylvania Southern Railroad Train Information Card

### Train 101 Southbound Through Train

Start: North Yard staging      End: State Line Yard staging

At Pittsburgh, set out cars per switchlist, pick up cars for State Line Yard, and fill to 20 cars maximum with cars for Washington, Wheeling, Baker, West Union, Waynesburg, and Canonsburg.

At Washington, set out cars destined for Washington, Wheeling, Baker, West Union, Waynesburg, and Canonsburg. Pick up any cars for State Line Yard.

***THIS CARD DOES NOT CONVEY TRAIN MOVEMENT AUTHORITY.  
TRAIN ORDER MUST BE OBTAINED FROM DISPATCHER PRIOR TO DEPARTURE.***

Staging Yard Status			5/8/14			
			Session Start		Session End	
Yard	Track	Train	Engine	Train	Engine	
North						
	1	101	2098/CR 3254			
	2	103	3353/3001			
	3	E581	CNW 871/CO 7426/CR 6520			
	4					
	5	171	2711/2739			
	6	313	3579/NW 6103			
	7					
	8	153	2734/LN 1362/2073			
	9	151	2060/SOU 3205/			
	10	TV-1	2416/2410			
	11	WJ-1	WM 3796/NW 8072			
	12	PJ-1	BO 7614/NW 6185			
State Line						
	1	152	2062/SOU 2804/2084			
	2	162	3545/LN 1036/LN 1275			
	3	102	3368/3364			
	4	L588	3003/3586/BO 7615			
	5	104	3327/3352			
	6	570	3375/3392			
	7	L596	MA 3619/MA 4502			
	8	182	2058/2095 + 13 cars			
	9	L586	3395/3349			
	10	192	NW 673/2103/2161			
	11	506	2423/2412			
Wheeling						
	1	312	3509/NW 852			
	2	CJ-12	WM 3799/CO 4167			
	3	DJ-12	NW 6118/WM 4259			
	4	172	2737/2724 + 13 cars			
	5	191	NW 8025/3562			
	6					
	7	181	2706/2717 + 12 cars			
Montour						
	1	Champ LDs	no power			
	2	MTR xfer	PLE 2025/PLE 2028			

# Session Setup

- Paperwork distributed
- Session starts with
  - ◆ All trains in staging pointed toward layout
  - ◆ All industry tracks full
  - ◆ Any cars left in classification yards at session end are treated as recently arrived cars to be classified



# Car Routing

## ■ Goals

- ◆ Empty foreign cars head toward home
- ◆ Loaded foreign cars move in a logical manner
- ◆ Home road cars head off home rails only if loaded
- ◆ Shipper owned or IPD boxcars can roam at will as on the prototype
- ◆ Industries get all the cars they need
- ◆ Complete turnover of cars at most industries

# Car Routing

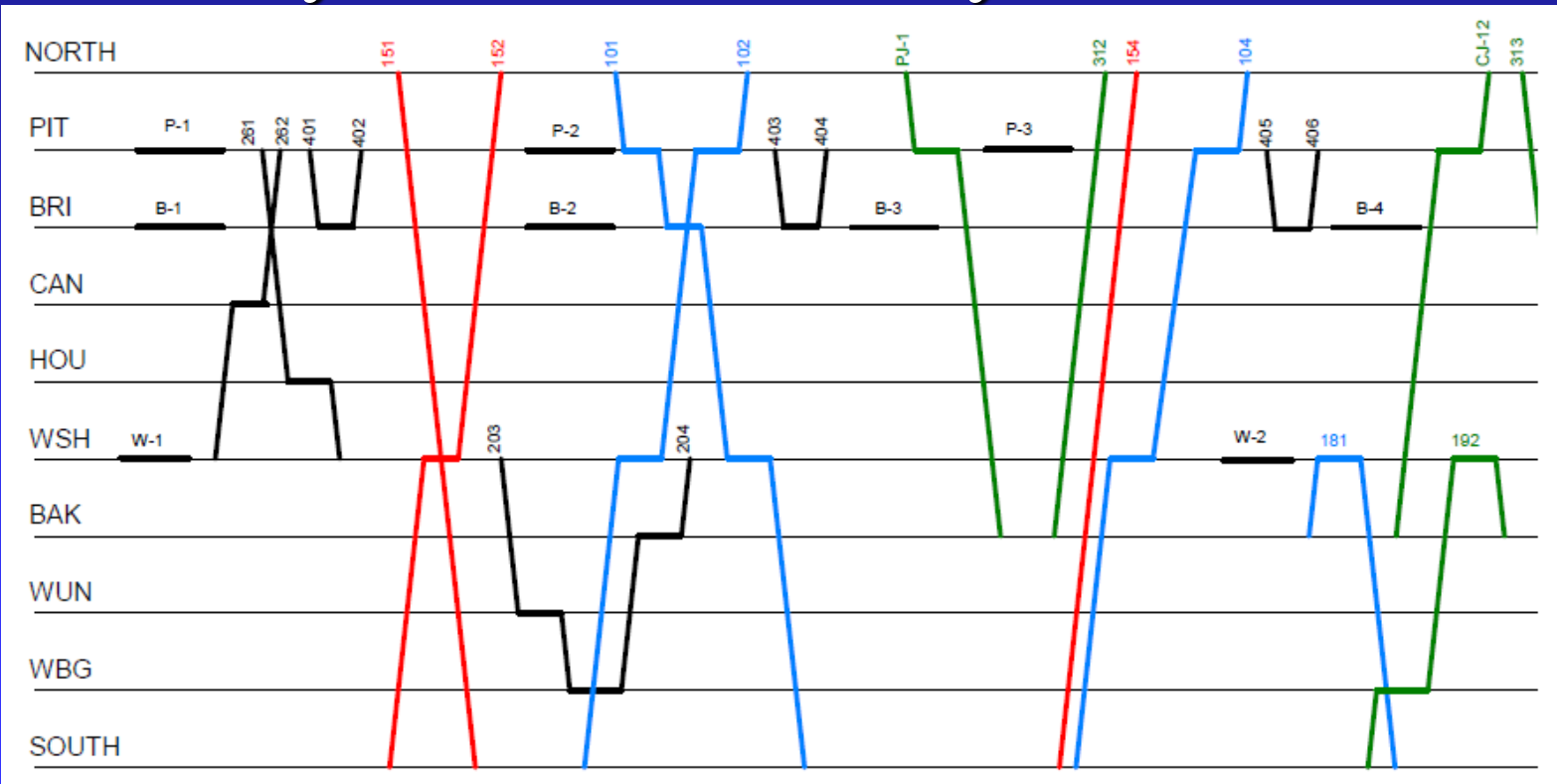
- Factors affecting destination
  - ◆ Previous location
    - ◆ Industry
    - ◆ Interchange
    - ◆ Staging
  - ◆ Car owner
    - ◆ Home road
    - ◆ Privately owned
    - ◆ Primary connection
    - ◆ Secondary connection
  - ◆ Loaded or empty

# Car Routing

- ◆ Macros in Microsoft Excel
- ◆ Explanation is guaranteed to cause sleep
- ◆ Talk to me after the clinic if this is of interest

# Dispatching

- Nominal schedule of trains that does not convey timetable authority



# Dispatching

- All trains dispatched as extras
- Train Orders
  - ◆ Thanks to the late Lin Young and the Grafton and Greenbrier
  - ◆ Combination Form 19 and Track Warrant
  - ◆ Lines 3, 4, and 5 can authorize meets when initially written or at a later time without the need to issue a whole new order

**PENNSYLVANIA SOUTHERN RAILROAD**

ORDER No. \_\_\_\_\_ DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

TO C&E OF ENG \_\_\_\_\_ AT \_\_\_\_\_

1 AFTER ARRIVAL OF \_\_\_\_\_

2 ENG \_\_\_\_\_ RUN EXTRA \_\_\_\_\_ TO \_\_\_\_\_

3 EXTRA \_\_\_\_\_ MEET EXTRA \_\_\_\_\_  
AT \_\_\_\_\_. EXTRA \_\_\_\_\_ HOLD \_\_\_\_\_

4 EXTRA \_\_\_\_\_ MEET EXTRA \_\_\_\_\_  
AT \_\_\_\_\_. EXTRA \_\_\_\_\_ HOLD \_\_\_\_\_

5 EXTRA \_\_\_\_\_ MEET EXTRA \_\_\_\_\_  
AT \_\_\_\_\_. EXTRA \_\_\_\_\_ HOLD \_\_\_\_\_

6 \_\_\_\_\_ IS AHEAD \_\_\_\_\_ TO \_\_\_\_\_

7 ENG \_\_\_\_\_ WILL ASSIST \_\_\_\_\_ TO \_\_\_\_\_

8 OTHER INFORMATION

COM: \_\_\_\_\_ M DISPR \_\_\_\_\_ OPR \_\_\_\_\_

# Dispatching

- Dispatcher sits in laundry room adjacent to layout
- Dispatcher communicates with crews via FRS radio
- Dispatcher logs all train movements including times out, times in, and crews
- Dispatcher also logs yardmasters on duty



# Dispatching

- Schedule is only a guideline
- Trains are run early or late as circumstances warrant
- Scheduled meeting points are changed as appropriate
- Extra coal, rock, and ore trains are run to make things interesting

# Yard Operations

- Main task is to classify cars per yardmaster switchlists

PENNSYLVANIA SOUTHERN RAILROAD COMPANY																	
PITTSBURGH YARDMASTER SWITCHLIST																	
AA	5164	BRI	CR	627089	CR	MTW	4086	CAN	PS	15803	BRI	PS	53610	WSH	SP	355162	N&W
ABOX	51000	WBG	CR	766083	WBG	NAHX	90218	BUF	PS	15806	BRI	PS	53641	PIT	SP	696425	WSH
ABOX	51238	CAN	CR	879214	HOU	NAHX	900056	WBG	PS	15817	PLE	PS	53648	WSH	SRN	5382	N&W
ABOX	51242	BRI	DH	15237	PIT	NATX	87067	WHL	PS	15820	PIT	PS	56275	HOU	SSDK	1041	PLE
ACFX	3360	BRI	DH	24001	BRI	NKP	99932	CHT	PS	15824	CHT	PS	56278	PIT	TASD	78198	BRI
ACFX	12234	N&W	DHNY	50168	WSH	NLG	5064	N&W	PS	15829	BRI	PS	56283	HOU	TCAX	30033	WBG
ACFX	17311	N&W	DRGW	15346	CHT	NOPB	3690	CHT	PS	18462	B&O	PS	56285	PIT	TCAX	60084	PLE
ACFX	17431	WHL	DRGW	15948	WHL	NP	96038	PIT	PS	18469	CR	PS	56287	PIT	TLDX	6406	CHT
ACFX	17666	N&W	DRGW	61254	WSH	NW	12475	CHT	PS	21273	CR	PS	58610	WHL	TLDX	7415	BRI
ACFX	44631	WHL	DRGW	61326	BRI	NW	57275	N&W	PS	21367	PIT	PS	58620	BUF	TLDX	7686	BUF
ACFX	48927	N&W	DTI	10326	N&W	NW	71001	BUF	PS	21386	BRI	PS	58624	WHL	TM	3024	WBG
ACFX	51138	WHL	DUPX	17398	BRI	NW	97119	B&O	PS	21454	BRI	PS	60300	CHT	TTPX	80632	CHT
ACFX	53022	BUF	DUPX	36028	PIT	NW	98596	BRI	PS	21647	BRI	PS	60549	WHL	TTPX	81786	CHT
ACFX	59272	BRI	EFCX	2503	BRI	NW	120612	WSH	PS	21737	PLE	PS	60550	CHT	TTPX	81789	CHT
ACFX	59430	BUF	EJE	7129	BRI	NW	171232	BRI	PS	21740	BRI	PS	60799	WHL	TTZX	87559	CHT
ACFX	72474	WHL	EL	9172	BRI	NW	173710	N&W	PS	21742	PIT	PS	60805	BUF	TTZX	87576	BUF
ACFX	77374	N&W	EL	9175	CR	NW	180308	WSH	PS	21745	PIT	PS	60807	WHL	TTZX	87625	WHL
ACFX	78812	WHL	EL	21303	WSH	NW	292531	PLE	PS	21752	PLE	PS	61521	WHL	TXPX	33073	N&W
ACFX	85275	CHT	ERIE	95788	WSH	NW	355069	N&W	PS	24102	BRI	PS	62204	BUF	UELX	78627	CHT

# Yard Operations

- Pittsburgh activities:
  - ◆ Originate and terminate
    - Six Bridgeville turns
    - As many as three transfer runs to and from Washington
    - Interchange jobs from CR, P&LE
  - ◆ Blocks set out and picked up by ten passing road locals
  - ◆ Blocks set out and picked up by 4 Alpha Jets
  - ◆ Three industrial switch jobs

# Yard Operations

- Pittsburgh has sub yard for Pittsburgh industries
- Some industries are hard to reach so industry switch jobs are carefully blocked before heading out to work
- Each of the three industry jobs only works specific industries in order to keep number of cars coming back for classification to a manageable level

# Yard Operations

- Pittsburgh Arrival/Departure yard
  - ◆ Good place to get trains in off main without working them right away
  - ◆ Good place to stash overflow cars by making up outbound train
  - ◆ Does not interfere with yard operation

# Yard Operations

- Washington activities:
  - ◆ Originate and terminate
    - Three pairs of Waynesburg locals
    - As many as three transfer runs to and from Pittsburgh
  - ◆ Blocks set out and picked up by ten passing trains
  - ◆ Two industrial switch jobs

# Local Operations

## ■ Locals use switchlists

PENNSYLVANIA SOUTHERN RAILROAD COMPANY						
WAYNESBURG TURN SWITCHLIST						
ABOX	51000	WBG	TEAM TRACK	BAK	GREENE COUNTY COOP	BADX 1007
AN	5517	WBG	TEAM TRACK			PS 15512
BADX	1007	BAK	GREENE COUNTY COOP			SOU 35531
BFGX	1033	WBG	ARROW REFURBISHING			WRWK 5055
CCR	6139	WBG	TEAM TRACK			
CR	766083	WBG	TEAM TRACK	WBG	ARROW REFURBISHING	BFGX 1033
GATX	26995	WBG	COMMERCIAL PROPANE			NAHX 900056
GATX	97325	WBG	COMMERCIAL PROPANE			UTLX 49376
LN	109625	WBG	TEAM TRACK			
MB	4030	WUN	PENNSYLVANIA PRINTING	WBG	COMMERCIAL PROPANE	GATX 26995
NAHX	900056	WBG	ARROW REFURBISHING			GATX 97325
PROX	29391	WBG	COMMERCIAL PROPANE			PROX 29391
PS	15237	WUN	PENNSYLVANIA PRINTING			
PS	15512	BAK	GREENE COUNTY COOP	WBG	TEAM TRACK	ABOX 51000
PS	15524	WUN	PENNSYLVANIA PRINTING			AN 5517
PS	15547	WUN	PENNSYLVANIA PRINTING			CCR 6139
PS	15572	WUN	PENNSYLVANIA PRINTING			CR 766083
PS	15665	WBG	TEAM TRACK			LN 109625

# Local Operations

- Switchlist use is so simple it is hard
- If a car is in your train and on the list, spot it at the industry
- If a car at an industry is not on the list, it does not belong there so pick it up
- Limits on the number of pickups keep the yard from being swamped

# Bridgeville Operations

- Special joint switching district with Montour Railroad
- Large industrial center with about 95 cars in and 95 cars out per session excluding unit train operations at steel mill
- Served from Pittsburgh by 6 Bridgeville turns

# Bridgeville Operations

- Montour switcher appears with interchange cars
- Turn from Pittsburgh delivers new cars and takes anything that leaves Bridgeville
- Montour Switcher switches specific industries between each Bridgeville Turn
- Montour switcher leaves with interchange cars late in session
- Working ahead too much leads to too many cars arriving in yard at one time

# Staffing

- Minimum full crew
  - ◆ Yardmaster at Pittsburgh
  - ◆ Yardmaster at Washington
  - ◆ Three road crews
  - ◆ Dispatcher
- Nice to have
  - ◆ Assistant YM at Pittsburgh
  - ◆ Montour crew for Bridgeville

# Credits

- Rick Tipton and Jim Rollwage for introducing me to operations
- Lin Young, Jerry Doyle, Dave Matheny, and the entire G&G crew for showing me a better way to dispatch
- Lin, Jerry, Greg McCartney, Tony Parrish, Russ Miller, Gary Burdette, Tony Puccini, Mark Banyai, and Dan Mulhearn for being the core of a great operating group and inspiration to always make things better