Operating the Newcastle-Fassifern Railway

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Modeling the Railways of NSW 2017
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My first Newcastle-Fassifern Railway was a learning experience:

- Occupied 200 sq.ft. and started out as a layout for one person
- Could keep 5 or 6 people busy, but they couldn’t all fit in the room!
- Did introduce me to the fun from group operations
The madness expands...

- My current Newcastle – Fassifern Railway is a more ambitious affair, and was designed from the beginning for up to a dozen operators.

- This followed my exposure to large scale operating sessions on several US layouts, particularly David Parks’ Cumberland West.
David Park’s Layout

- 1200 sq. ft.
- Two railroads
- 2600 feet of hidden staging track
- Up to 30 operators when both railroads are operated!
David Park’s layout is at the “top end” of US layout operation:

- CTC panels with central dispatcher
- Individual tower (signal box) operators with touch screen controls
- Staging manager plus manager of coal business
- Multiple two-man crews (engineer and brakeman or guard)
- Car cards and waybills
- Timetabled operation but with many freights as extras under train orders
Operating the Cumberland West

• David Parks’ website includes two highly detailed videos showing:
  – The history and operations of the prototype railroads, and how they are simulated on the model – see https://www.youtube.com/watch?v=WCWmxhRP1J8.
  – The details of the electronics and other “infrastructure”, such as written documentation used to control operations – see https://www.youtube.com/watch?v=Ur-H6LVxcvo.

• These are incredibly complex and sophisticated, not to say daunting! But they illustrate the difference between serious operations based on close observation of the prototype and just “running trains”.
The New Newcastle-Fassifern Railway

• The new version of the Newcastle-Fassifern Railway was also expected to be fairly complex when completed:
  
  – 10m * 7.2m (850 sq.ft.) train shed available, but had to accommodate a car as well.
  – Nearly 40 tracks yards, stations and staging
  – Plans for up to 28 trains (8 passenger, 8 coal, 12 freight)
  – Around 200 points

• After much planning, a preferred design emerged
Preferred Design
2  STAGES for EARLY OPERATION

• I realised early on that this was a massive project which would take longer than the snowy mountains scheme took to complete.

• So the layout was designed to be built in stages, with operation possible at the completion of each stage.

• Each stage would include a number of modules.

• This meant a series of temporary connections to allow trains to access staging yards etc. and to utilise parts of the eventual main line as they were completed.
STAGE 1

- Included the first seven modules, covering Broadmeadow to Kotara
- It included the roundhouse from my first layout, and an extensive yard at Broadmeadow.
- Temporary modules allowed a simple double track loop for operations
- Shared the shed with my wife’s filing cabinets, my daughter’s furniture and a workbench
The first module under construction, May 2014. Note adjustable height aluminium legs, and light weight module using sandwiches of 3mm MDF and foam.
Broadmeadow yard and loco depot under construction
Early Operations

The first trains were run less than a year from starting construction. Scenery can be improved with special photographic techniques.
The project quickly gathered a team of helpers, and Stage 2 was completed 18 months after the shed was fitted out....
STAGE 2

• Stage 2 added three more modules covering Hanbury Junction, Port Waratah and the BHP steelworks.

• Temporary module 4 maintained a loop, through Port Waratah yard
A new (improved) home

Two years into the project, an unanticipated relocation from Mittagong to Burradoo raised the question:

Q: What could be better than a purpose-modified 10m * 7.2m shed?

A: An internal space 12m * 8m with carpets, heating and facilities!

The only hitch was it meant demolishing two bedrooms, and moving the layout. No serious model train fanatic would view these as real impediments!
I was lucky to have a **fantastically accommodating wife**. I also had a **terrific builder**, who demolished walls, installed steel and wooden support beams, and gyprocked, painted and re-carpeted the new space **inside two weeks**.

Being inside the house is a big advantage, but means it has to be kept tidy by order of the (real) management!
Movable Module Magic!

The modules proved their worth. All 10 modules were moved in 4 hours with the help of an enthusiastic crew of 8 people and a small van.
The movers and shakers, showing the modules moved to the new space
The new space was about 20% bigger than the shed, plus:

- An ideal shape
- No need to accommodate a car
- No need to fit in a workshop or my wife’s filing cabinets either!

So back to the 3rd Planit drawing board…..Exciting times for a layout planning nut.

- All existing modules could be re-used with only very slight modifications.
- The new space allowed an expanded Port Waratah / BHP steelworks, as well as a longer mainline run and other improvements

My wife sometimes suspects that the move was mainly about getting an even bigger train room, but I could not possibly comment!
STAGE 3

With the first 10 modules re-installed in the new space and modified, the layout was then expanded with three more modules, M11, M12 and M13, to get to stage 3.
A small scale operating session was held in May 2016 with 8 people, followed by larger sessions in July and September with up to 18 people.
The main line then was extended to Sulphide Junction with four more modules, and the “pinch point” widened, by late 2016.
Operating sessions in December and February drew up to 20 people all up, with up to 18 in the train room at one time.

Note temporary bridge connection from Sulphide Junction to tracks leading to Sydney Staging.
Initially I was over-ambitious, and wanted to have:

- Full timetable operation with a prototype schedule
- Fast clock
- Freight forwarding with individual car cards and waybills.

However, I soon discovered that:

- Some people just liked “running trains”, including their own locos
- Up to 20 people were coming, causing operator congestion in the aisles
- Electrical, track and rollingstock issues led to shorts and derailments
- Broadmeadow yard clogged up and the timetable fell over

The net result was – disaster! I therefore had to:

- Improve the layout
- Change my operating philosophy
Improving the Layout

• **Track and wiring.** Older Shinohara points have mostly been replaced by Peco Code 83 points which I find work well, and the wiring is being upgraded with a better bus, greater separation into electrical districts and even a dash of solder!

  (this is great stuff, why didn’t they invent it earlier?)

• **Widen the Aisles** - the “pinch point” between Newcastle and Broadmeadow, which was only 2 feet (61cm) wide, has now been widened to 75cm, allowing operators to pass, (although not always gracefully).

• **Operator Platforms.** The layout was (deliberately) built 50 inches (127cm) above ground. 20 cm high platforms for operators have been added.

• **Layout lighting** has also been enhanced, with a total of 30 LED “daylight” lights installed including a few “searchlight” fittings.
Modifying the Operating Philosophy

Initially, I shifted to more “Informal” sessions, where the focus was mainly on socializing.
Informal Sessions

• Typically run from 4pm to 9pm with a dinner break 6-7pm.

• Free choice for people as to which trains they run. Crews operated most of the points themselves, mostly using the manual “slide switches”.

• Head on collisions are rare but the passengers regularly get a fright!

• An occasional candy-coloured loco has even been seen on the layout, and the odd glass of wine has been known to be consumed (mainly by the despatcher) during these sessions.
Semi-Formal Sessions

- I also tried semi-formal sessions, designed to run trains which were prototypical for the area in the mid 1960’s, and to simulate freight movements.

- After Stage 4 was completed an ideal operating crew was found to be about 10-12.

- *For these types of sessions, it takes as many people shunting, controlling points and handling locomotives as it does running trains.*

- Some operators actually prefer the “fixed location” jobs but others just like running trains.
Semi-Formal Sessions
Preparing for an Operating Session

• Operating sessions quickly identify faults or problems with your layout. **Be prepared to be humbled!**

• Preparing for an operating session is **HARD WORK!** Ideally this includes:
  – fixing mechanical, electrical and rollingstock problems
  – cleaning track
  – Inviting people to the session
  – preparing an operating plan, based on the number of operators
  – staging trains and locos
  – providing documentation and signage (especially for new operators)
  – holding a briefing (for more formal sessions)
  – providing refreshments etc.
  – getting feedback to improve things for the next session

Providing refreshments and an opportunity to chat is probably more important than the trains!
Benefits of Operation

- **Fun!** Watching other people make a fool of themselves on your layout is definitely better than doing it yourself.

- **Socialising**, both with old friends and making new friends

- **Getting Feedback**, a necessary evil!

- **Offers of Help and gaining expertise.** I have been overwhelmed by the level of help offered by many people from wiring, moving the layout to its current location, baseboard construction, installing decoders, design of the electrical side of things, building structures, photography, signaling etc.