



MIND THE GAP



“Pick-up & Drop-off”

Whether one’s layout is a free standing table, sunk coffee table, wall edge L-Girder mounted, single or multi level, island pier and so forth, at some stage one usually is faced with ...

| Crossing | The | Void! |
|-------------------|-----------------------|------------------------|
| Lift-out | Slide-out | Drop-down |
| Lift-up | Multi fold | Hinge |
| Rotate | Pop-up | Swing |
| Elevate | Lower | Counter Balance |
| Duck under | Bicycle Hoists | Wheel |
| | | |
| | | |



Railway Modelling Miscellany

One European's Journey!

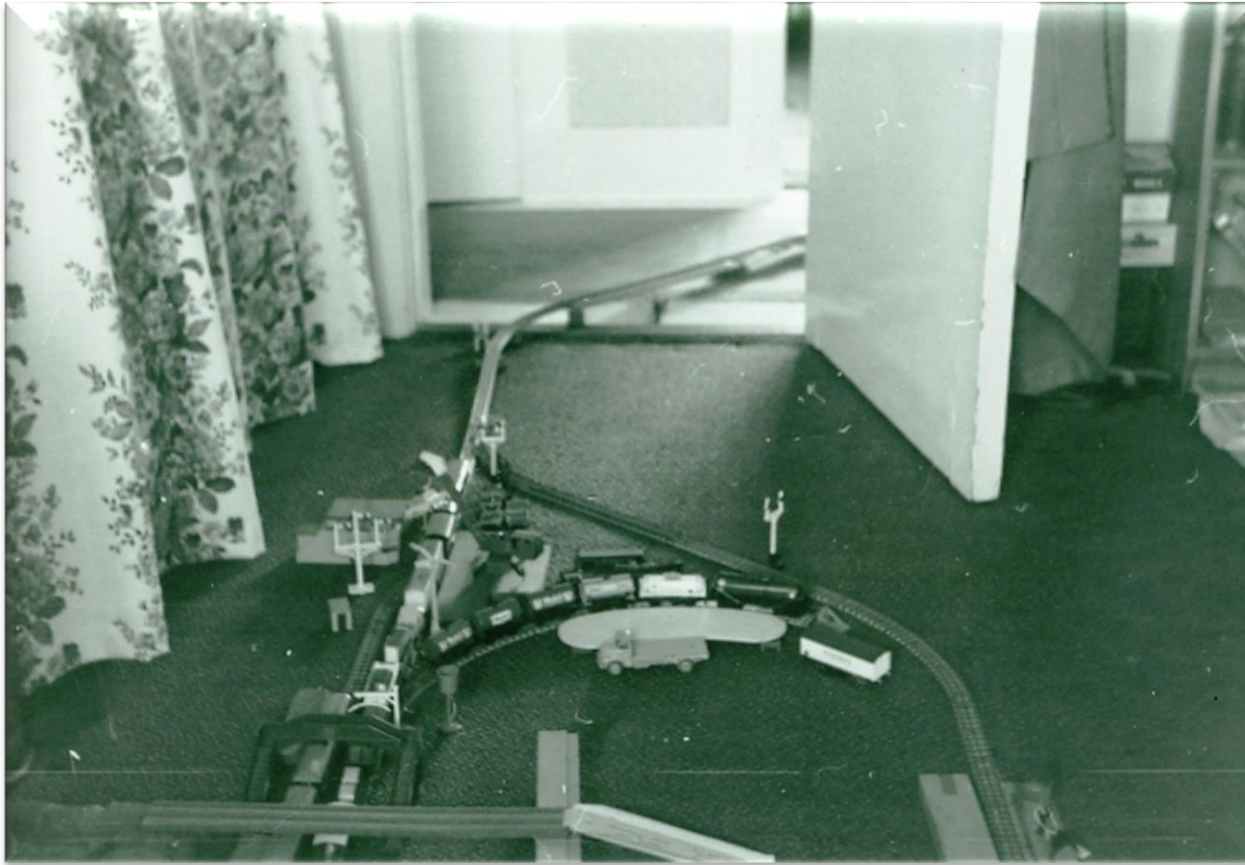
Working on the Railway

Fun & Games on the Weston “BLS” & “MGB”

- Modelling Miscellany?
- Formative Years
- Why the “BLS” & “MGB”
- The “Land Grab” Technique!
- Pick Up & Drop Off!
 - Different methods deployed and why
- Useful tools
- Different Control Methods
- BLS & MGB in summary
- Keep Calm and Carry On! Useful Contacts
- Time for a “Chinwag”



Off to an “eye-level” start – On the Floor!

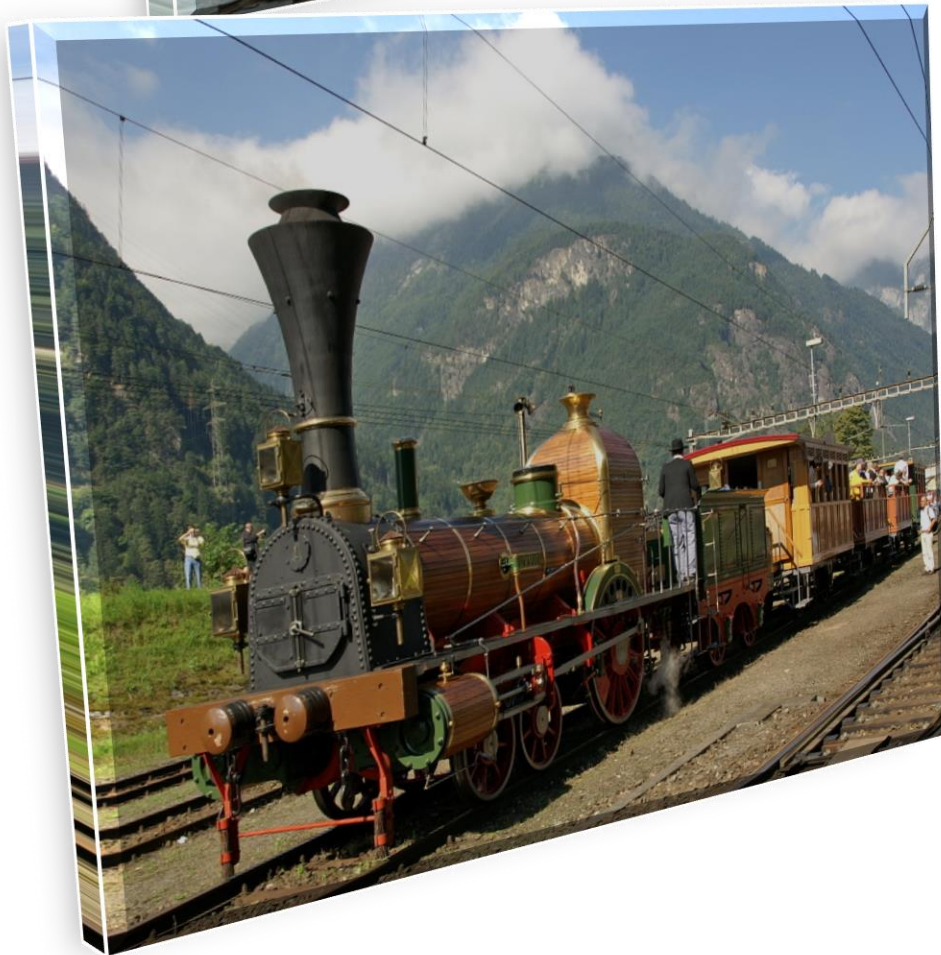


Bridging the door threshold - no obstacle too great 😊

“Animal” loks



| | Locomotive class | Traction type | Number: drive axles | Number: total axles | Series or sub-class | |
|----------------------------|--|-------------------|---------------------|---------------------|---------------------------------|--|
| Classification type | Capital letter | Lower case letter | 1st number | 2nd number | Roman numeral superscript | |
| Possible values | {A;B;C;D;E;G;H;R} | absent or {a;e;m} | Natural number | Natural number | Ongoing according to build type | Letters can be combined |
| Example | R | e | 4 | 4 | II | Re 4/4^{II} |
| Explanatory example | Locomotive with higher cornering speed | Electric | 4 Drive axles | 4 Axles | 2nd Series of the Re 4/4 | Electric loco with higher cornering speed, all four axles are drive axles (Bo'Bo'), 2nd series |

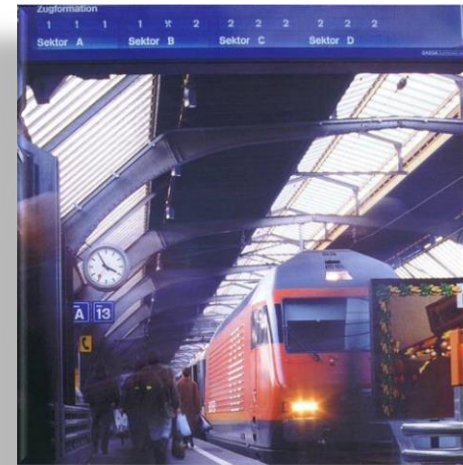


Swiss Rail in 1980's



Bahn 2000 Switzerland

- In 1980s, rail corridors through the Swiss Alps were running near capacity, and traffic touched at their limits.
- Swiss roads became more congested, forcing the government to come up with a solution.
- Bahn 2000 born to alleviate congestion and provide extra capacity for future growth



Modern Swiss Passenger Stock

Double Deck



Real-Time Information



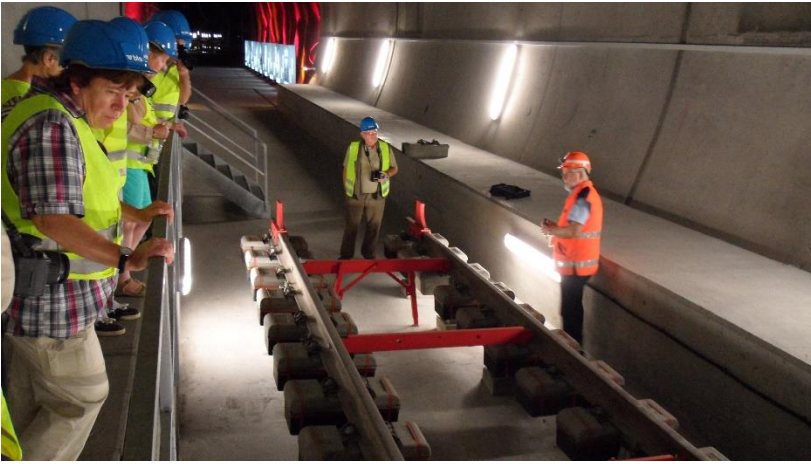
Bern Lötschberg Simplon Yesterday



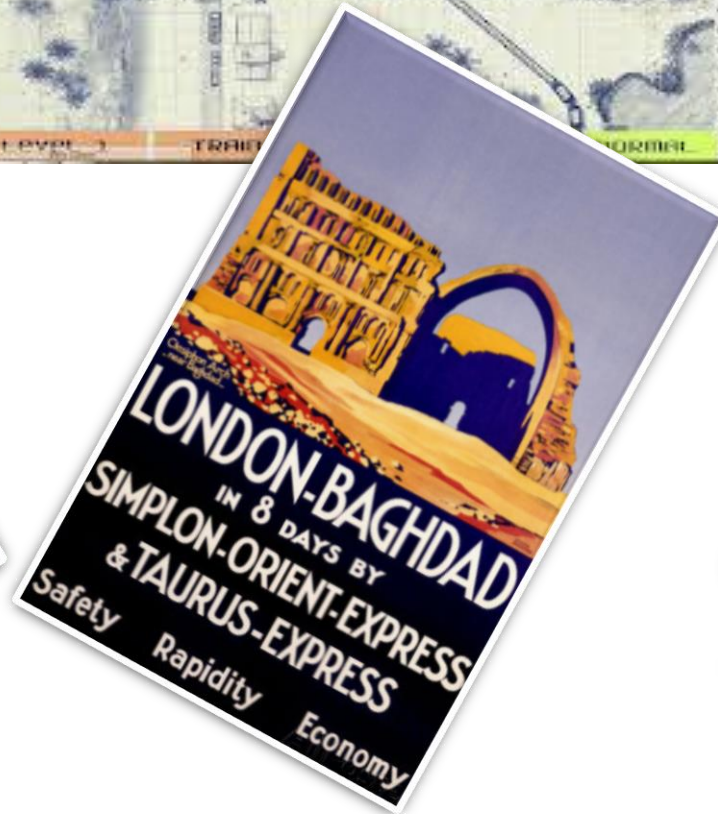
Bern Lötschberg Simplon Today



The Lötschberg Over & Under!



Where to start Modelling?



Significant European Railways

| The Railways | |
|--------------|--|
| BBÖ | Federal Railways of Austria |
| BLS | Bern Lötschberg Simplan (Switzerland) |
| BR | British Railways |
| CD | Czech Railways |
| CFL | Luxembourg National Railways |
| CP | Portuguese Railways |
| CSD | Czechoslovak State Railroad |
| DB | German Federal Railways / German Railway Corporation |
| DDR | East German State Railway (after 1949) |
| DR | German State Railway (after 1945) |
| DRG | German State Railway (until 1945) |
| DSB | Danish State Railways |
| FS | Italian State Railway |
| KBayStsB | Royal Bavarian State Railway |
| KCRC | Kowloon Canton Railway Corporation (China) |
| KPEV | Royal Prussian Railway Administration |
| KWStE | Royal Württemberg State Railways |
| MAV | Hungarian State Railway |
| NS | Netherlands State Railways |
| NSB | Norwegian State Railways |
| ÖBB | Austrian Federal Railways |
| PKP | State Railway of Poland |
| RENFE | Spanish Railways |
| SächsStsEB | Saxonian State Railway |
| SBB | Swiss Federal Railways |
| SJ | Swedish State Railways |
| SNCB | Belgian National Railways |
| SNCF | French National Railway Company |
| SOB | Süd Ost Bahn (South East Railway Switzerland) |
| SZ | Slovenian State Railway |
| VR | Finnish State Railways |
| ZSR | Slovakian Republic Railways |

Decisions + Decisions!

- Purpose
- Era
- Scale / Gauge
- Track
- Analogue Control – AC / DC
- Digital Control – DCC / Motorola (New/Old), etc.
 - Loks
 - Rolling Stock
- Wheels / Couplers / Loading Gauge / Clearances
- Esthetics – Room and layout
- Scenery – gap fillers, glues, vegetation, buildings, etc.
- Management!

Help is at hand – armchair reading



Notable Resources

 **NOCH**
... wie im Original

 **BRAWA**
LIEBE ZUM DETAIL

märklin



SBB CFF FFS

bls



matterhorn
gotthard bahn

Roco



ETETM

TRIX

BEMO

Model Railway Gauges

| The different gauges | | | |
|----------------------|-------|---------------|--|
| Name | Scale | Gauge | Notes: |
| 1 | 1:32 | 45mm (1-3/4") | Big Stuff. Mostly Marklin Maxi. |
| O | 1:45 | 32mm | There are two main types of O gauge: American (Lyonell, Mike's Train House) which is 3-rail AC. & European which is 2-rail DC. |
| Om | 1:45 | 22.5mm | Same size as O but runs on narrow gauge track. Such as Roco's Alpine Line. |
| HO | 1:87 | 16.5mm (5/8") | The most popular gauge, offering the most options. This is what you will find the most on our site. HO comes in two varieties 3-rail AC (Marklin) & 2-rail DC (Everyone Else). However other companies do make items that are compatible with the Marklin system, and rolling stock from either system can have their wheels swapped to work with the other. |
| HOm | 1:87 | 12mm (1/2") | Same size as HO but runs on narrow gauge track. Tillig produces some HOm items. |
| HOe | 1:87 | 9mm | Same size as HO but runs on narrow gauge track. We have HOe items available from Roco, Tillig, & Liliput. |
| TT | 1:120 | 12mm (1/2") | Tillig produces most of the TT gauge items with the addition of a few items from other manufactures. |
| N | 1:160 | 9mm | More popular then TT you can find N scale items from Fleischmann, Roco, Trix, Arnold, and others. |
| Z | 1:220 | 6.5mm (1/4") | The smallest working trains available. Mostly Marklin but some other companies make it too. |

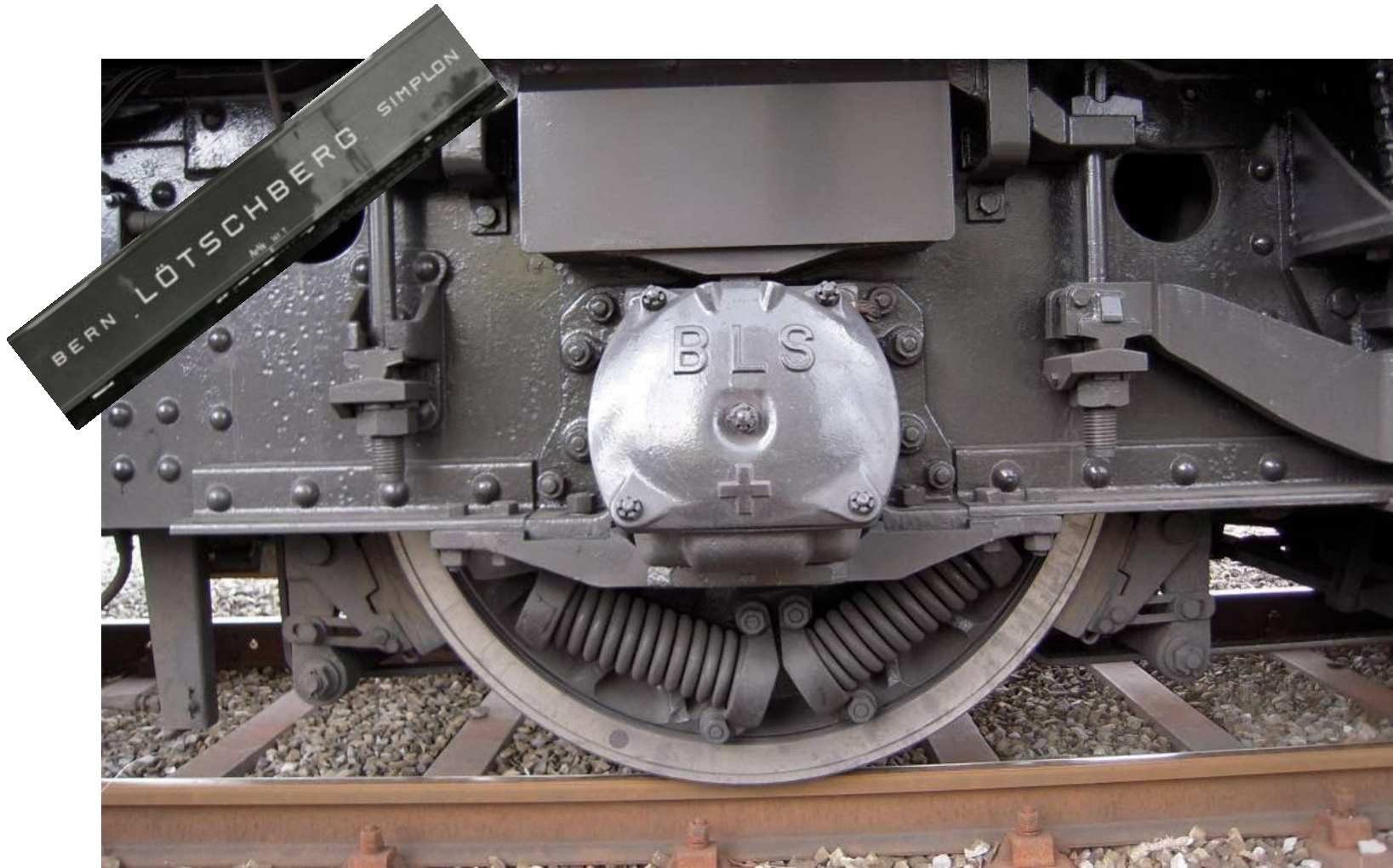
As for "T", we shall wait and see 😊 ! (1:400)

Railway Eras

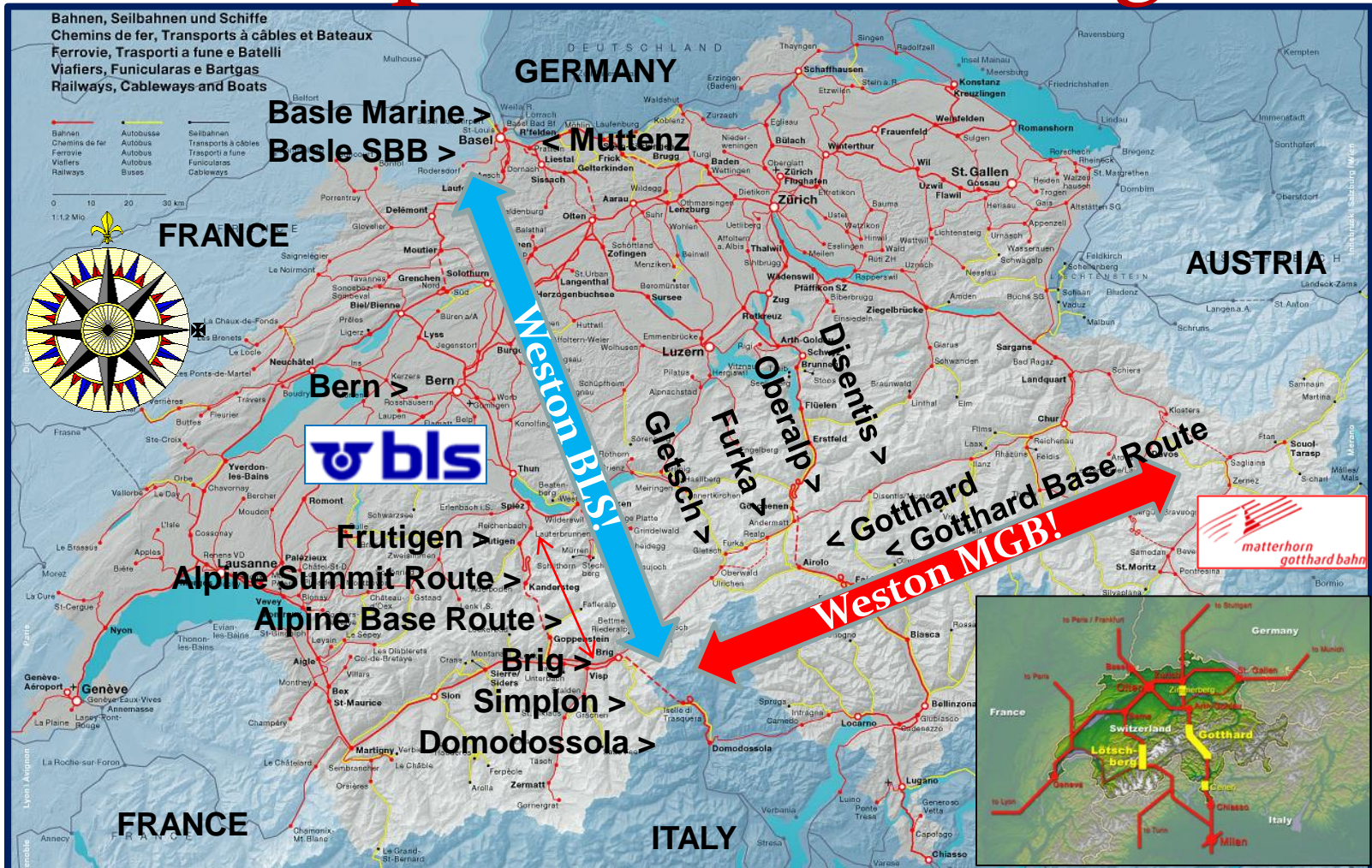
| Eras | | |
|---------|-------------------|--|
| Era | Time Period | Notes: |
| Era I | Approx. 1870-1920 | Country & Private Railways |
| Era II | Approx. 1920-1945 | The Period after the formation of large state railways |
| Era III | Approx. 1945-1970 | The new organization of European railroads |
| Era IV | Approx. 1968-1985 | Standardized computer lettering on all rolling stock & locos |
| Era V | Approx. 1985-2000 | The modern era of railroading |

Era VI Approx. 2000 – Present

Why the BLS & MGB?



Weston BLS Lötschberg Trans Alpine Context Diagram



“Land Grab Technique!”

- Not everyone in one’s family has the same level of enthusiasm (insanity?), so choosing your location and timing to acquire “real-estate” carefully is essential!
- It is often easier to ask forgiveness than receive permission! 😊
- Before starting, have an overall plan and objective in mind – even if not broadcast
- Don’t be afraid to bend and alter as events unfold

Ballast Crew about to start!



Catenary 'Gang' at work!



Progress!



Operational Areas

Wäterhaus Army Camp



Frutigen Museum

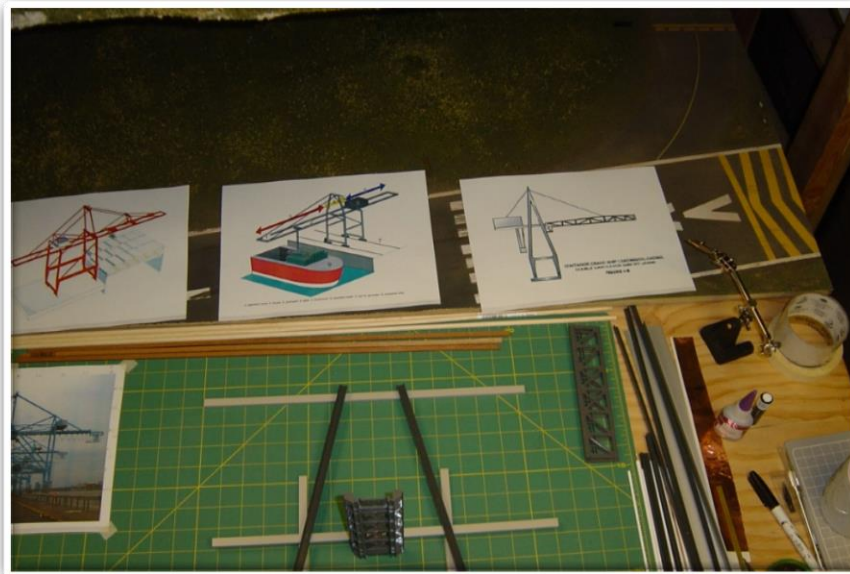


Scratch Building

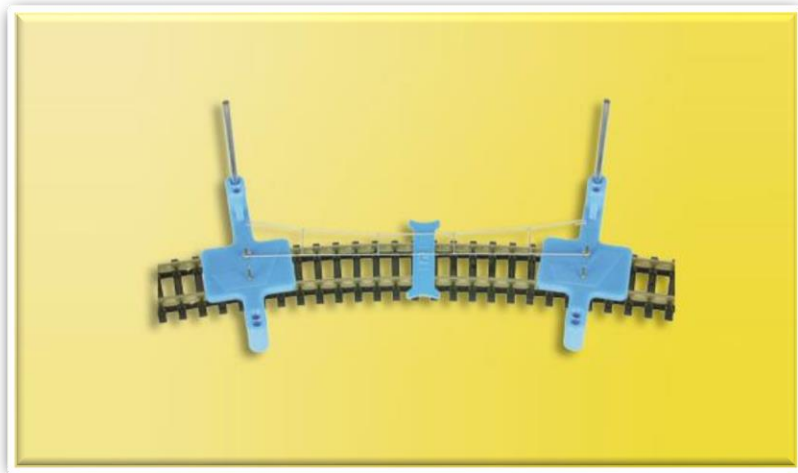
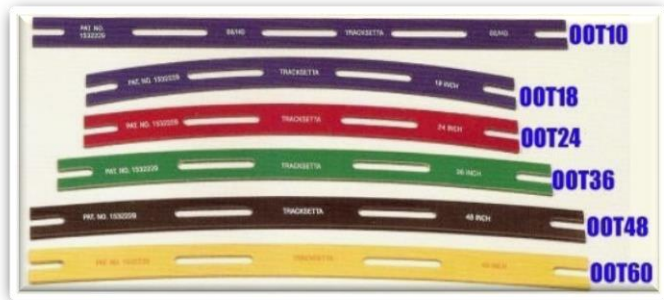
Basle Intermodal – crane!

Planning
(Guessing!)

Construction

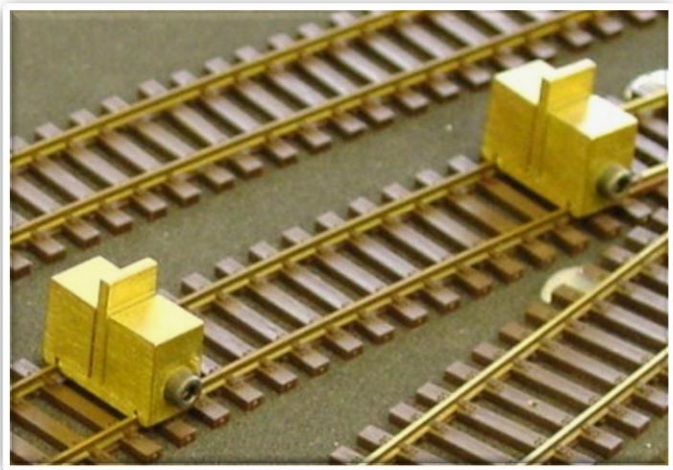
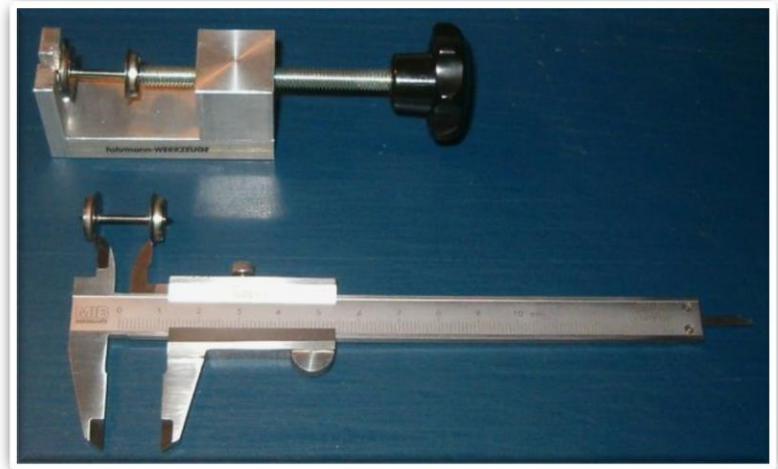


Useful Tools



Useful Tools

fohrmann
WERKZEUGE



Useful Tools



- T-Slot Framing
- Linear Bearings
- T-Nuts
- Home crafted items



Digital Control

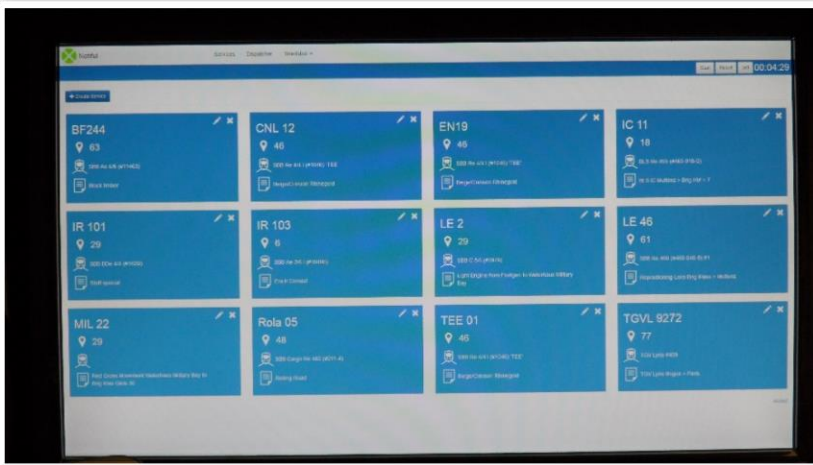
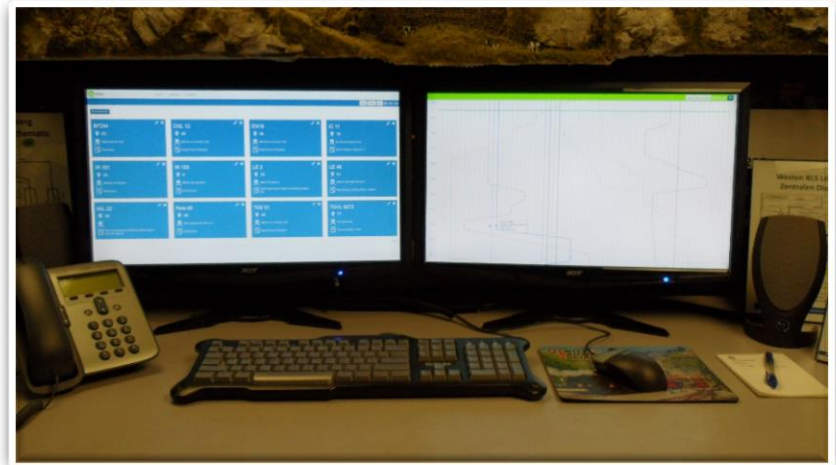
How much to automate?

- Complete train automation?
 - Full computer control
- Partial automation?
 - Some automated services (e.g. Push-pull)
 - Time tabling / dispatcher /operator train control
 - One or more control “cabs”
 - One or more “engineers”
- Simple automation
 - device address and function selection

Weston BLS & MGB Control

- Uhlenbrock Intellibox (Digital Control)
- Railroad & Co (Auto Train Scheduler)
- Notiful (Train Timetable)
- Asterisks (Pbx)
- Dynamic Sign + Remote Sign (Station Arrivals + Departure Board)
- DCC / DC (Switchable) – MGB only

Central Dispatcher



Running to Timetable – 2015!

Waterhaus

RUNNING 00:05:37

| Time | Train | Address | From | To | Via | Notes |
|-------|---------|---------|--------------------------|--------------------------|--------------------------|---|
| 00:05 | IR 101 | 29 | Waterhaus Head Shunt | Waterhaus Bay | | Staff special |
| 00:06 | IR 101 | 29 | Waterhaus Head Shunt | Waterhaus Bay | | Staff special |
| 00:07 | IR 101 | 29 | Waterhaus Bay | Waterhaus Upper Helix | | Staff special |
| 00:09 | IR 101 | 29 | Waterhaus Bay | Waterhaus Eggerberg Dwn | Waterhaus Upper Helix | Staff special |
| 00:09 | LE 2 | 29 | Frutigen Thru | Waterhaus Bay | | Light Engine from Frutigen to Waterhaus Military Bay |
| 00:10 | IR 101 | 29 | Waterhaus Upper Helix | Waterhaus Eggerberg Dwn | | Staff special |
| 00:10 | LE 2 | 29 | Waterhaus Bay | Waterhaus Military Bay | | Light Engine from Frutigen to Waterhaus Military Bay |
| 00:10 | Rola 05 | 48 | Frutigen Thru | Waterhaus Lower Helix | Waterhaus Dwn | Rolling Road |
| 00:11 | IR 101 | 29 | Waterhaus Eggerberg Dwn | Waterhaus Eggerberg Ramp | | Staff special |
| 00:11 | LE 2 | 29 | Waterhaus Bay | Waterhaus Military Bay | | Light Engine from Frutigen to Waterhaus Military Bay |
| 00:12 | Rola 05 | 48 | Waterhaus Dwn | Waterhaus Rhone Up | Waterhaus Lower Helix | Rolling Road |
| 00:13 | Rola 05 | 48 | Waterhaus Lower Helix | Waterhaus Rhone Up | | Rolling Road |
| 00:14 | IR 101 | 29 | Waterhaus Eggerberg Dwn | Waterhaus Rhone Dwn | Waterhaus Eggerberg Ramp | Staff special |
| 00:15 | IR 101 | 29 | Waterhaus Eggerberg Ramp | Waterhaus Lower Helix | Waterhaus Rhone Dwn | Staff special |
| 00:15 | MIL 22 | 29 | Waterhaus Military Bay | Frutigen Elevated | | Red Cross Movement Waterhaus Military Bay to Brig Klas Gleis 30 |
| 00:16 | IR 101 | 29 | Waterhaus Rhone Dwn | Waterhaus Bay | Waterhaus Lower Helix | Staff special |
| 00:16 | Rola 05 | 48 | Waterhaus Rhone Up | Waterhaus Eggerberg Ramp | | Rolling Road |
| 00:17 | Rola 05 | 48 | Waterhaus Rhone Up | Waterhaus Eggerberg Up | Waterhaus Eggerberg Ramp | Rolling Road |
| 00:18 | IR 101 | 29 | Waterhaus Lower Helix | Waterhaus Bay | | Staff special |
| 00:18 | IR 103 | 6 | Frutigen Thru | Waterhaus Dwn | | Era III Consist |
| 00:19 | IR 101 | 29 | Waterhaus Bay | Waterhaus Military Thru | | Staff special |
| 00:19 | Rola 05 | 48 | Waterhaus Eggerberg Ramp | Waterhaus Upper Helix | Waterhaus Eggerberg Up | Rolling Road |
| 00:20 | IR 101 | 29 | Waterhaus Bay | Frutigen Elevated | Waterhaus Military Thru | Staff special |
| 00:21 | IR 103 | 6 | Waterhaus Dwn | Waterhaus Lower Helix | | Era III Consist |
| 00:21 | Rola 05 | 48 | Waterhaus Eggerberg Up | Waterhaus Up | Waterhaus Upper Helix | Rolling Road |
| 00:22 | IR 103 | 6 | Waterhaus Dwn | Waterhaus Rhone Up | Waterhaus Lower Helix | Era III Consist |
| 00:23 | IR 103 | 6 | Waterhaus Lower Helix | Waterhaus Eggerberg Ramp | Waterhaus Rhone Up | Era III Consist |
| 00:23 | Rola 05 | 48 | Waterhaus Upper Helix | Muttenz West | Waterhaus Up | Rolling Road |
| 00:24 | LE 46 | 61 | Muttenz West | Waterhaus Lower Helix | Waterhaus Dwn | Repositioning Loks Brig Klass > Muttenz |
| 00:25 | IR 103 | 6 | Waterhaus Rhone Up | Waterhaus Eggerberg Up | Waterhaus Eggerberg Ramp | Era III Consist |
| 00:26 | IR 103 | 6 | Waterhaus Eggerberg Ramp | Waterhaus Eggerberg Up | | Era III Consist |
| 00:26 | LE 46 | 61 | Waterhaus Dwn | Waterhaus Rhone Up | Waterhaus Lower Helix | Repositioning Loks Brig Klass > Muttenz |
| 00:27 | IR 103 | 6 | Waterhaus Eggerberg Up | Waterhaus Upper Helix | | Era III Consist |
| 00:27 | LE 46 | 61 | Waterhaus Lower Helix | Waterhaus Eggerberg Ramp | Waterhaus Rhone Up | Repositioning Loks Brig Klass > Muttenz |
| 00:28 | IR 103 | 6 | Waterhaus Eggerberg Up | Waterhaus Up | Waterhaus Upper Helix | Era III Consist |
| 00:28 | LE 46 | 61 | Waterhaus Rhone Up | Waterhaus Eggerberg Up | Waterhaus Eggerberg Ramp | Repositioning Loks Brig Klass > Muttenz |
| 00:29 | IR 103 | 6 | Waterhaus Upper Helix | Waterhaus Up | | Era III Consist |
| 00:29 | LE 46 | 61 | Waterhaus Eggerberg Ramp | Waterhaus Upper Helix | Waterhaus Eggerberg Up | Repositioning Loks Brig Klass > Muttenz |

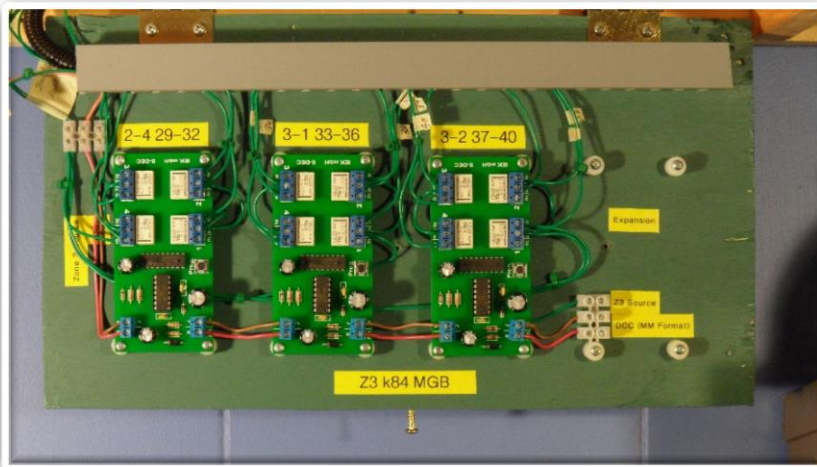
Arrival & Departures

“Dynamic Sign + Remote Sign*”

| Brig | | SBB CFF FFS | | Remote Sign 2.0.1/2 | | 14:57 | |
|--------------------|---------|-------------------------|--|---------------------|--|-------|--|
| Ankunft/Arrivals | | | | | | | |
| Zeit | Zug | Richtung | | | | Gleis | |
| 14:56 | IR 2148 | ISELLE DI TRASQUERA | | | | 06 | |
| 14:58 | IC 2017 | THUN OLTEN ZÜRICH | | | | 02 | |
| 15:01 | IR 1709 | SION | | | | 06 | |
| 15:02 | MGB 012 | ANDERMATT | | | | 11 | |
| 15:03 | IR 3261 | SPIEZ | | | | 05 | |
| 15:04 | MGB 009 | VISP | | | | 12 | |
| 15:06 | IR 1711 | AIGLE | | | | 04 | |
| 15:08 | TEE 013 | BASEL KÖLN AMSTERDAM | | | | 02 | |
| 15:11 | CIWL 07 | PARIS CALAIS LONDON | | | | 01 | |
| 15:14 | EC 123 | GENÈVE AÉROPORT | | | | 03 | |
| Abfahrt/Departures | | | | | | | |
| Zeit | Zug | Richtung | | | | Gleis | |
| 14:56 | MGB 015 | ST MORITZ - GLACIER EXP | | | | 12 | |
| 14:58 | MGB 016 | ZERMATT - GLACIER EXP | | | | 11 | |
| 14:59 | TEE 016 | GENÈVE LYON PARIS | | | | 01 | |
| 15:02 | IR 2147 | ISELLE DI TRASQUERA | | | | 06 | |
| 15:04 | IC 2018 | THUN OLTEN ZÜRICH | | | | 02 | |
| 15:07 | IR 1710 | VISP SIERRE SION | | | | 06 | |
| 15:08 | MGB 012 | ST NIKLAUS ZERMATT | | | | 11 | |
| 15:09 | MGB 009 | OBERWALD | | | | 12 | |
| 15:09 | IR 3261 | DOMODOSSOLA | | | | 05 | |
| 15:12 | IR 1712 | MARTIGNY AIGLE | | | | 04 | |

*Visit www.mixmox.com

Behind the scenes!



Survival Lessons

#1 Document!

Skills Gained

- Visionary
- Planning
- Drawing
- Carpentry
- Electrical
- Electronics
- Mechanical
- 'Management' control
- Arbitration



Don't be afraid to ask!



Don't be afraid to redo!

Don't be afraid to compromise!

Having fun is key!



Weston BLS at a Glance!

- **Name:** **Weston BLS**
- **Scale:** **HO** 1:87 Scale 16.5mm track
- **Size:** HO Approximately 29' x 31'
- **Prototype:** Bern Lötschberg Simplon (BLS) North – South Transalpine
- **Era:** V/VI with all Standard gauge eras covered in Museum to run “Specials”!
- **Traffic:** Transalpine North – South Passenger & Freight

Weston BLS at a Glance!

- **Style:** Walk around
 - Large ‘P’, mainly double track prototypically “zig-zag” up/down North Ramp with aid of loop tunnels
 - Hidden single line sections are contained within spiral/oval tunnels to confuse operators (actually necessitated by cost and physical space limitations!)
 - In time will become fully end to end terminal operation with loops for continuous running, maintaining some single line sections (to keep operators on their toes and add operational interest!).
- Mainline: 125+ metres, 400+ feet

Weston BLS at a Glance!

- **Access features:**
 - It is possible to stand upright inside each of the major mountain sections
 - Rope lighting is provided to help see what is going on or not!
 - Two through wall ‘tunnels’
 - Miscellaneous selection of 20+ removable track/board sections to enable access to house well water treatment tanks, electrical circuit breaker panels and inter room links
 - Physical and electrical train movement protection is provided to try to prevent operators taking their trains and ‘Preiserlings’ on a death defying leap!

Weston BLS at a Glance!

- **Track:** Marklin C & K Gleis Code 83? Set-track
- **Points (Switches):** Marklin solenoids
- **Static Decoders:** Marklin k83, ESU and Viessmann
- **Roadbed:** HO built-in to C Gleis
- **Minimum radius:** 360mm or 14.2" (when absolutely necessary in hidden areas!)
- **Maximum grade:** HO 3.3%, HO S-Bahn 7.1%
- **Bench work:** 1" x 4" with ply or 2 inch foam sheeting and homasote
- **Height:** 30" to 63"

Weston BLS at a Glance!

- Elevated roadbed mounting: 3/8" ply jigsaw & spiral construction using 1/4" #20 thread threaded rods, nuts & washers
- Miscellaneous hardware quantities (approx. to date):
 - 1,000' x 1/4" #20 zinc plated threaded rods
 - 2,500 x 1/4" #20 nuts
 - 2,500 x 1/4" #20 washers

Little did I ever think of these quantities at the outset!

Weston BLS at a Glance!

- **Scenery:** Various (plaster, sculptamold, cloth and ground foam over chicken wire, cardboard strips & foam sheets)
- **Backdrops:** Tempered hardboard with painted sky, photographs & Faller alpine prints
- **Control:** Intellibox running predominantly Motorola 'New' Format with some 'Old' Format
- Railroad & Co computer control assistance is in planning stages as route selection length increases and complexity of switching becomes more daunting – especially for visiting operators
- **Unscheduled movements:** Occasional seasonal mouse, usually spring or fall penetrate defenses – one resulting in road-kill (what a mess & stink!) ☹

Weston MGB at a Glance!

- **Name:** **Weston MGB**
- **Scale:** HOm 1:87 Scale 12mm track
- **Size:** 15' x 4' MGB + 20' x 2' RhB (under construction)
- **Prototype:**
 - Matterhorn Gotthard Bahn (MGB) West – East Transalpine +
 - Rhaetian (RhB) 'Graubünden extension'
- **Era:** V/VI with "Specials"!
- **Traffic:**
 - MGB = Predominantly Passenger
 - RhB = Passenger & Freight

Weston MGB at a Glance!

- **Style:** Walk around.
 - Single track loop,
 - mountain branch with switch-back & scissors.
 - Hidden storage sections are contained within spiral/oval tunnels to confuse operators.
- **Plan:** In time will become fully end to end terminal operation with loops for continuous running, maintaining some single line sections (to keep operators on their toes and add operational interest!).
- **Mainline:** 95 feet & expanding! (New RhB section)
- **Access features:** It is possible to stand upright inside major mountain sections and rope lighting is provided to help see what is going on or not!

Weston MGB at a Glance!

- **Minimum radius:** 360mm or 14.2" (when absolutely necessary in hidden areas!)
- **Maximum grade:** 4.6% (Up to 12% rack planned!)
- **Bench work:** 1" x 4" with ply sheeting
- **Height:** 44" to 68"
- **Track:** HOm Peco Code 75 flex
- **Points (Switches):** Peco Solenoids & Slow Tortoise
- **Static Decoders:** ESU & Digitrax (for CDU)
- **Roadbed:** Cork
- **Elevated roadbed mounting:** 3/8" ply jigsaw & spiral construction using 1/4" #20 thread threaded rods, nuts & washers

Weston MGB at a Glance!

- **Control: Switchable**
 - Intellibox running DCC and
 - H & M running analogue DC
 - Blocks Sections – Marklin k84, Viessmann & IEK (equivalents)
- Railroad & Co computer control assistance is in planning stages as route selection lengths increase and complexity of switching becomes more daunting – especially for visiting operators

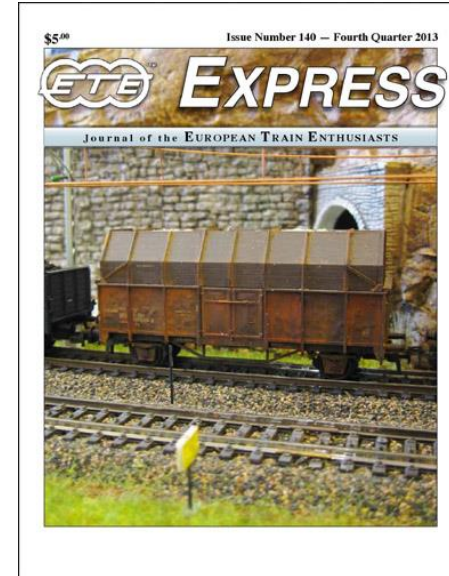
Good place to find local help

See you at the
Amherst Railway Society
W. Springfield, MA
Jan 24-25, 2015

www.ete.org



*The Premier North American Organization
Focused on European Railroading...*



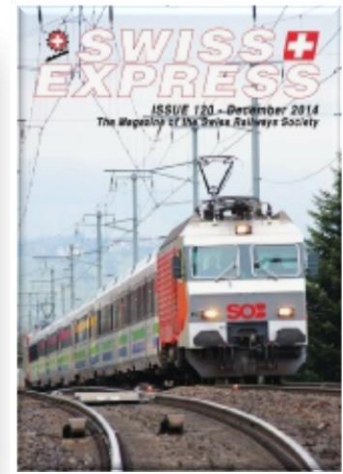
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Good place to find Swiss help

www.swissrailsoc.org.uk



Keep Calm & Carry On!

Selection of Useful Contacts!

- www.curtain-tracks.com
- www.hookandloop.com
- www.linentablecloth.com
- www.8o2o.net
 - <http://stores.ebay.com/8o2o-Inc-Garage-Sale>
- www.fohrmann.com
- Tracksetta (Melcam Models)
+44 (0) 1 793 740999
- www.trainaisa.com
- www.mixmox.com
- www.ete.org
- www.swissrailsoc.org.uk
- www.eurorail.org.uk
- www.azg.org.uk
- www.sncfsociety.org.uk
- www.grs-uk.org
- www.beneluxrailways.co.uk
- www.scanrailsoc.org.uk
- www.italianrailways.co.uk
- www.platform5.com
- www.europeanrailtimetable.eu
- www.modellanlagenbau.de





Thank You!
Time for a "Chinwag" ©