

Suggestions to help organize your thoughts (answering all these questions is not a prerequisite!)

Organizing your thoughts and materials can be a big help in getting the most from layout design or operations consulting. Here are a few suggestions for materials and information that may be useful. There is no requirement to answer all of these questions by any means, but the more clarity you have the more productive and interesting the consulting engagement will be.

Layout Design issues are discussed first on this page, then Operations issues, but there is obviously a lot of interplay between the two, so all potential clients are encouraged to take a quick look at this entire document.

What's your vision?

This most important question is probably the vaguest. What's your vision for your layout or for your operation? If you close your eyes and imagine the perfect scene, what does it include? Space for detailed scenery or dense operations-oriented trackage? Mountainside, seaside, or granger? "High-iron" Class 1, urban switcher, or bucolic narrow-gauge shortline? Intense operating sessions governed by the clock or relaxed but purposeful backwoods railroading? Try to jot down a few notes or pencil a few sketches that capture your vision -- it's the most important information we could have to allow us to work toward a satisfying layout design and/or operations plan.

Layout Design

Referring to any of John Armstrong's books which describe the process of determining the "Givens and Druthers" of a layout may prove useful, as may a reading of the Layout Design SIG's Primer Chapter on the topic.

http://macrodyn.com/ldsig/wiki/index.php?title=Using_Givens_and_Druthers_to_guide_the_process

Prototype (real or imagined)

Are you considering specific prototype (real railroads) for your layout? Which one(s)? Are these the focus of your concept or supporting players?

If you are free-lancing or proto-freelancing, what is the history of your imagined prototype? How does it relate (if at all) to nearby real prototype railroads? If you have chosen a smaller prototype or location that may not be well-known, some concise background information may be useful.

Information on real and imagined prototypes might include:

- Map showing key prototype locations and track layouts. What length of prototype mileage are you attempting to capture? What degree of selective compression are you considering?
- Schematic diagrams of track in major operating locations (yards, interchanges, industries, etc.)
- Text description of the prototype (brief history, operations, major customers, interchange railroads, etc.)
- Timetables, lists of trains, etc.
- Copies of any other pertinent prototype paperwork such as: car location charts (similar to "SPINS" or "CLIC"); switchlists; Sanborn maps or other valuation data; etc., etc.
- Locale: specific ("Dunsmuir, CA") or generalized ("western mountain railroading") locations that interest you
- Era of interest, either specific ("Fall of 1955"), generalized ("steam-diesel transition", "1940s-'50s"), or "anything goes"

Opportunities and Constraints

Space -- an accurately-dimensioned diagram of the available space is very helpful (the general configuration and dimensions are much more critical than drafting excellence -- simple sketches are fine).

Include obstructions such as windows, doors, heating and A/C equipment, etc. Identify existing or anticipated "political" boundaries negotiated with cohabitants. For multi-deck designs, ceiling height is also important.

Time -- How much time do you have for building and maintaining this layout? Is there a crew of helpers to assist?

Skills -- What layout building skills do you have today, which are you likely to learn or find friends to provide, which may be out of the question?

Environmental issues -- heating, cooling, dust, etc.

Ergonomics factors -- any restrictions existing now or anticipated in the future around operator flexibility, reach, etc.

Layout type and concept

What are your preferences and purpose in building the layout? How would you prefer to set the balance between potentially competing needs like operations vs. prototype replication?

Some of the key areas you might want to emphasize include:

- Operations, including the following areas of interest and trade-offs
- Switching vs. mainline running
- One-person vs. larger crew
- Formal vs. casual operations, degree of intensity desired
- Style of train control: Timetable / Train Order, CTC, Track Warrants, Sequence, "Holler and Hope"
- Replication of prototype scenes, visual fidelity
- Model railfanning, photography
- Low cost or quick construction
- Portability / reusability

Modeling preferences

Scale and gauge

Ideas on preferred and minimum radius curves and turnout size/number

Hand-laid or commercial track components? Have you selected a manufacturer?

Control of trains: DC (Block Control) vs. Command Control such as DCC

What is your preferred balance between highly accurate fine scale models and less-detailed "representational" modeling of rolling stock, structures, trackwork, etc. (i.e., what is "good enough" for you)?

How important is scenery to your layout concept? Is natural and realistic scenery (e.g., fewer long retaining walls) more important than squeezing in more track? Or will "Plywood Pacific" style scenes be OK for now (or for a while!)?

Is it important that the layout be designed so that parts could be put into operation in stages?

Layout and Operating Style

Is continuous running a requirement?

Is your preference for trains passing once-through each scene or two passes or more through each scene?

Is your preference for a linear order of towns (A>B>C) or for multiple junctions and alternate routes (sometimes referred to as "spaghetti bowl")?

Are you considering multiple decks? Are they to be connected? How will trains move between (e.g., helix, switchback, visible horseshoe curves, manual cassettes, etc.)?

Is staging important to your layout concept to create an impression of the world beyond-the-benchwork?

What types of staging are you considering?

- Interchange or yard tracks
- Stub-end
- Through or loop
- Car-ferry or moveable cassette
- Is staging to be visible, secluded but accessible, or hidden? Active (fiddle yard) or pre-set?
- Have you considered the staging capacity (number of tracks) that will be necessary for your operations concept?

Do you have preferences on aisles, access space, walk-in, duck-unders lift-outs, etc.?

What are your preferences for the typical and maximum length of trains?

Would you like significant distance between stations / towns (train length or more), or are you willing to settle for "engine in one town, caboose in the next" to get more features?

Operations Issues

What are the primary (and other) reasons trains will run on your layout:

- Test-track/display of models
- Model railfanning, just watch 'em run
- Casual but purposeful operations
- Attempting a strict re-creation of prototype operations

Operations areas of interest (some repeated from above)

- Switching vs. mainline running
- Passenger vs. freight operations
- One-person vs. larger crew
- Formal vs. casual operations, degree of intensity desired
- Style of train control: Timetable / Train Order, CTC, Track Warrants, Sequence, "Holler and Hope"
- Recreating prototype crew roles and rituals

Who and how many will operate the layout? The owner alone, a consistent crew, visiting knowledgeable operators, family members or other casual visitors?

Have you considered how you will generate car movements (car card/waybill, hand-written or computer-generated switchlists, tab- or tack-on car, "switch all the red ones on odd-numbered days", etc.)

What density of train movements would you like to achieve (how many trains in a typical session, how many trains / operators active at a time)?

How will you control movement of trains (dispatcher role, operators themselves, automated train control, etc.)? Are you considering other operating roles (station agents, yardmaster who don't run trains, clerks, etc.)?

How will operators communicate (radio, phones, hollering, written orders, etc.)?

Will you have active or passive interchange with other railroads?

What are the key industries and traffic types in your concept (e.g., coal hauling, lumber, produce, grain, general merchandise, manufacturing plants, urban switching, passenger operations, etc.)?

Are there any signature industries you would like to include (large facilities, regionally-specific, or requiring special procedures)?

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