

Layout Design from the Prototype

Balancing Fidelity, Scope, and Resources

Choosing the Prototype

- Sometimes, it chooses you!
- Looking for a fit
 - Style of operations -- especially train density
 - Equipment (thus, model availability)
 - Locale and scenery
- Be realistic about space, time, complexity
 - Scale and era
 - Subsidiaries and secondaries

An Iterative Process

- Pick a prototype and location
- Some research
- Define concept, fidelity, and scope
- Quick check -- will it fit with resources?
 - Yes** -- Get started, usually with more research
 - No** -- Change something: prototype, area, era, scale, scope, fidelity ... then start over

Designing from the Prototype

- Defining the vision and concept
- “Frame” the design -- choosing key elements
- Fidelity -- a matter of degree
 - “looks like”
 - vs. “both” is a challenge!
 - “works like”
- Scope -- how large a “picture”?
 - Not only size but intensity
- Available Resource
 - Space, time, money, data, complexity, skills

Vision and Concept

Choosing from prototype -- but what aspect(s)?

- Operations
- Re-creation of employee roles
- Model Railfanning
 - Home for a roster
- Duplication of scenes
- What are the **priorities**?

Cornerstones and PICS

- Operations-oriented
 - Prototype inspiration
 - Staging
 - Large industries
 - Interchange
- Display / Scenery / Model Railfanning
 - Plausible scenes
 - Independent / isolated vignette(s)
 - Scenery contours
 - Staging

Aren't LDEs the Answer?

- Yeah, sometimes ... if you're lucky
- Prototype is no guarantee of *model* suitability
- Mixing LDEs can be problematic
Eras, locations, prototypes
- Real-life elements vs. model representation – PDE vs. LDE

All Prototypes, all OK, right?

What if we did this with cars?



All Prototypes, all OK, right?

2009 CorSmartUp



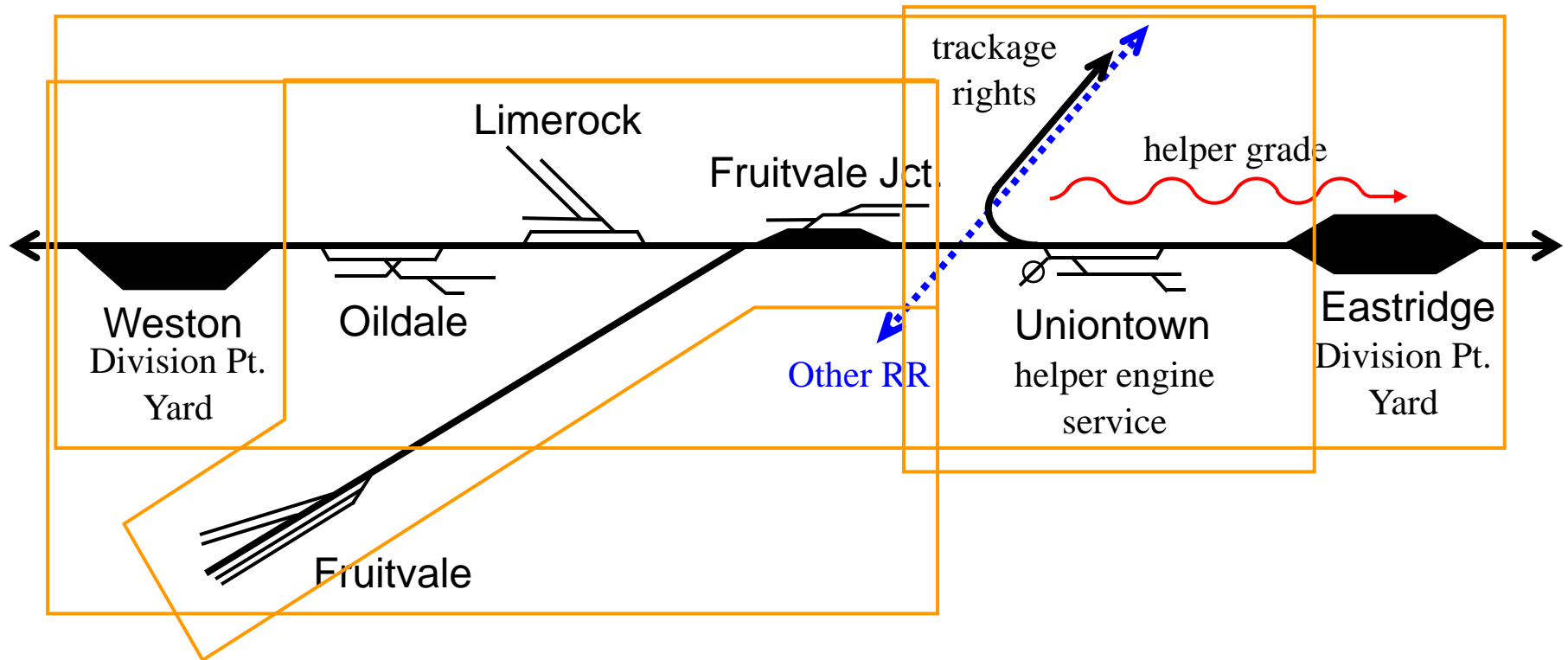
Puddies, Flares, and Comps

- Prototype Design Elements (PDE)
Real-life railroad configurations
Basis for LDEs
- Functional Layout Requirements (FLR)
Needed for smooth operation
E.g., runarounds, staging, crossovers, et al
- Compression & Compromise (Comps)
Space, time, resource constraints

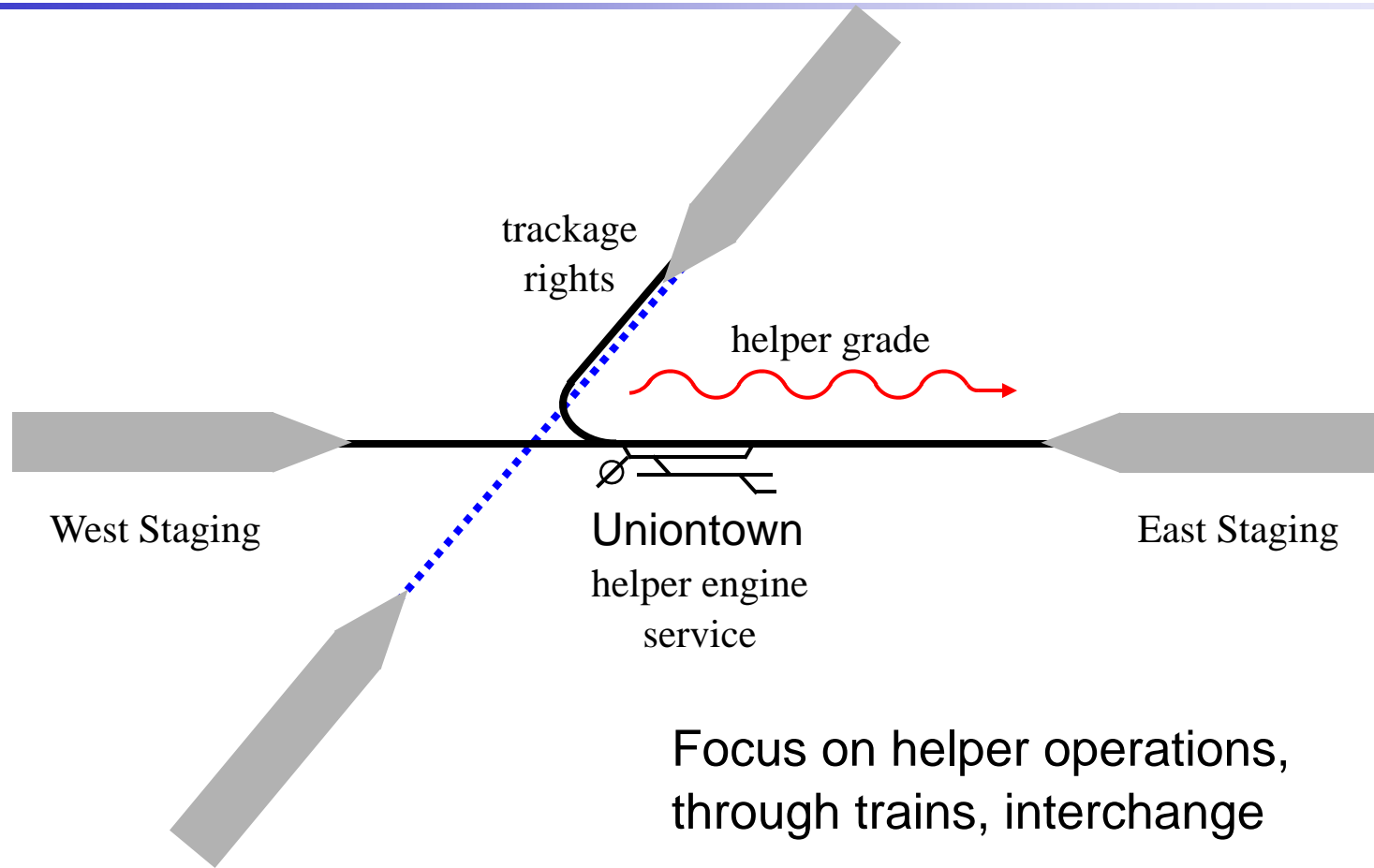
Framing the Scene(s)

- Choosing area of the prototype
 - Engaging and characteristic
 - Nostalgia
- Must support concept
 - Enough operating density
 - Signature traffic and/or scenes
- Tempered with reality of available resources
 - Major problem area for many designers

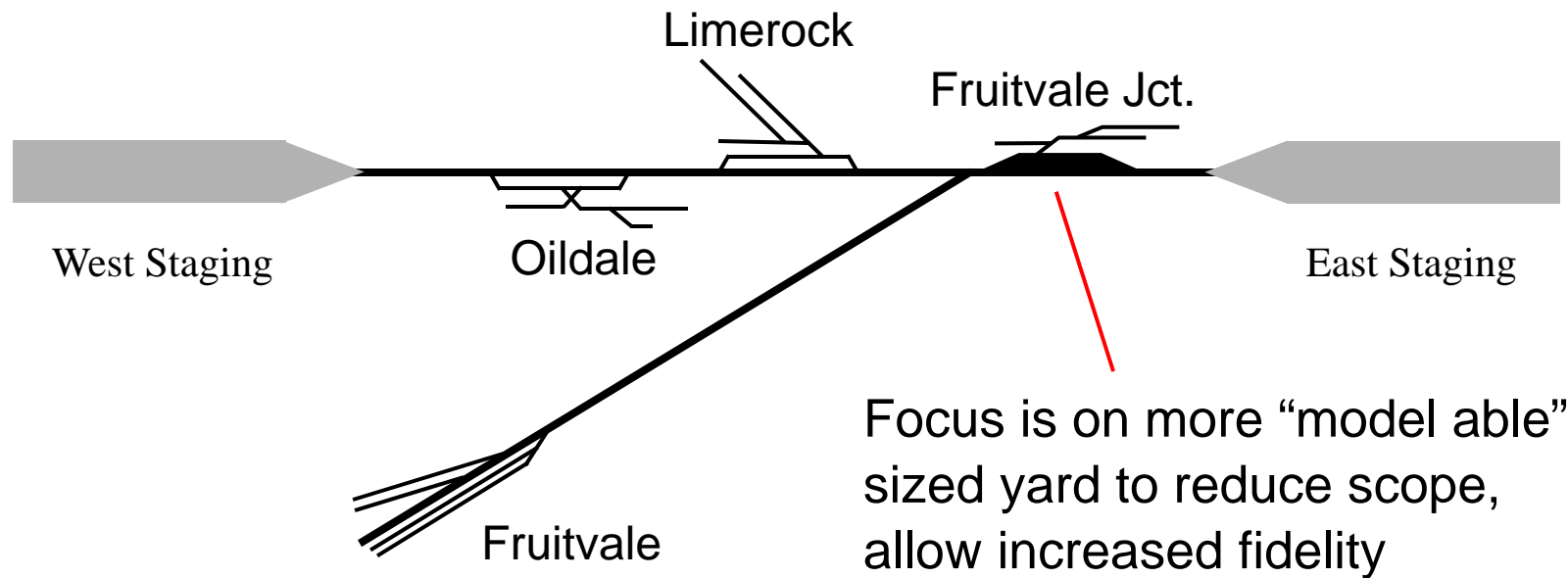
Framing and Choosing



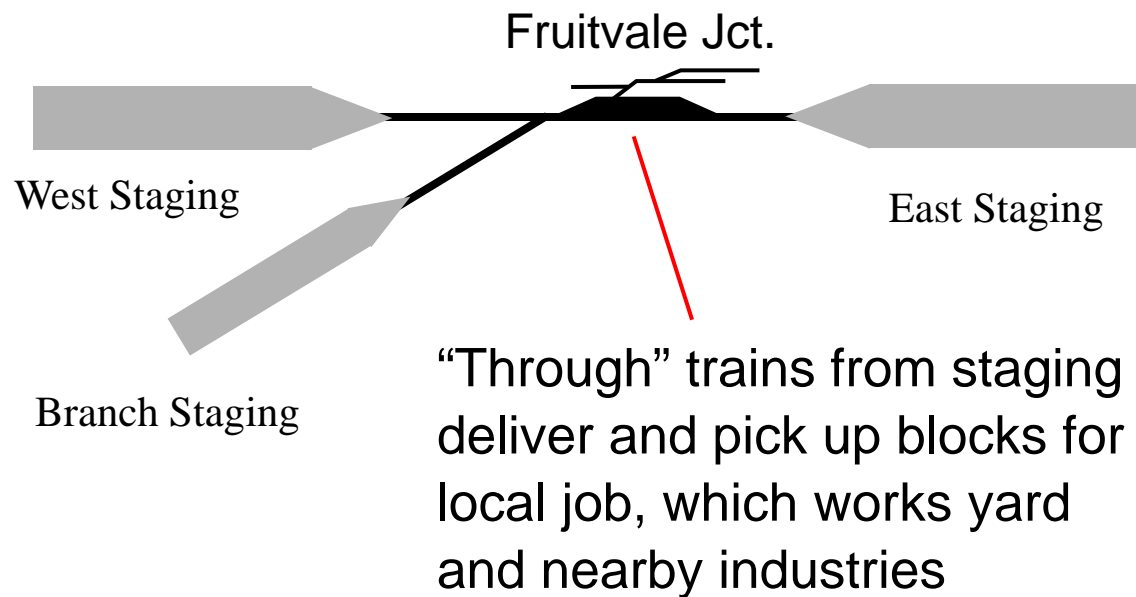
Modeling a Junction & Helpers



Junction Yard & Industry Switching



Compact, Switching-Focused



Warning: Compromise Ahead

“You can’t have everything -- where would you put it?”

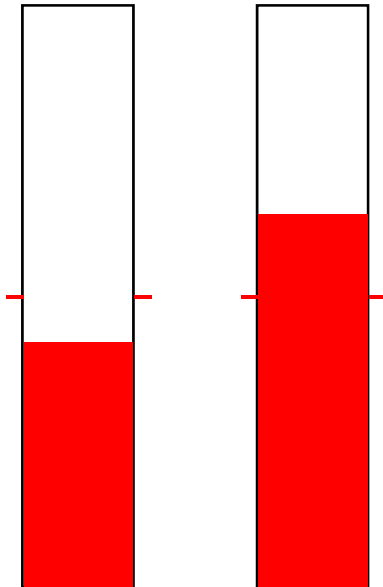
-- *Steven Wright, Comedian*

“I don’t mind a compromise, I just don’t want to leave anything out.”

-- *Custom Layout Design Client*

The “Algebra”

Fidelity



“Looks Like”

“Works Like”

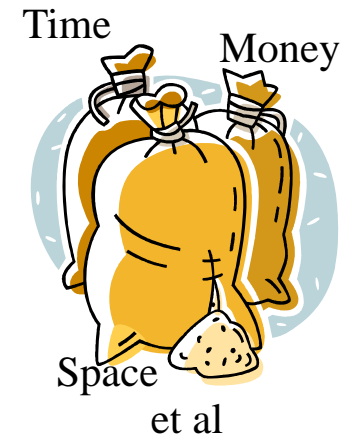
Prototype Scope

Huge
Medium
Small

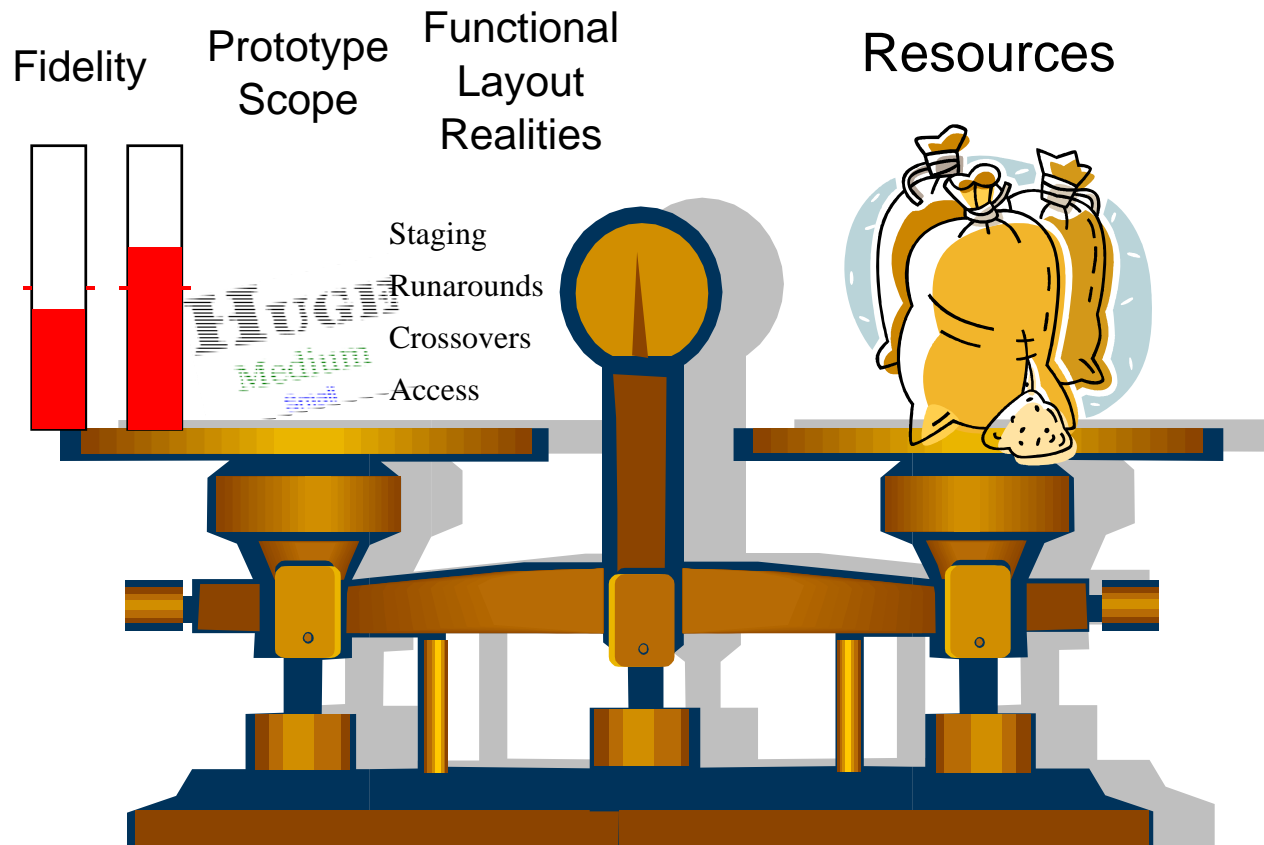
Functional Layout Realities

Staging
Runarounds
Crossovers
Access
etc., etc.

Resources



Compression and Compromise

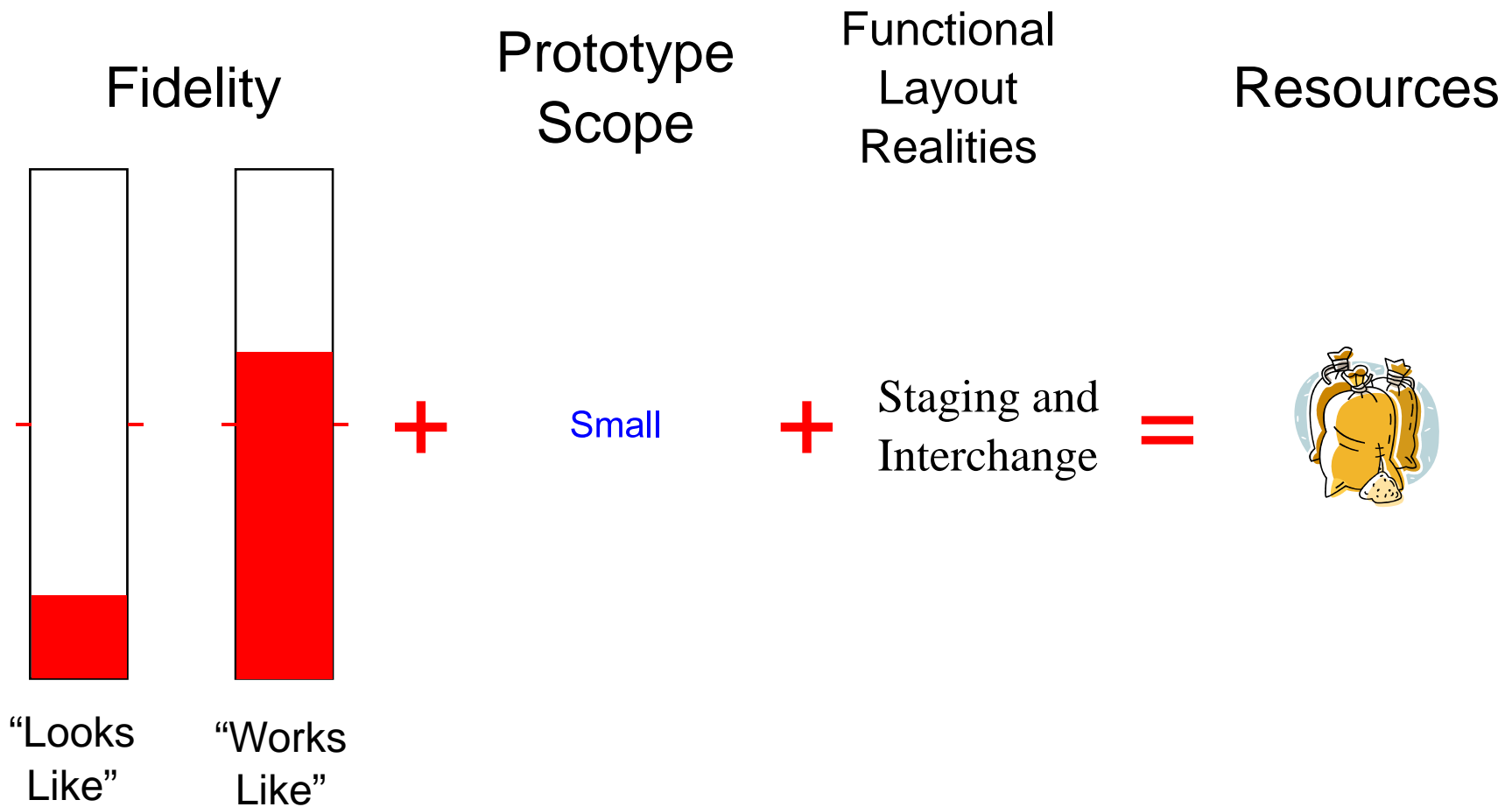


Always balances ... not always as expected!

Some Design Tools

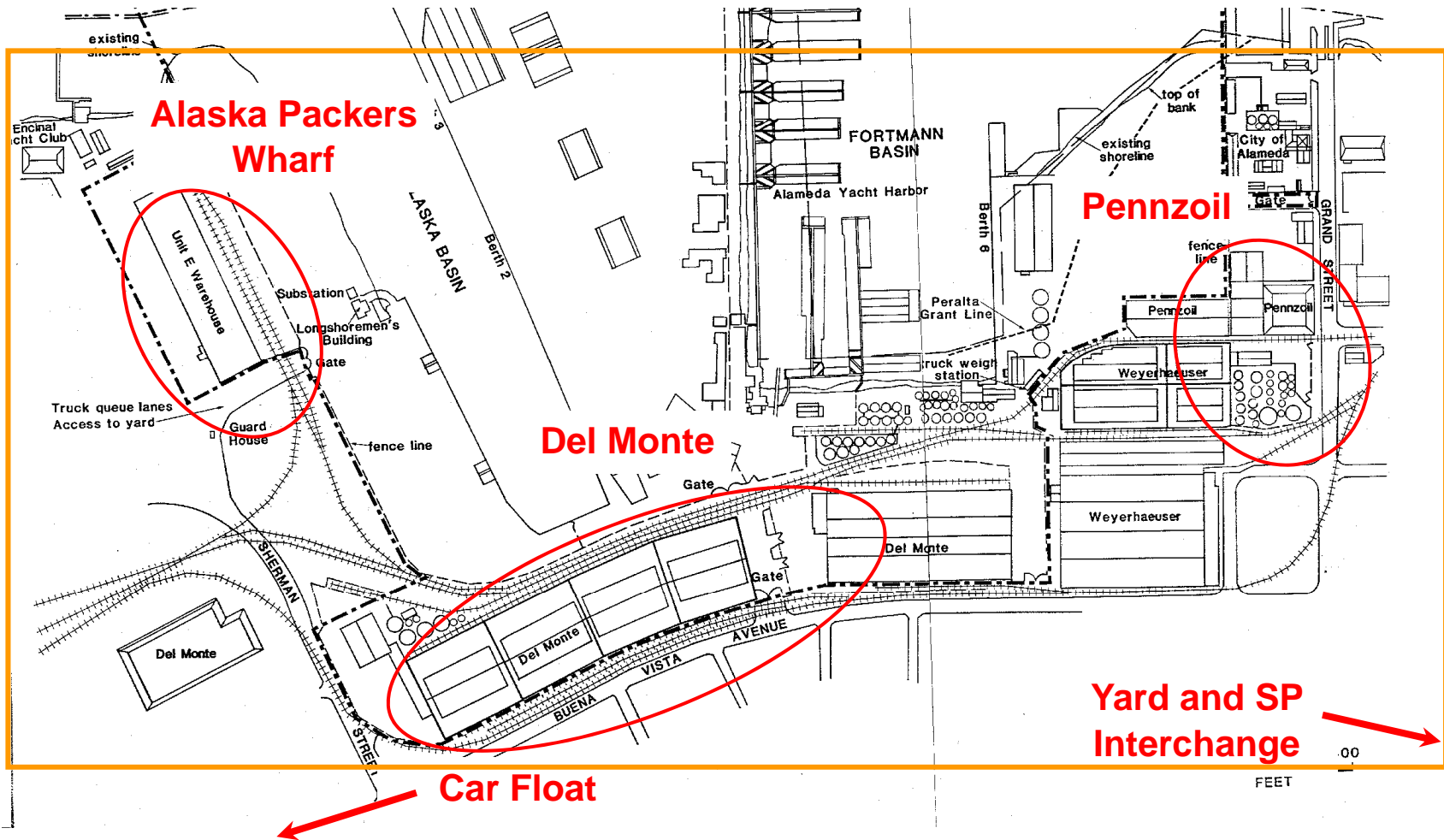
- Selective Compression
 - e.g., ten-track yard to six, structure dimensions, train length, etc.
- “Compressive selection”
 - Choose only modelgenic elements that support the theme and concept
- Modulate fidelity
 - Vary compression techniques for best effect
 - Don't be afraid to *edit!*

Alameda Belt Line

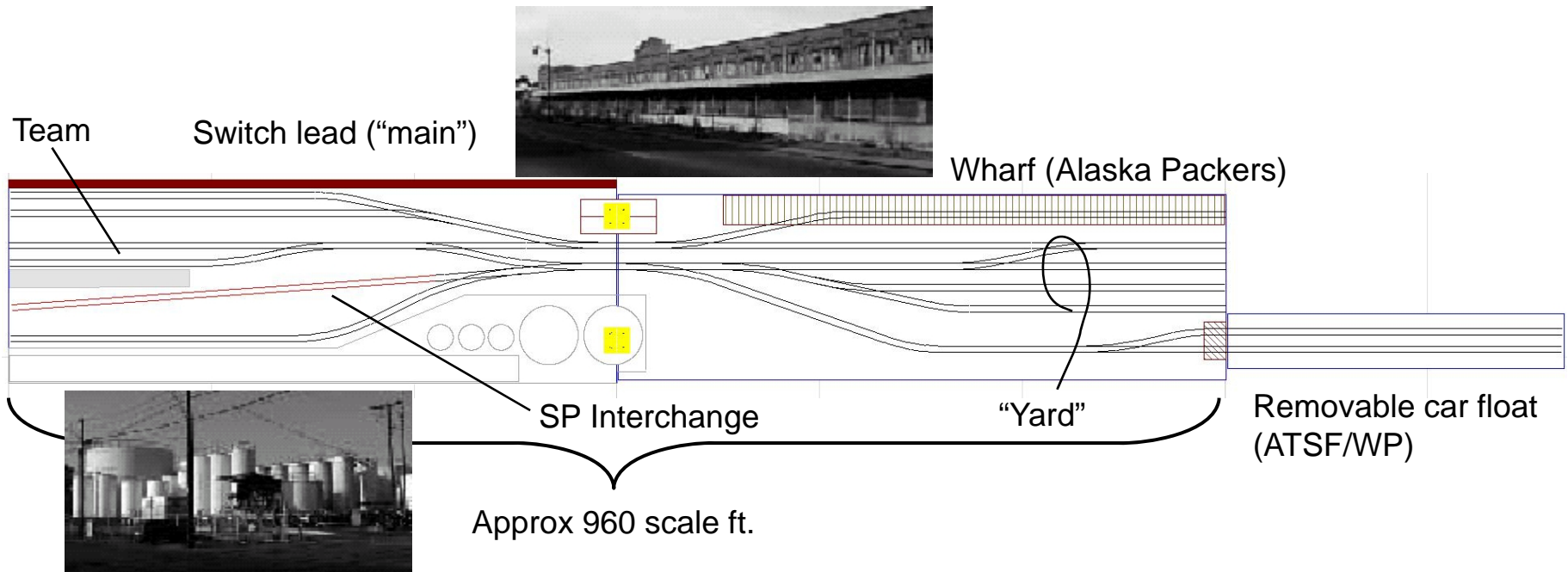


Signature Elements

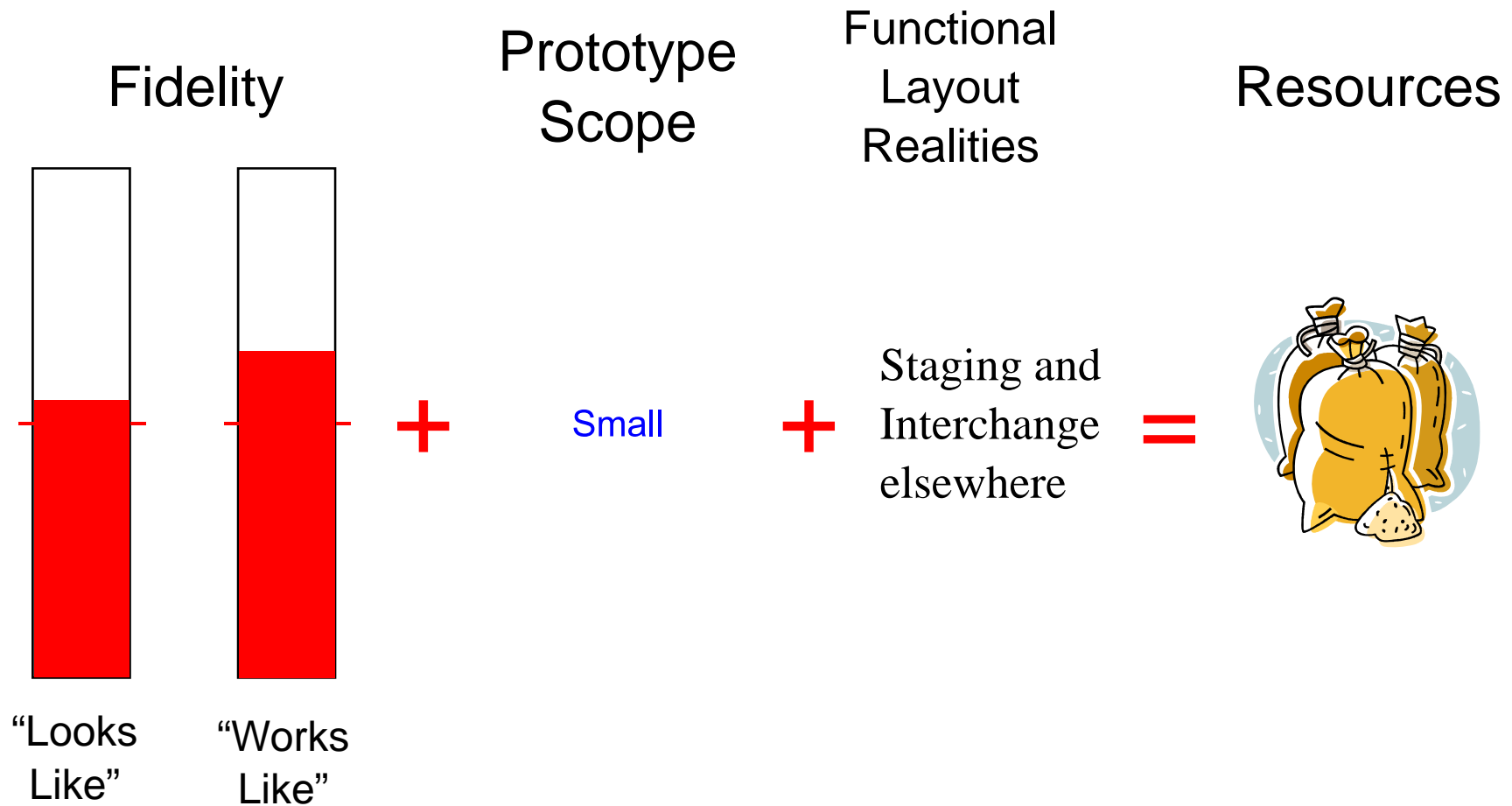
Alameda Belt Line – Encinal Terminal area



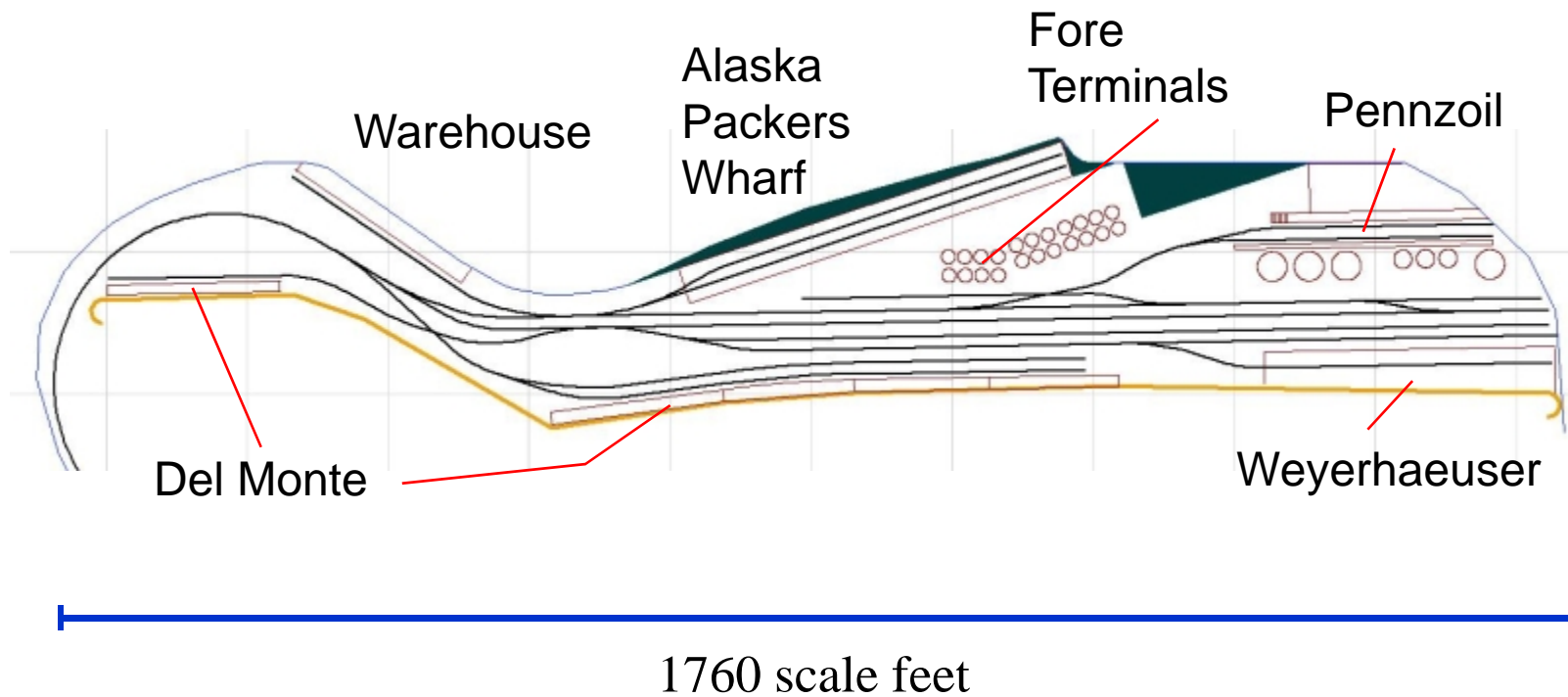
ABL "Bookshelf" from *MRP* '05

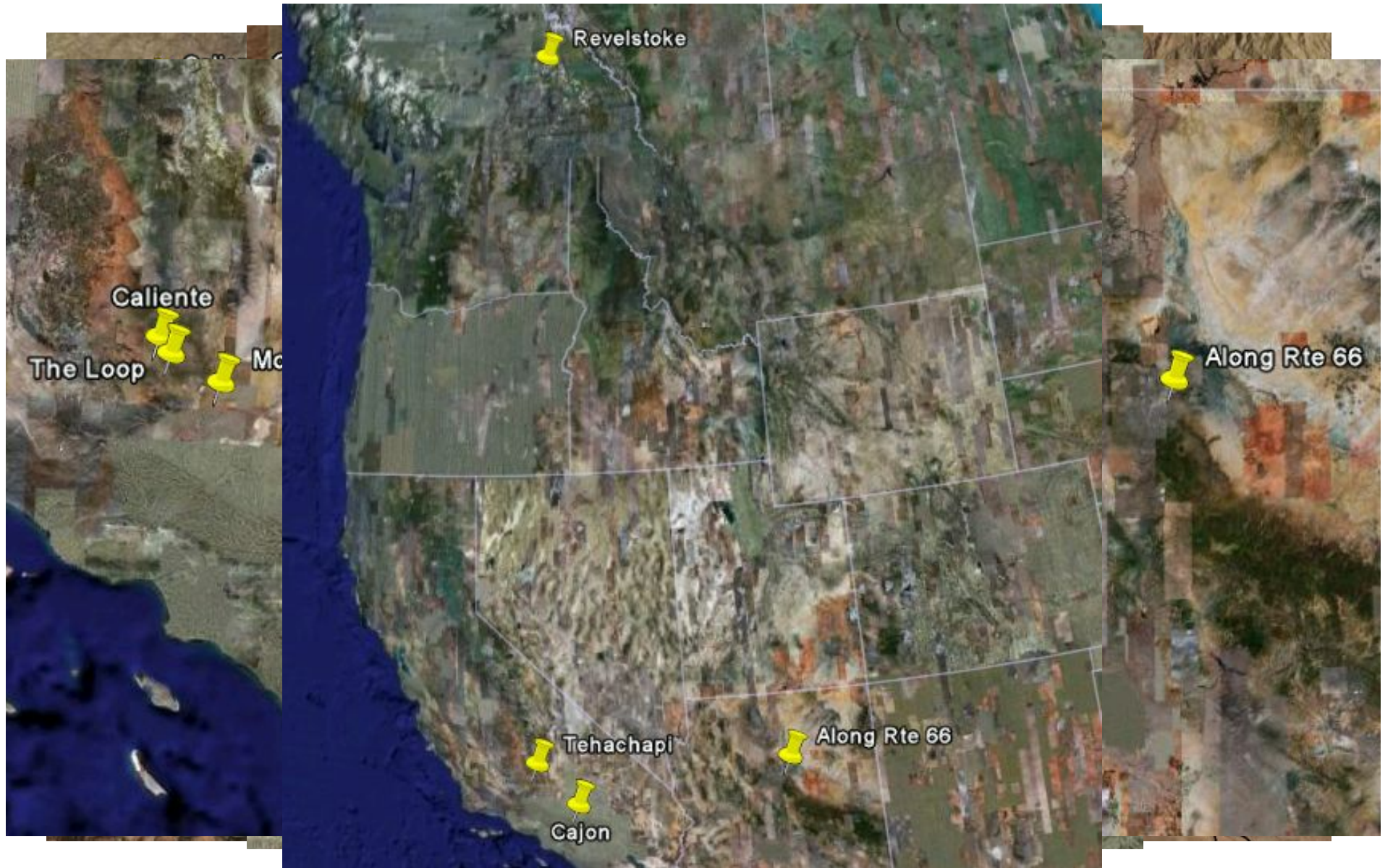


ABL, with a Little More Space

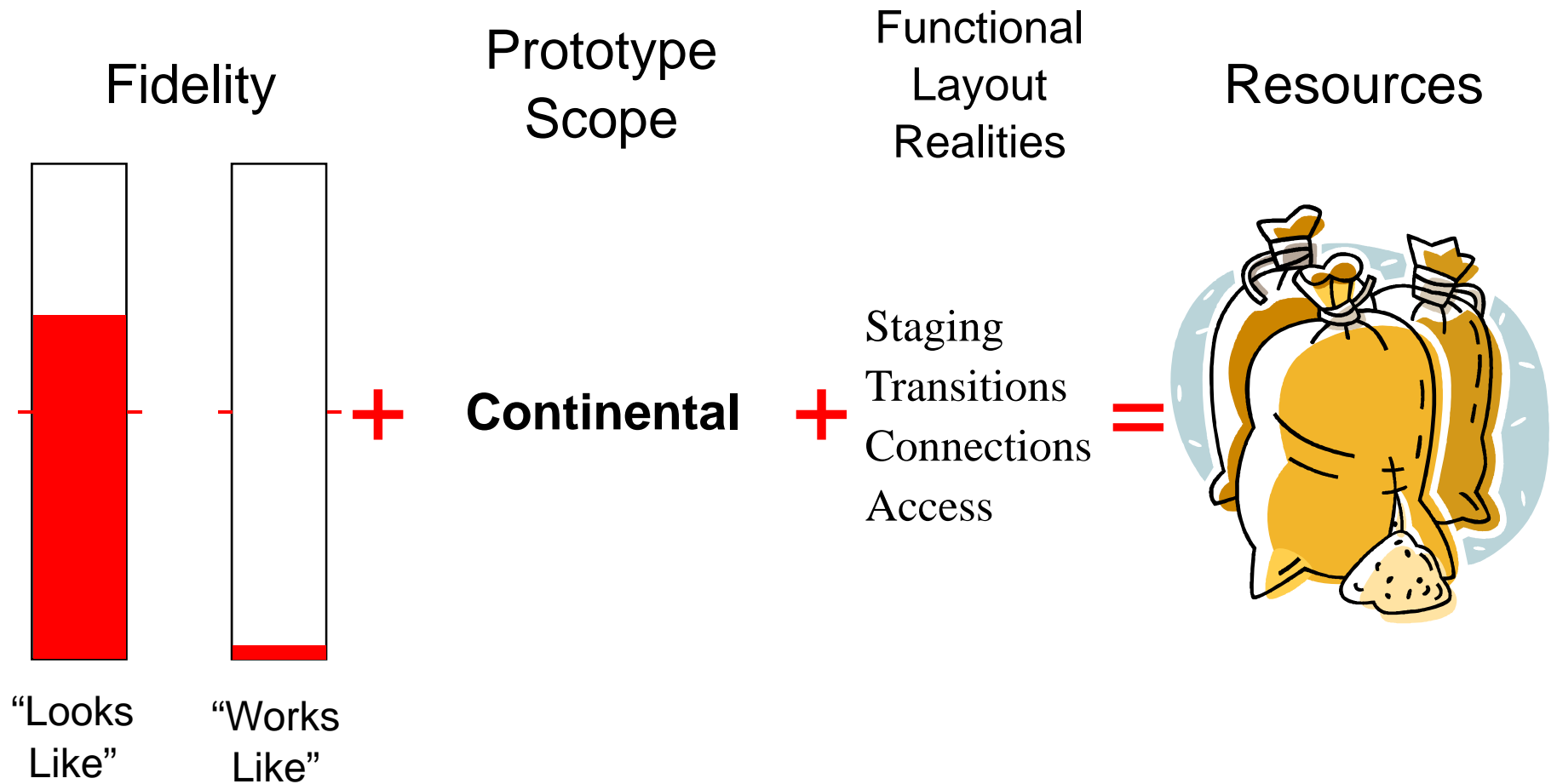


ABL, with a Little More Space

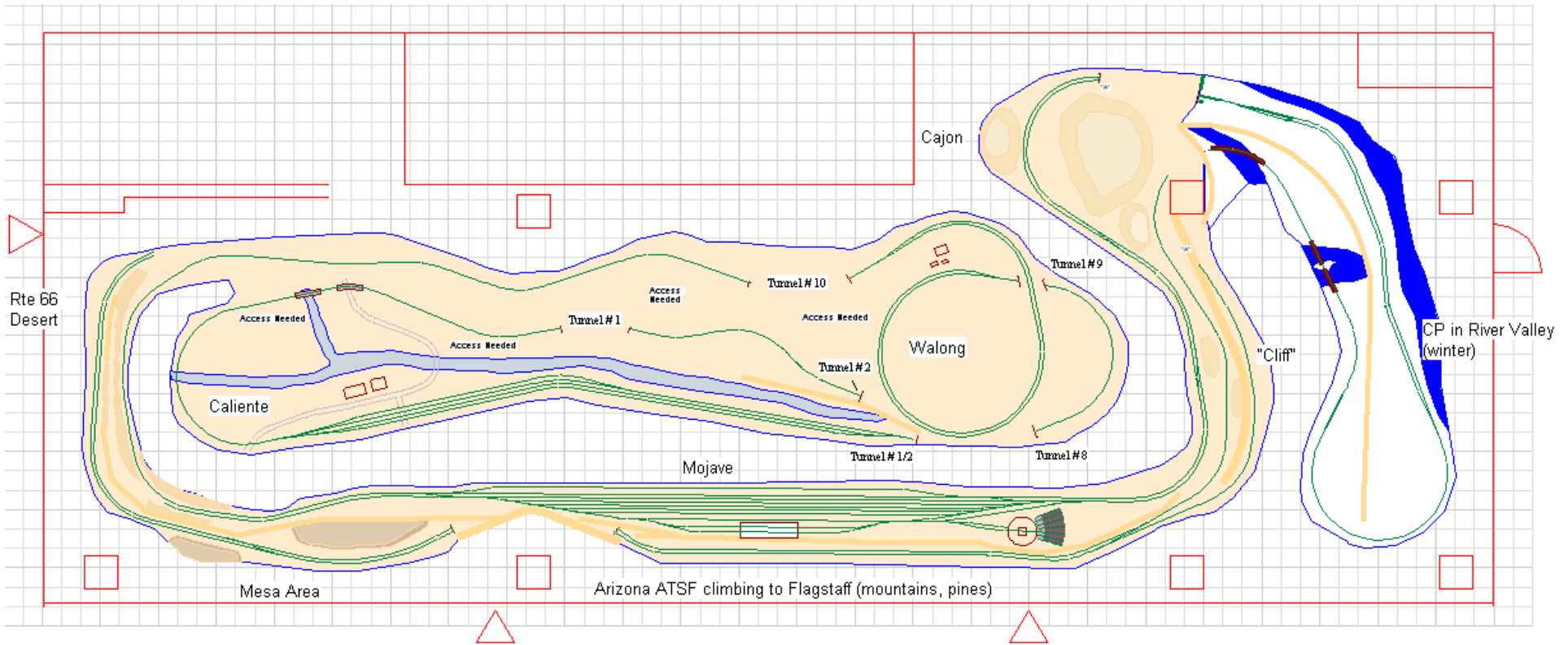




Flavor of Western Railroading

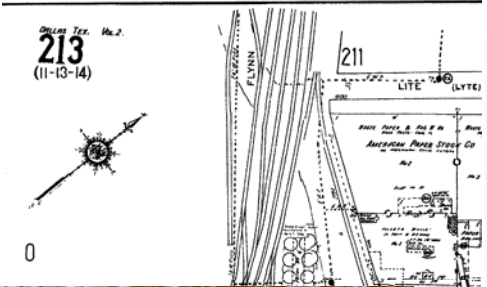


Flavor of Western Railroading

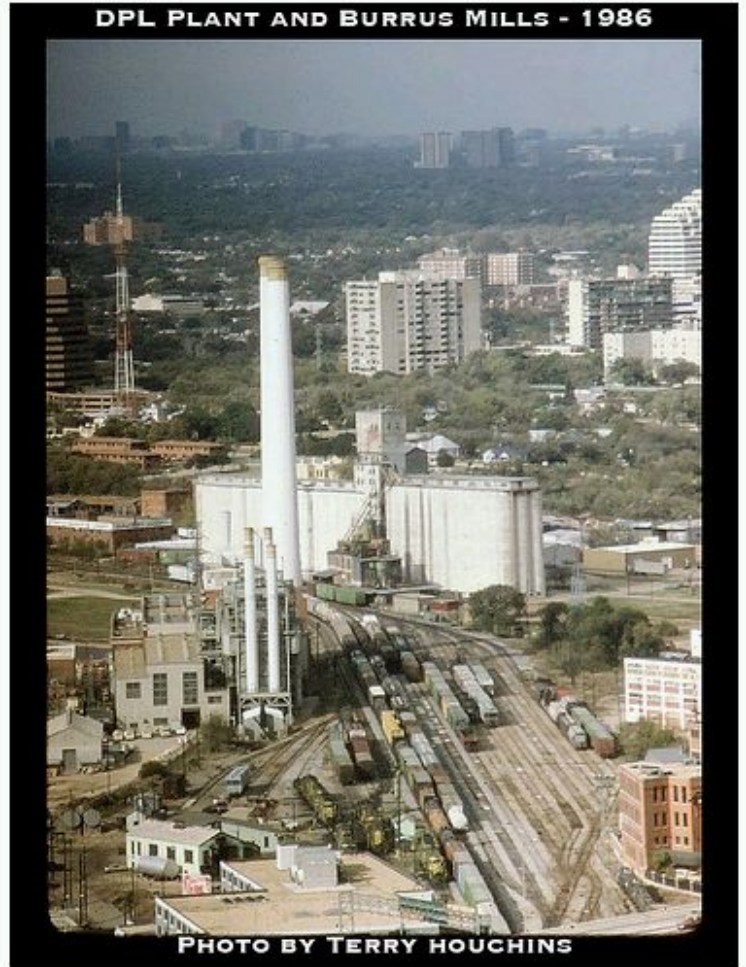


~ 75' X 205' Overall
11 long staging tracks below Caliente
Not all tracks shown

M-K-T in Dallas

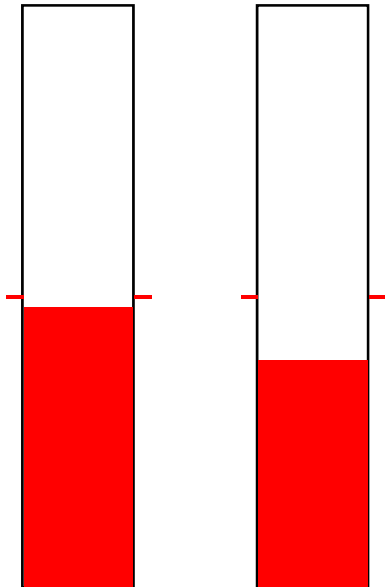


Handwritten notes: $1/16" = \approx 8.5'$, $1/8" = \approx 17'$, and $.125$.



M-K-T in Dallas

Fidelity



"Looks Like"

"Works Like"

Prototype Scope

+

Medium

+

Functional Layout Realities

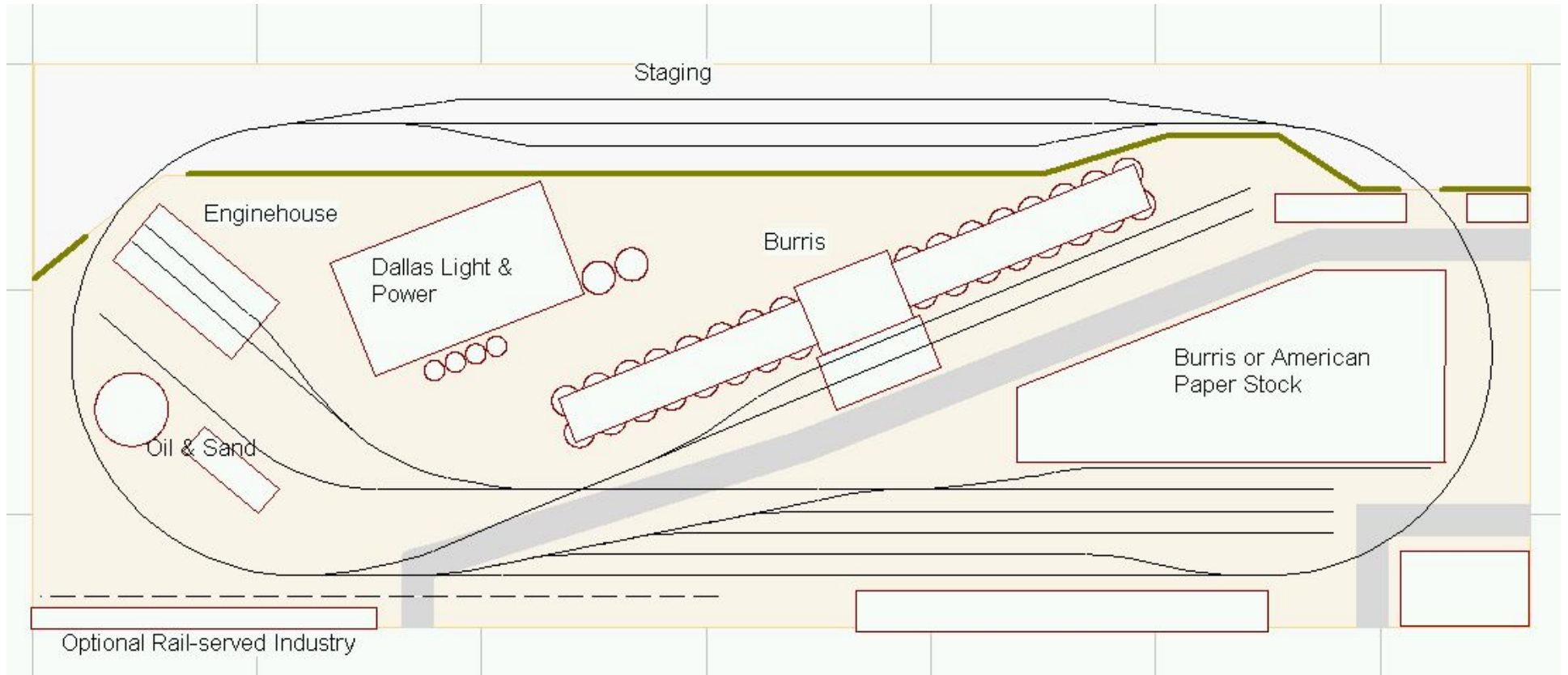
Staging Overlap

=

Resources



Dallas on a Door



30" X 80", N Scale

Potential Pitfalls?

- Consistent ratio of compression
e.g., proportional distance between towns
- All LDEs, all the time
Consider concessions for better operation / appearance
- Division-point yard(s)
- Too many things done twice

More space naturally opens more options

Designing from the Prototype

- Understand Prototype Elements broadly
- Consider Functional Layout Realities
- Be realistic – Compression & Compromise
- Stage where you can, build when you must
- Embrace prototype limitations *and* opportunities
- Iterative process -- “Lather, rinse, repeat”

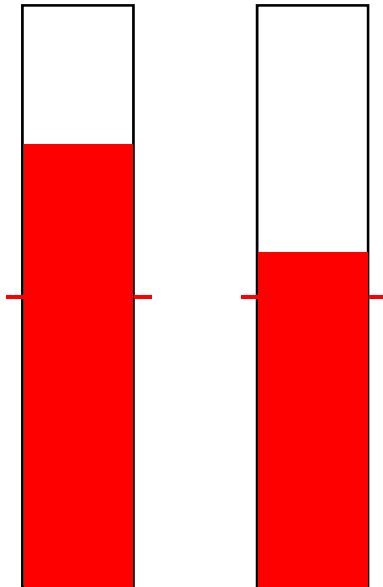
For more info ...

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- Check my web site:
www.layoutvision.com
- Drop me a note:
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1659F Branham Lane; #164
San Jose, CA 95118

Extras

Gainesville Midland

Fidelity



“Looks Like”

“Works Like”

Prototype Scope

+

Medium

+

Functional Layout Realities

Runarounds

No lift-out/
duckunders

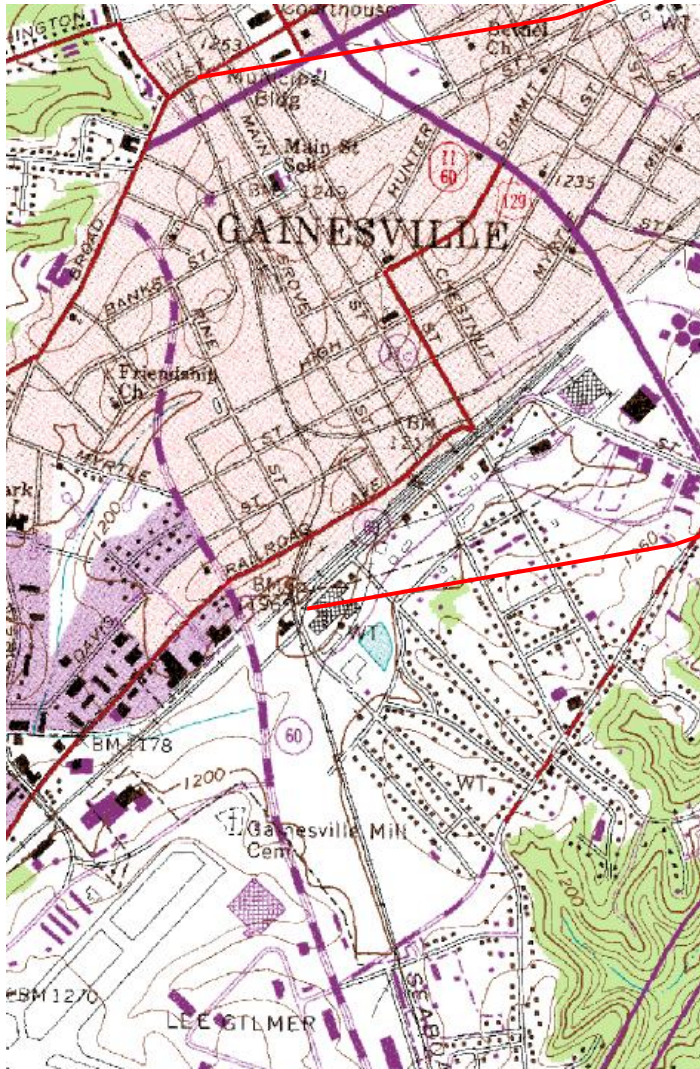
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Resources

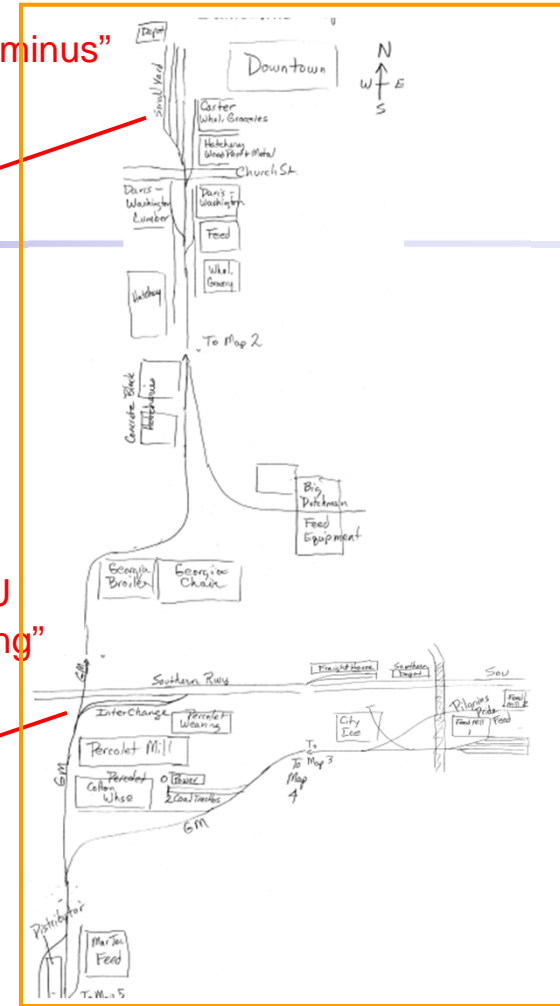


Multiple small rooms

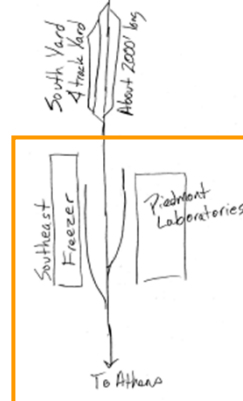
Signature Elements



“GM Terminus”

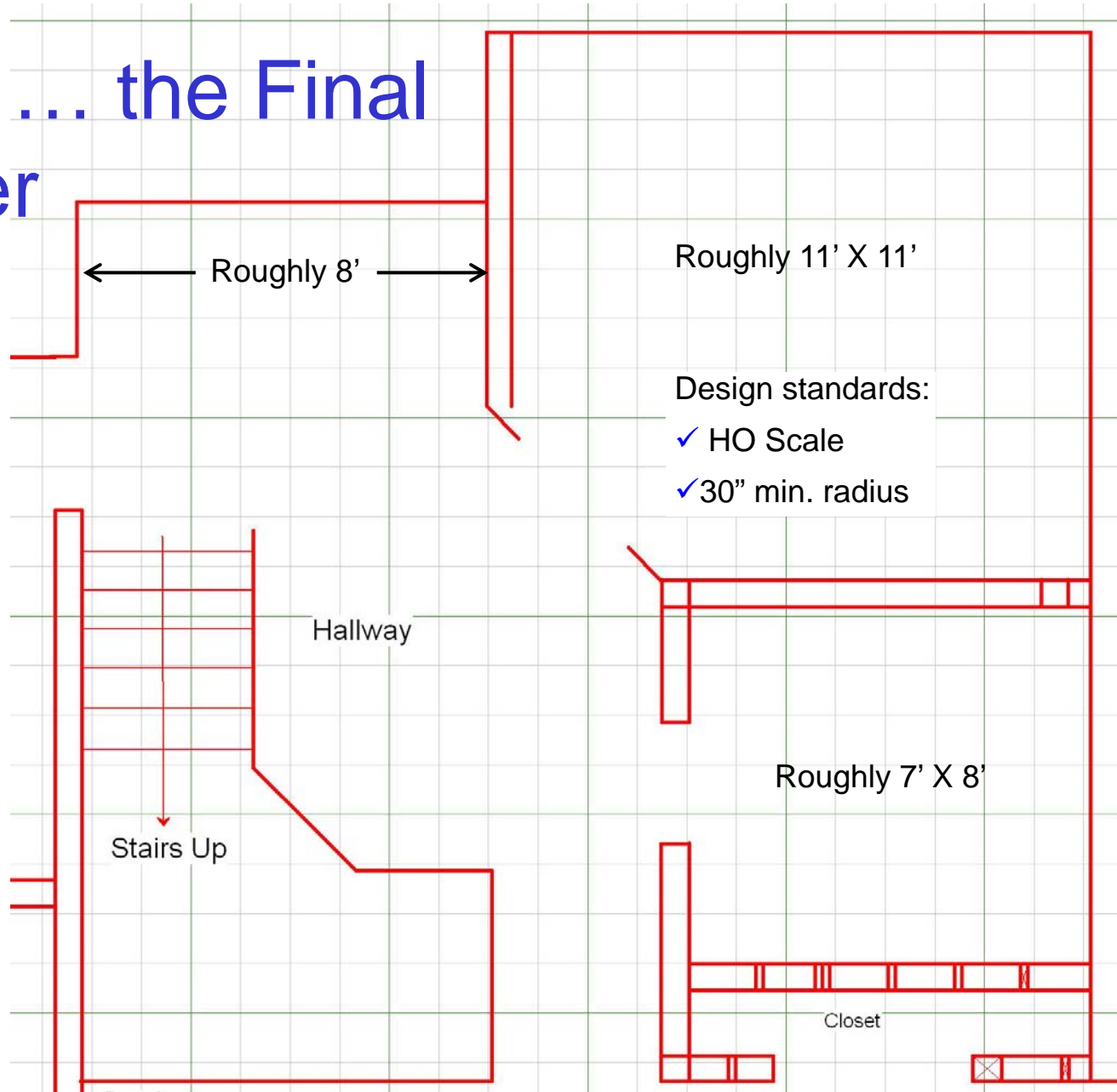


“SOU Crossing”

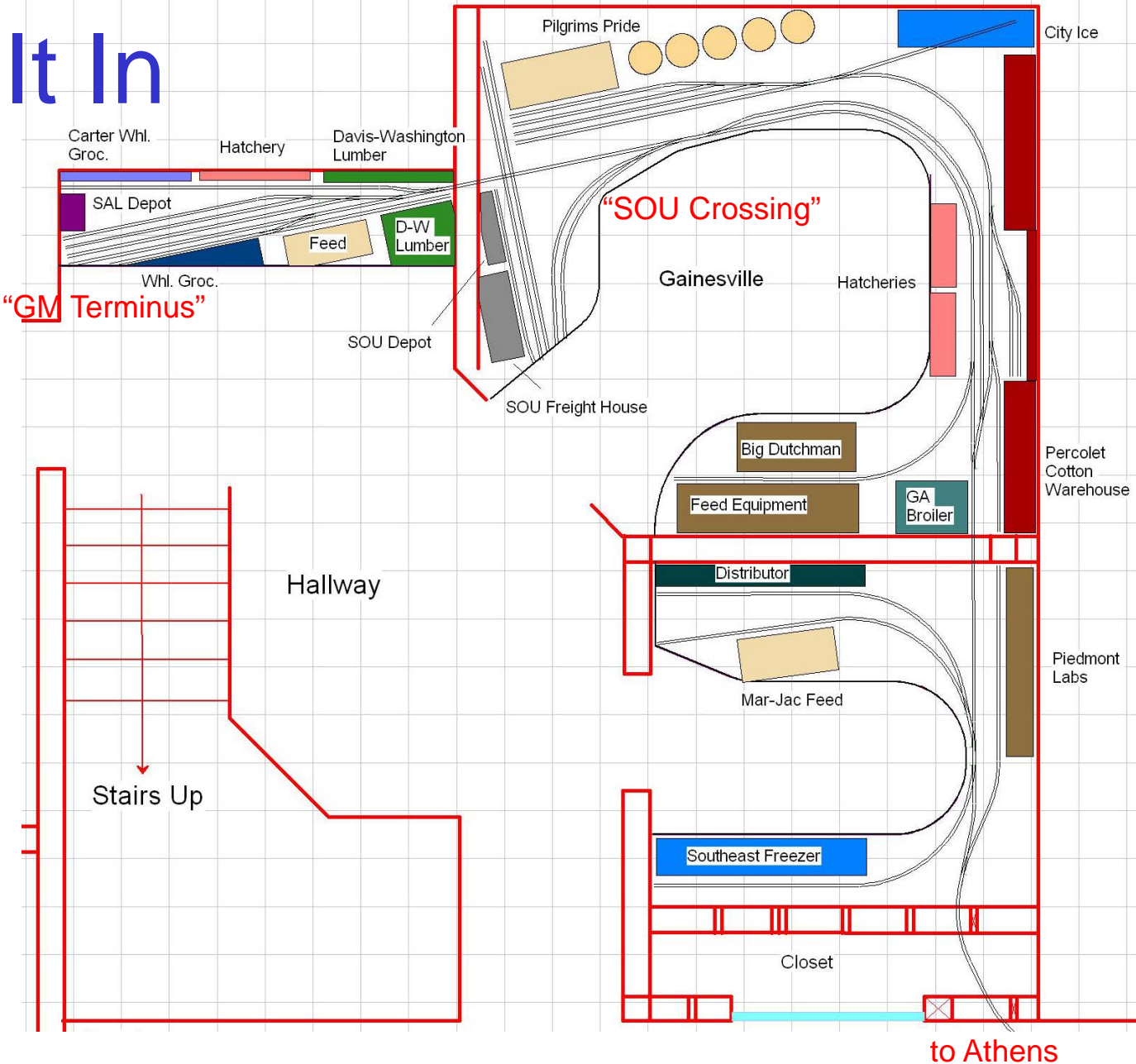


Industry research and sketch by Paul McGraw

Space ... the Final Frontier



Fitting It In



Constantly look for characteristic opportunities in the space

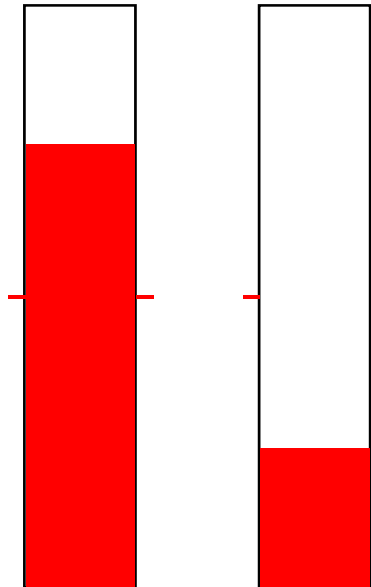
UP Cheyenne Yard

Fidelity

Prototype
Scope

Functional
Layout
Realities

Resources



+

Huge

+

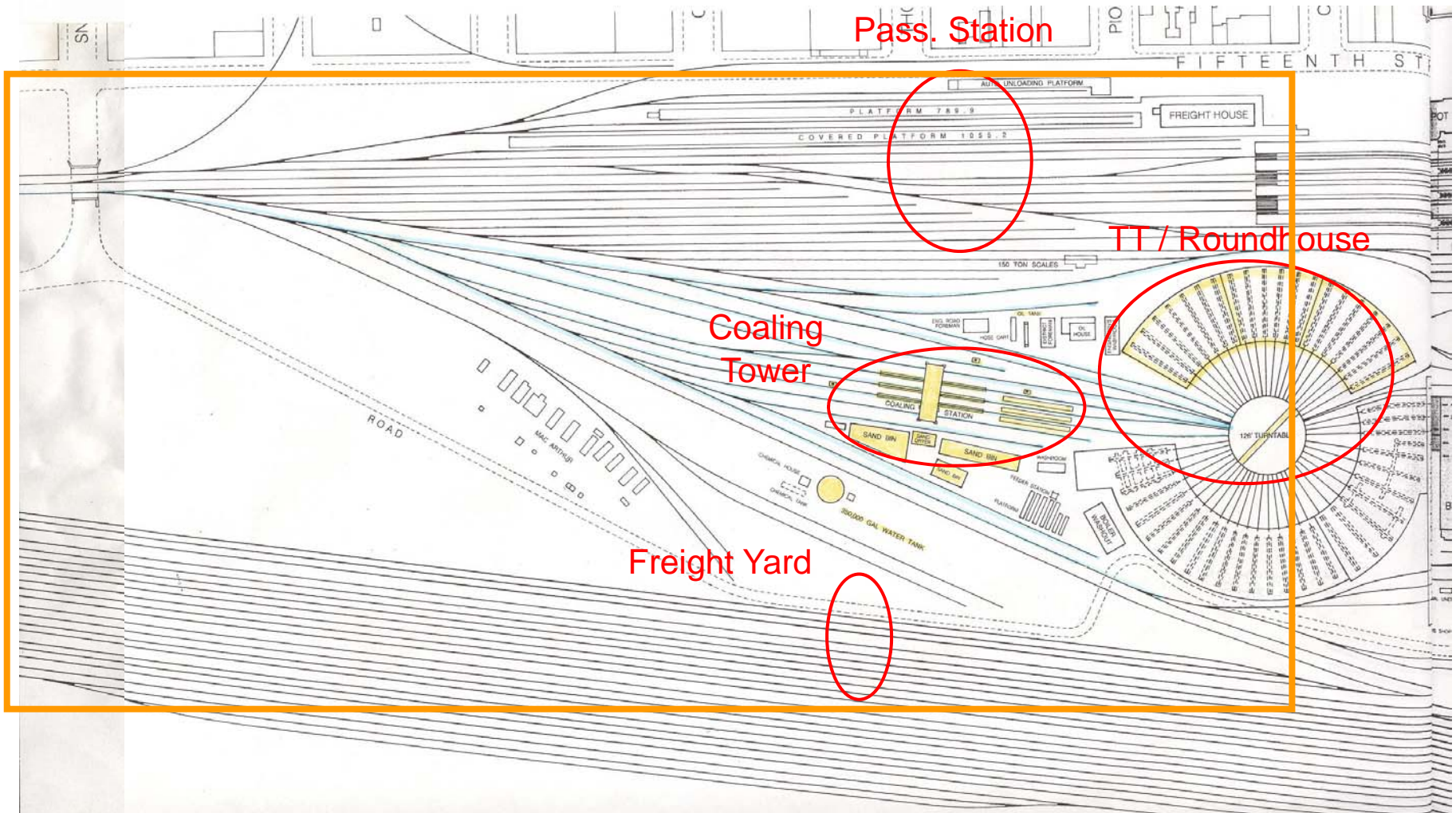
Access!

=

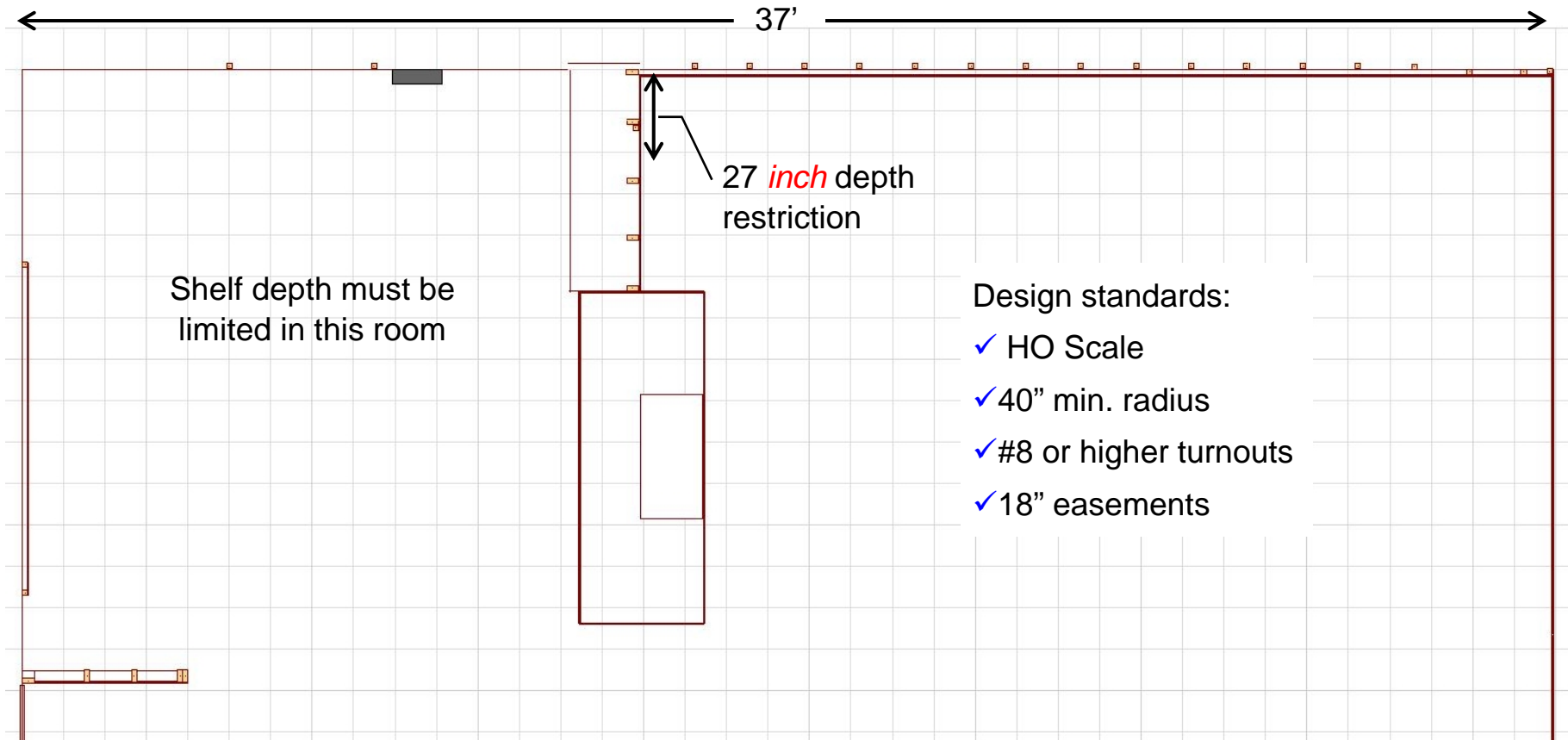


Big room, but
not for
Cheyenne!

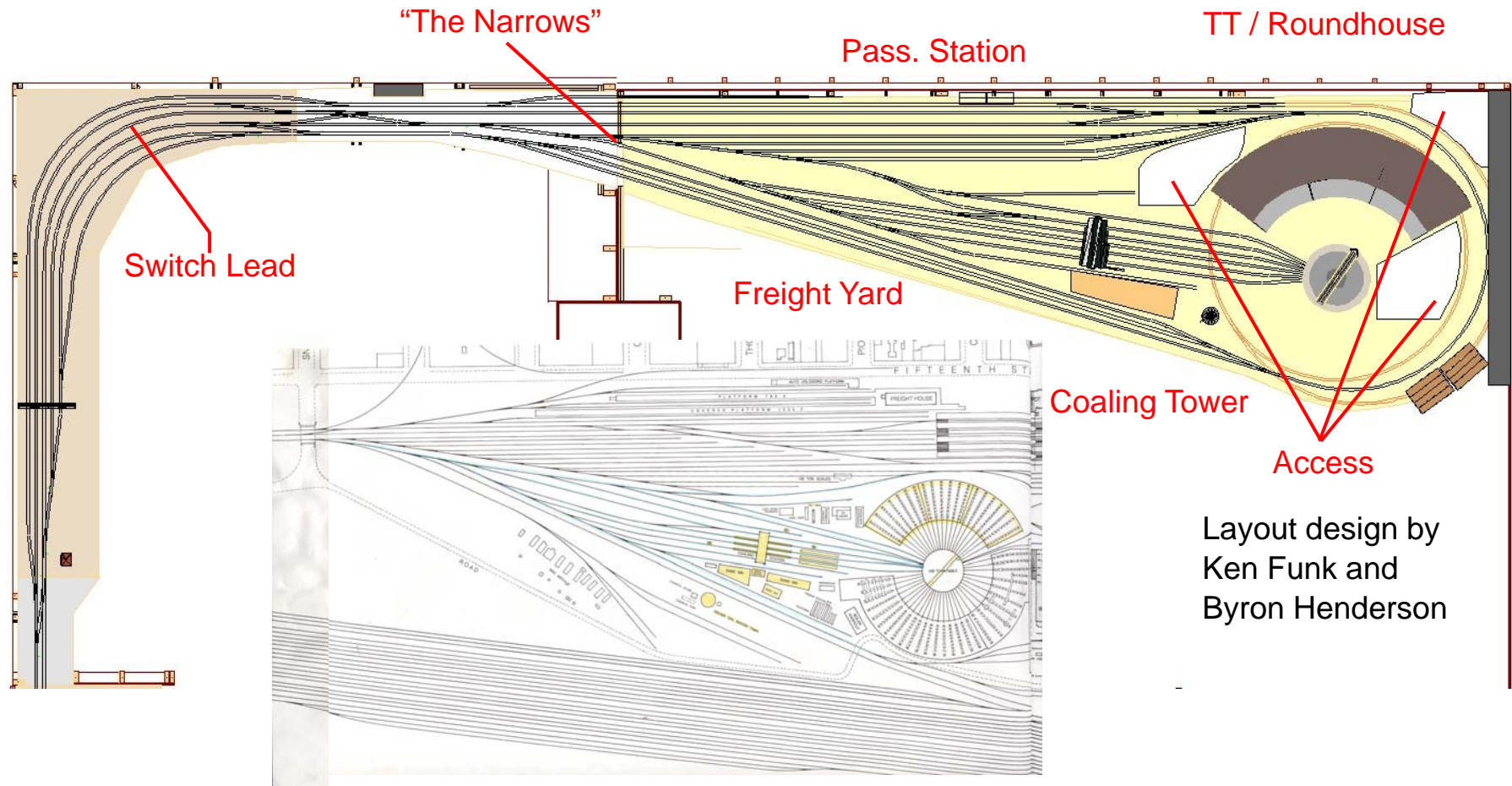
Signature Elements



Long, but Restricted Space



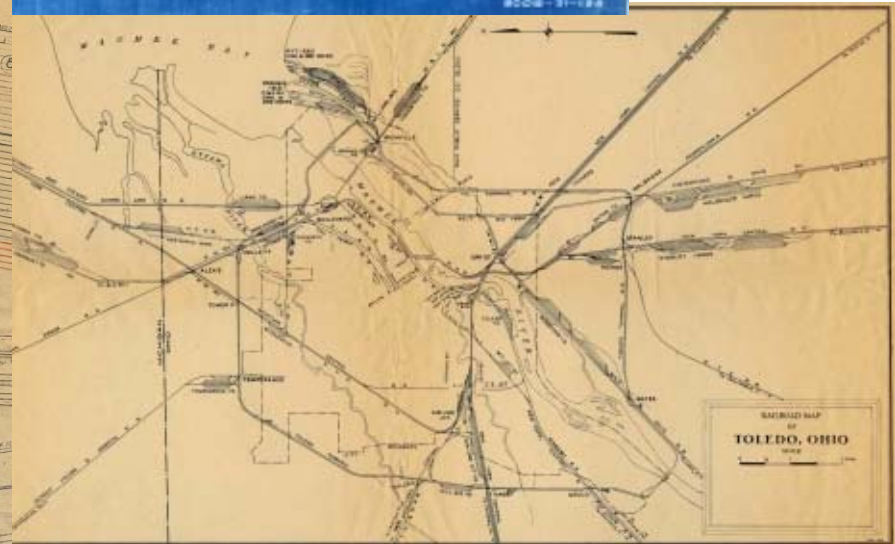
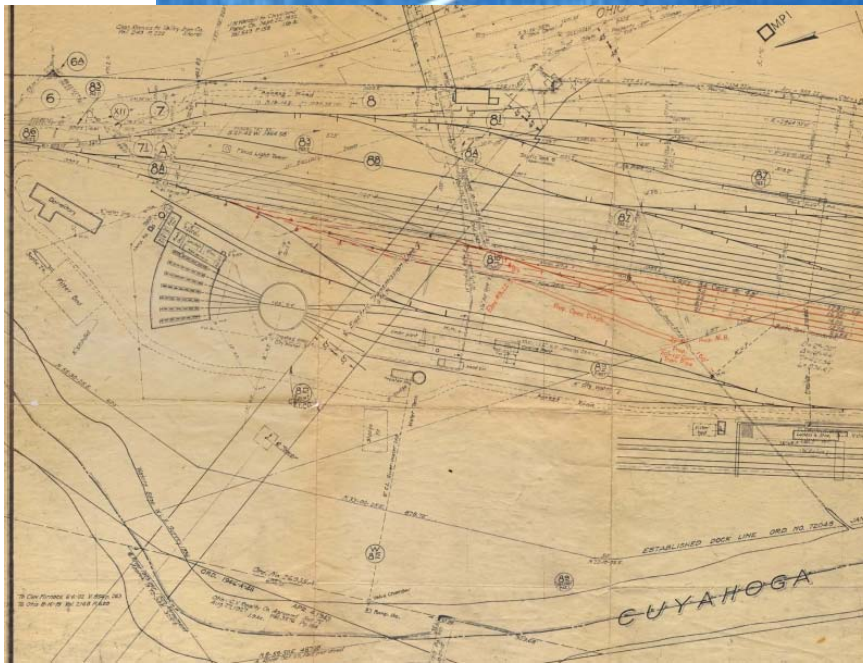
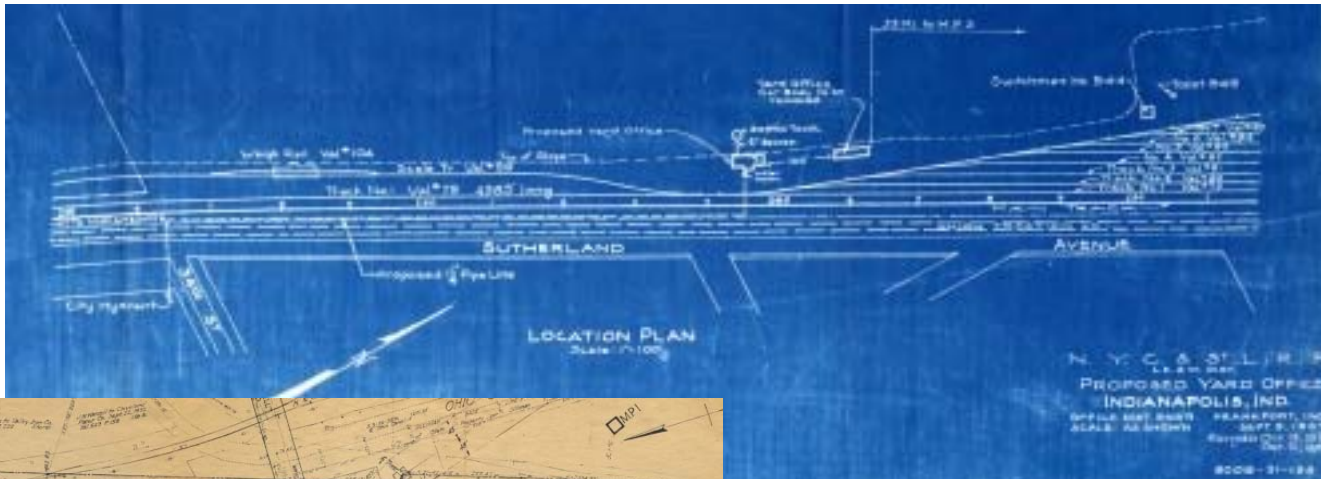
A Suggestion of Cheyenne



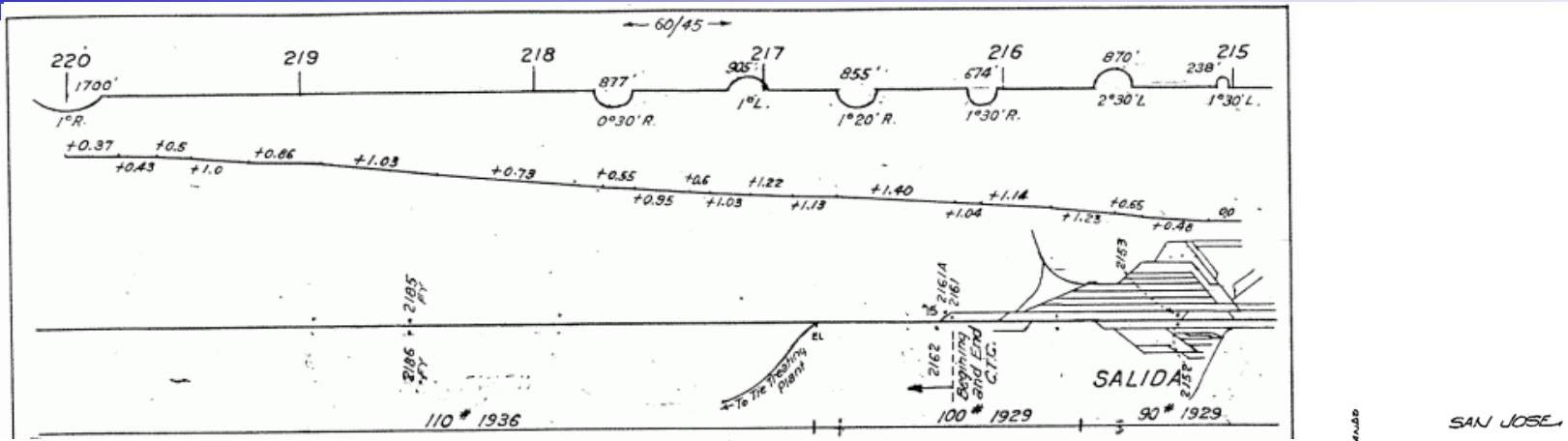
Research Sources

- Historical societies for particular railroads
- Regional, city or state historical societies
- Libraries in the selected region
- ICC Valuation records
US Nat'l Archives and Records Admin (URL in handout)
- Sanborn industry maps
available free through some libraries, or for a fee at:
www.sanborn.com
- Employee Timetables, Track charts, and
Track / Industry maps (CLIC / SPINS / ZTS)
(produced by the railroads themselves)
- Era has an impact!

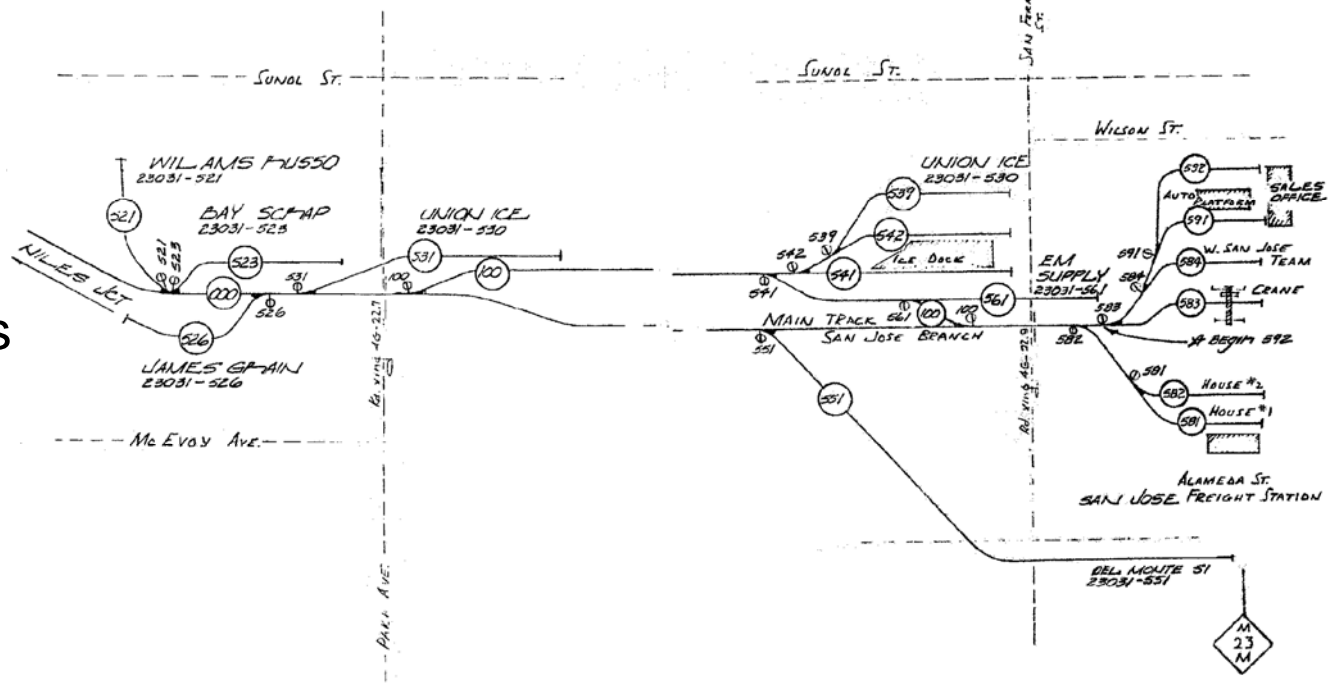
Valuation Record Map Examples



Track Chart; Track/Industry Map



- Use with caution!
- ✓ Mapping artifacts
 - ✓ Era issues



Sanborn Maps

Use with caution!

- ✓ RR locations approximate
- ✓ Era issues

