

THE FORT WAYNE UNION RAILWAY

A starter layout you can build for under \$500

by Don Hanley

Grand Prize winner of
the MRH \$500 Starter Lay-
out design challenge contest



Reader
Feedback
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1: The Fort Wayne Union Railway modeled in the 1950s might look something like this diorama photo by Charlie Comstock.

Corporate History

The Fort Wayne Union Railway was incorporated October 11, 1922 and was owned by the Pennsylvania Railroad Co, The New York, Chicago, and St Louis Railroad Co. (NKP), Wabash Railway Co., and the New York Central Railroad Co.

Item	Unit Price	Qty	Extension
10" x 12 shelf bracket (1)	\$1.67	16	\$26.72
0.708" x 4' x 8' cabinet grade plywood (1)	\$27.97	1	\$27.97
1/4" Purebond maple plywood (1)	\$9.78	1	\$9.78
Atlas code 83 track 100 ft (2)	\$46.00	1	\$46.00
Mid West Cork 22 pieces (3)	\$22.50	1	\$22.50
P87 Stores fast & easy turnouts	\$9.95	10	\$99.50
MRC Prodigy Express (4)	\$99.79	1	\$99.79
Caboose Industries (5)	\$2.75	11	\$30.25
Miscellaneous wiring	\$25.00	1	\$25.00
Scenery materials (6)	\$75.00	1	\$75.00
Total			\$462.51

Sources:

- 1 - Home Depot
- 2 - eBay - includes shipping (user: dedgtr6izo)
- 3 - eBay - includes shipping (user: russeler100)
- 4 - eBay - includes shipping (user: salami kid)
- 5 - Walthers, on sale
- 6 - Allowance for purchase of scenery materials

Each railroad owned a quarter of the line. The Fort Wayne Union Railway was incorporated to provide for transfers between the controlling carriers and to make certain territory available for industrial development and to serve industries located, and to be located in and around Fort Wayne IN.

Each of the 4 owners of the FWURY operated the line for a period of 6 months during which each owner provided their own crews and motive power for their time period of operation. The FWURY made direct connections with the NKP, WAB, and PRR on the east side of Fort Wayne.

Designing the layout

With this brief prototype history, I chose to proto-lance a small switching layout as my entry into the MRH design challenge. Given the limitations on money forces one to think about what you should spend the funds on and what to ignore. I view this layout as a section that can be further expanded in the future. I have also made the assumptions:

1. The modeler has had some previous experience as a youth building models or model railroading
2. The modeler has limited space available at the present time
3. The layout must be expandable in the future.

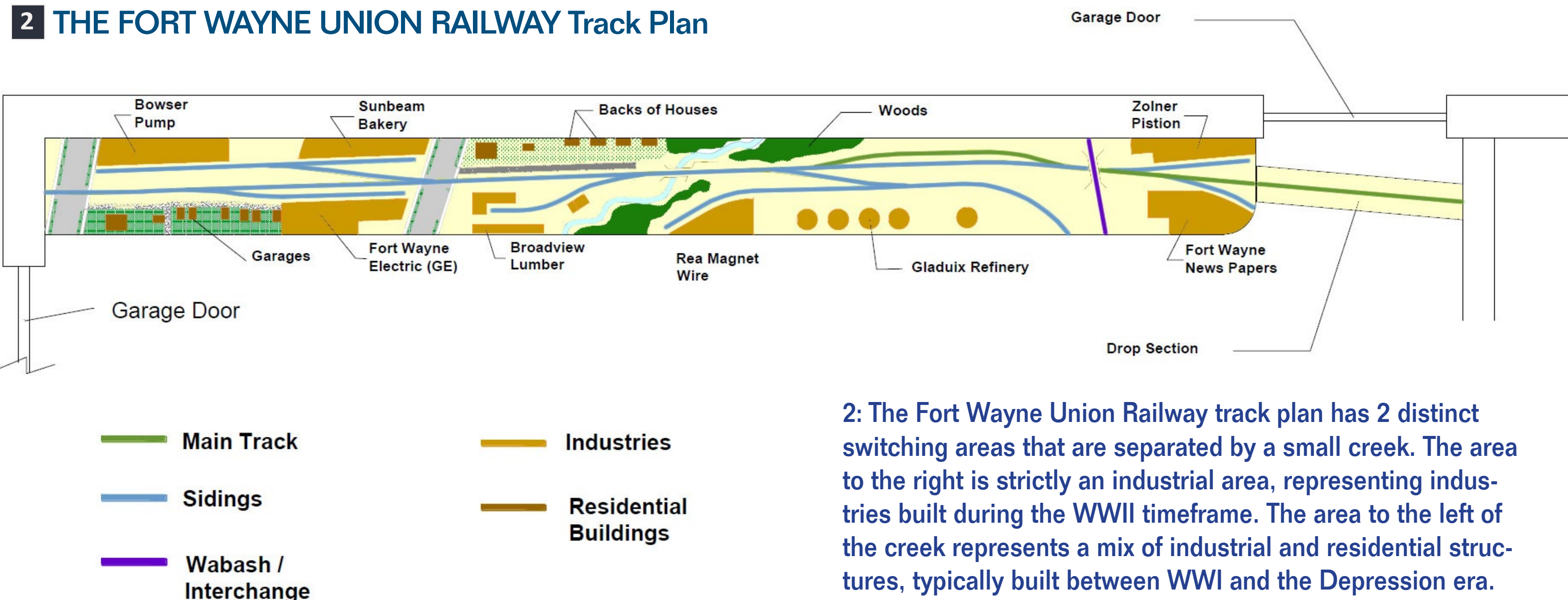
4. The layout can fit along one side of a garage.

5. The layout can serve as a base for developing ones skills on different aspects of modeling railroading.

I designed the layout to include an interchange with the Wabash RR, since on the prototype it was the only one with an overpass. On the prototype, the railroad ended at the NKP main a little north of the Wabash and at the PRR yard approximately 2 miles to the south.

I did not limit myself to the industries that are served by the line, but rather used different industries that were a part of the Fort Wayne industrial base beginning the 1940s. Motive power on this

2 THE FORT WAYNE UNION RAILWAY Track Plan



2: The Fort Wayne Union Railway track plan has 2 distinct switching areas that are separated by a small creek. The area to the right is strictly an industrial area, representing industries built during the WWII timeframe. The area to the left of the creek represents a mix of industrial and residential structures, typically built between WWI and the Depression era.

layout can be anything from a 0-6-0 steam locomotive to a modern GP unit and anything in between.

I choose to use the creek and wooded area as a scenic divider on the track plan. The idea is to make the layout look larger by having a bit of extra run between the two groups of industries.

Operations

Operation is set up with a removable arrival / departure track at the right hand side of the layout.

The arriving train would bring cars from one of the other interchange roads (PRR or NKP) to service the local industries as well as interchange with the Wabash. Cars from the Wabash would be picked up and sent to the appropriate industries or be taken back to one of the interchange roads at the end of the operating session.

If the modeler chooses, at some point in the future, the Wabash could be extended with industries along it. This would give opportunity to have two switching operations and transfer cars between the two roads.

Layout construction

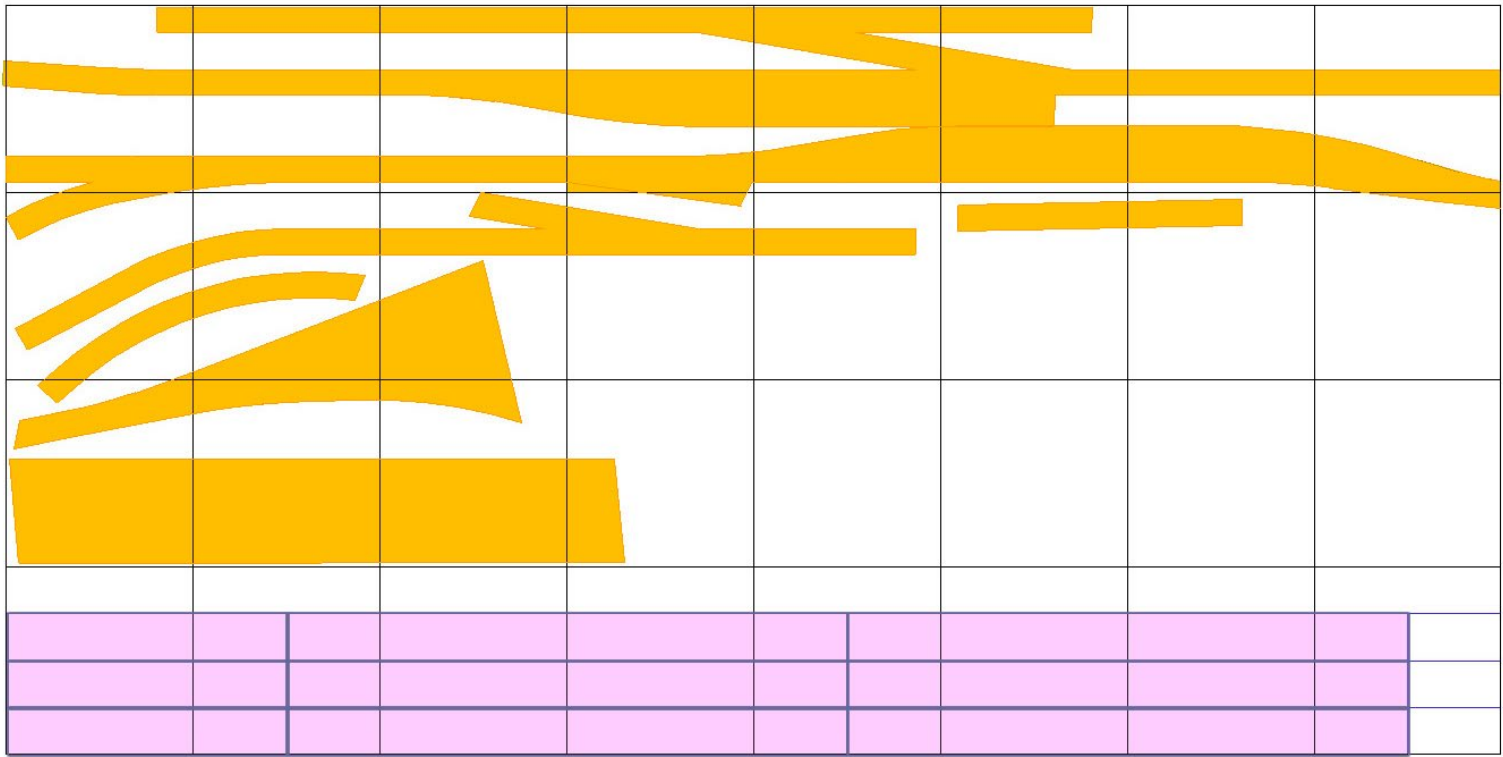
To reduce the cost of construction, I have designed the layout to rest on shelf brackets. The 10" x 12" brackets will need to be placed every 16" to align with the studs in the wall. The brackets will be placed with the 12" side up.

I choose to use 0.708" cabinet-grade plywood that is available from my local Home Depot. I have seen the local store make numerous cuts for customers at no cost. See the Plywood cutting diagram, figure 3. The fascia is from a piece of 2' x 4"

3 Plywood cutting diagram

Cuts for sub roadbed

Cuts for Stringers



3: Plywood cutting diagram. See text.

hardboard cut into 6" strips This provides a total length of 24' which is more than enough for the 21'-6" needed for the fascia. The extra can be used in other areas.

Lay 1" x 3" strips of plywood across the shelf brackets to use as the mounting surface for the risers and a place to anchor the fascia. While the individual shelf brackets are not very stable laterally, once these strips get screwed to the risers, the whole unit will become very stable. Cork roadbed material can be added over the plywood.

Track: In order to keep costs down, I priced used switches and track found on eBay. However, if our modeler is a little more advanced and adventurous, they could choose to use Proto 87 Store fast kits. The budget for track also includes Caboose Industries ground throws.

Power: Since at this point there is only room for one operator and one train, I began with a beginner-style DCC system: the MRC Prodigy. This is an inexpensive system for getting started. To reduce costs even further, a standard DC power pack could be used.

Structures: To keep the cost down, all of the structures are to be constructed of mat board with photo overlays until additional funds become available. If the modeler chooses, just temporary mock ups could be used as a starting point.

Scenery: I envision that most of the materials will be found and therefore are free. Examples include sifted dirt, weeds used for tree armatures, maybe even sifted stone for ballast. A few items will need to be purchased, such as ground foam, paints etc.

Locos and Rolling stock: Here is where I'm going to really step outside of the box. During different searches of eBay and Craigslist for items, I came across sales of large quantities of rolling stock and locomotives.

While some of these had an asking price of \$400-\$600, my idea is to purchase the lot, pick out the pieces that one would want for the layout, and then put the rest of them back up for sale at either a model railroad flea market or back on the internet.

With a little bit of luck and some good hunting, I believe that some rolling stock and locomotives could be had for free or near free. The key to making this work is to have the discipline not to keep everything that was purchased.

Industries:

- **Bowser Pump:** Manufactures gasoline pumps used at service stations. Inbound materials for manufacturing of gasoline pumps Outbound finished gas pumps by rail and truck.
- **Sunbeam Bakery:** A regional bakery for bread. Inbound flour shipped in Airslide hoppers; prior to Airslide hoppers,

box cars. Outbound no rail bakery goods shipped to groceries stores in the regional area.


- **Fort Wayne Electric (GE):** Manufactures electric motors and parts for appliances. Inbound products for electric motors, oil or coal for plant heating. Outbound finished motors by rail and truck.
- **Broadview Lumber:** Local lumber company. Inbound lumber. Outbound trucks only to local construction sites.
- **Rea Magnet Wire:** Manufactures copper wire for electrical motors. Inbound copper ingots, oil or coal for furnaces. Outbound spools of copper wire via rail and truck.

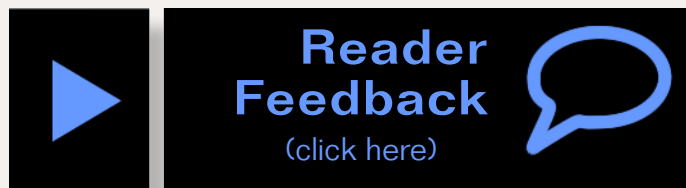
\$500 Starter Layout Contest Rules

Here are the rules for the MRH \$500 Starter Layout Challenge Contest we ran from August to November of 2012.

- You have a \$500 total budget.
- Assume basic tools: hammer, saw, drill, screwdriver, scissors, single-edged razor blades, soldering iron.
- Assume advanced tools like a table saw, router, or lathe are NOT available.
- Must design an operating layout or module (continuous running optional).
- Include a shopping list not exceeding \$500 - must cover benchwork, roadbed, track, wiring, control system, rolling stock, locos, structures, and scenery.
- Common items listed for sale on the web like eBay or Yahoo train yard sale okay.
- Thinking outside the box encouraged.

- **Galduex Refinery:** Refines oil into aviation fuel and other refined products. Inbound chemicals needed to refine oil. Outbound refined aviation fuel.
- **Zolner Piston:** Manufactures pistons for the automotive industry. Inbound materials needed for casting pistons. Outbound finished pistons to various automobile manufacturers.
- **Fort Wayne News Papers:** Printers of the local Fort Wayne papers. Inbound newsprint. Outbound delivery by trucks to local cities and news stands.

I believe this layout design is a good beginner layout for a hobby newcomer to start their journey in the hobby, and I'd love to hear from any new model railroader who elects to build this or something inspired by it. 



The other winning contest entries will be published one per month for the next several issues of Model Railroad Hobbyist. Each layout plan presented represents a small layout you could build for \$500, which proves getting started in model railroading can be quite affordable with just a little cleverness!

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FLASH CIRCUIT UNDER TRUCK

TRACK POWERED

READY TO RUN!

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