

Developing a rail-served facility



The following guidelines have been assembled from multiple railroads and rail development groups. This information will help you get started with the planning and construction process of developing a rail-served facility. Three areas will be explored: 1) Site Selection Considerations, 2) Rail Planning and Design, and 3) Iowa Economic Development Authority (IEDA) Resources.

Site selection criteria

Professional trade publications such as Site Selection Magazine and Area Development Magazine have published site selection criteria lists. An annual survey is conducted and responses from real estate and development professionals are ranked. An industry segment's particular needs or interests may rank site selection priorities differently. Consider agriculture, food processing, data centers, health care, manufacturing, and distribution. Each might have a different ranking for potential sites for expansion.

Typical site selection criteria include:

- Physical site attributes – suitability, topography, zoning, and total cost.
- Transportation infrastructure – availability of network access to various modes.
- Utility infrastructure – availability, capacity, reliability, and cost.
- Workforce – availability, skills, cost, quality, and access to training.
- Political climate – leadership at state and local level; business friendly climate.
- State and local laws – policies, programs, and incentives to support business development.
- Community information – quality of life, access to housing, medical services, and recreation.

Agricultural, manufacturing, and industrial firms are increasingly interested in having good access to transportation. Rail-served properties, especially those that are accessible to multiple Class I rail networks (either through a shortline railroad or an industrial park) are ideal.

Rail planning and design

Railroads are private sector companies who own and maintain their tracks and locomotives and provide service on demand or based upon contracted schedules. To access the rail network, communication must start with the railroad about their ability to serve a given site and whether a rail spur is present or desired.

A company wanting to develop direct rail access has two basic approaches available, which are listed below.

- Building or refurbishing a facility in an existing site or rail-served industrial park.
- Building a spur or siding at a new or existing site.

Existing industrial park

The decision about this being right for your business is based largely on location and amount of shipping. If you have an existing facility with a rail line nearby, it may not make sense to move sites. Also, you will want to estimate the number of rail cars you would be shipping in and out and storing. If the number is large, the industrial park may be a good fit. If the number is smaller, it may not make economic sense to locate in an existing industrial park, a spur or something similar may work better. The IEDA and the site's owners/operators can help with these discussions.

Building a new site

There are three basic track layouts for connecting to a serving railroad.

- 1. Basic stub-in or spur:** This is an ordinary spur that connects to the serving railroad at one end. With this configuration, cars may need to be pushed and pulled and will have a limited number of cars that can be handled at a time.
- 2. Runaround or siding:** A section of track that usually parallels the serving railroad and can accommodate traffic from either direction.
- 3. Loop track:** A track designed to support continuous train movement for faster loading/unloading of unit trains. Many Class I railroads require loop type tracks if the business wants to connect to one of the railroad's main lines.

Design considerations

Each railroad will have specific requirements for constructing rail that will connect with their line. See the railroad's website or find contact information for each of the railroads in the profile section of this toolkit.

- **Slope (also known as grade):** Even very small slopes (e.g., 1 percent) can be important to a railroad for train operations. Also, from a safety standpoint, many railroads will require zero slope between the spur and the serving line. This is to keep errant rail cars from coasting toward the serving line. Site evaluation should include examining any elevation differences between the site and the serving railroad. Significant earthwork to correct slopes can be expensive.
- **Track curvature:** Trains cannot turn as sharply as trucks. It is not uncommon to see a turning radius of 600 feet or more for a train compared to 60 feet for a truck. Space requirements for such large turns need to be included in a site evaluation.
- **Nearby obstacles:** Turnouts for rail spurs or sidings cannot be located too close to rail curves, road crossings, bridges, tunnels, or other turnouts. For many railroads, the minimum distance to any of these obstacles is 200 feet.

Representative costs for rail development

In the last five years, the Iowa DOT has helped fund several projects involving building a spur from a serving railroad. The costs to build such a project include everything from clearing and grubbing and earth work to installing track and switches. The table below shows the cost estimates (materials and labor) for several of these projects. These examples can give a rough estimate of the current cost of developing a site for rail access.

Location/date	Spur length / turnouts	Cost
Mount Pleasant (2011)	850 feet / 1 turnout	\$260,000
Waterloo (2012)	800 feet / 1 turnout	\$252,000
Cherokee (2012)	917 feet / 2 turnouts	\$772,000
Shenandoah (2012)	10,063 feet / 4 turnouts	\$1,881,700
Iowa City (2011)	6,340 feet / 5 turnouts (involved significant earthwork)	\$2,261,000

Timeline considerations

The time required for rail spur construction depends largely on the magnitude of your project. Additional time may be necessary if the project involves road crossings, utilities, or requires state permitting approval. Average times to accomplish rail access where there was none prior are listed below. These times vary between Class I and Class III rail carriers. Some railroads have standardized rail access applications that must be completed before discussions can begin.

- Track construction without addition of a Class I railroad turnout averages 11 months.
- Track construction with the addition of a Class I railroad turnout averages 15 months.
- Track construction with the addition of a Class I turnout and signal facilities averages 17 months.

Getting started

Processes for getting started vary widely based on the railroad carrier. Yet regardless of railroad size or service, beginning the discussion with the railroad is absolutely essential before project work begins.

Typical screening questions include, but are not limited to:

- Site location and facility description.
- Company information and ownership.
- Rail service contracts or lease agreements.
- Current rail operating status.
- Commodities and equipment types to be handled.
- Loading and unloading information.
- Service frequency expectations and freight volumes.
- Safety considerations.

If the site is already rail served, communication with the railroad is still essential as newer locomotives may require larger track curvature due to axle placement. Jumbo hopper cars also require heavier track structures to handle increasing loading weights. Railroads may require the following documentation.

- Industrial Track Agreement
- Track Agreement Audit
- Engineered drawings and current track condition
- General location map
- Material safety data sheet (if hazardous materials will be handled)

Location analysis

The industrial development contacts for each railroad are provided in the railroad profile section of this tool kit. Iowa Economic Development Authority is also an excellent resource and can provide free consultation services to assist companies with location attributes, workforce development information, and local regulatory requirements. The IEDA also maintains a database of available industrial buildings and land available for development within the state of Iowa.

Transload operations may be private facilities or open to the public. Public transload facilities are listed in the Alternate Access to Railroads section of this tool kit.

Iowa DOT also has railroad programs that may assist with building rail infrastructure. These programs are in the Freight Finance Options chapter of this tool kit.

Business analysis

Once a site has been determined, communication with the railroad representative is essential to identify service, rates, billing requirements, and equipment availability for the proposed location and railroad. A Memorandum of Understanding may be required to document the plan for the proposed facility. If the site will involve signal facilities, an engineering consultant will need to prepare a plan to expedite the signal planning process.

Final documentation

Final documentation depends on the rail carrier and the site owner. The process for Class I and shortline railroads can differ. Typical documents include:

- A detailed construction drawing of the proposed track layout and other facility features that will become part of an Industrial Track Agreement.
- Additional legal documents, payments, and insurance will be required for the project. Once the track design is finalized, typically an Industrial Track Agreement will be finalized.

Track construction

Track construction is the final step in the process and can only begin after the Industrial Track Agreement is completed. In some cases, the railroad will perform the work. In other cases, the facility owner contracts with professional track development and construction companies to complete the work. The railroad can assist in identifying qualified engineering and construction firms.

Iowa Economic Development Authority resources

The IEDA is equipped to help expanding businesses and new facility site location efforts. The agency maintains an inventory of physical sites and buildings available for industrial development. The IEDA also provides financial, tax, and regulatory assistance. The state of Iowa is committed to supporting business growth and economic development. IEDA staff contacts are listed below.

To get started, contact a manager for assistance, or go to www.iowaeconomicdevelopment.com.

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