



A Guide for Project Management in the Construction Industry

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Contents & Scope

Within this guide contains a multitude of helpful tools and search engines used to either inform or improve someone's current knowledge on the topic of Project Management in the Construction Industry. Ranging from the basic duties of a project manager to the current scheduling and estimating issues managers are experiencing today, this guide can be helpful to all people in the field or looking to become a project manager themselves. With information dating back to (2002), there is over a decade of experience and knowledge contained within this guide's resources. The General Information section explains the contents of the guide as well as the intended audience. By organizing the information into 4 main categories in the Table of Contents, all information is easily accessible. For example, the "On site assistance" section contains tools that can be used on site during construction and not just as an offsite reference.

Audience & Purpose

The guide is targeted towards current Project Managers with a wide range of experience. Either being new to the field or having been in the Construction industry for 30 years, this guide addresses different issues faced in the real world and offers methods of locating solutions. For example, problems arising with safety or coordination can be found in this guide. While individuals looking to enter the field can certainly educate themselves thoroughly with this guide, it is more suited for those currently in the industry that have already faced the problems that a project manager faces on a day-to-day basis. The following websites listed provide very specific information to the Construction field that individuals looking to further gain knowledge in can access. Every construction job is different than the previous one, so learning as you go is a huge part of becoming a successful project manager.

Guide Assumptions:

With the assumption that the user has a basic understanding of the role of a Project Manager in the construction industry, this guide remains relatively simple and is not necessarily for advanced readers. Also assumed is a basic understanding of the terminology used in the world of construction such as "quantity take-offs" or "MEP systems." With this knowledge generally provided to freshman and sophomores in college, the guide does not require a high level of understanding of the field.

Also assumed is the reader has a basic working knowledge of the internet and how a search engine works. Never in this guide do I explain how to navigate a search engine on the internet. It is assumed that all users have an up-to-date knowledge of technology, which includes maneuvering through links provided in websites. The reader should also have access to the Penn State online database for easy access of all technical documents.

Guide Organization:

Each internet source provides information over the wide spectrum of Project Management but focuses primarily on the Construction Industry. Each source listed, is accompanied by a brief description of its contents, and also how to navigate through it in the most efficient way possible. All sections can be found in the table of contents and all pages are numbered to increase readability. Beginning with the preface, this gives an overview of the guide and its contents. Next contains the 3 major sections: General Information, United States Government Publications, and On Site Assistance. These categories are meant to be self-explanatory and the subsections they contain further specify what information will be covered.

Tips for General Use:

Readers should use the table of contents to navigate throughout the document and follow the instructions provided under each category. The majority of the sources use search engines where a keyword needs to be provided. So knowing what you are looking for prior to searching is helpful. These websites and databases contain such a vast scope of knowledge and information, so being specific can greatly improve navigation through the internet. Also, having access to Microsoft Word and Microsoft excel will be essential because many articles and documents open in .doc and .xls format.

Periodical Literature

Using Penn State's E-Resources

URL: <http://www.libraries.psu.edu/psul/cataloging/catref/eresources.html>

Navigation & Content:

Go to the "Research" tab in the top right corner and click on databases. This will take you to the main, alphabetical database. Click on "E" and find the section titled "Engineering Village 2 (Copendex)". This will then take you to a Construction/Engineering database where numerous topics can be researched. Simply typing in the keyword "project management" in the quick search tab, 10,000 articles, case studies, and research papers appear. This search can be further narrowed down by using other key terms such as "estimating" or "scheduling conflicts."

This resource contains a multitude of updated articles and case studies done within the past decade. With such a wide range, there is not a topic that is missed or overlooked. With Construction jobs varying so much, this vast range of articles proves very helpful in offering solutions to current, real-world problems. Authors of these articles include renowned business owners, costumers, field experts, and retired project engineers. With people on both the ownership/costumer side of the project as well as the employee/employer side, both points of view are given and thoroughly explained.

Tips:

~Using the general search tool is helpful when first visiting the site. It aids in showing the extent of information provided and allows for browsing and exploring through basic means.

~Using the advanced search method can narrow the search down dramatically. There are options such as choosing a specific date or time frame as well as limiting the search to particular or firms.

~Have an idea of what in particular is being searched for. The more general the search, the harder locating the information will be.

Professional Journal

American Society of Civil Engineers Library: Journal of Construction Engineering & Management

URL: <http://ascelibrary.org/toc/jcemd4/140/1>

Navigation & Content:

The American Society of Civil Engineers, responsible for setting many of the standards in the construction industry, is a well renowned professional body that represents over 140,000 members in the civil engineering field. They update the Journal of Construction Engineering and Management monthly and case studies along with the current status of the construction industry can be found. Any new important current event or big story can be found here. New problems are constantly arising and the way to learn in construction is through past issues and failures people have experienced. This journal offers solutions and helpful advice for members of the industry. Problems with subcontractor coordination, simply type that into the search bar.

One of the first articles listed is “Analysis of Causes of Delay and Time Performance in Construction Projects” which proves to be very helpful to current scheduling issues. Depending on the topic at hand, an easy way to find a specific topic can be through the search issue bar at the top right of the page. Just type in the keyword and hundreds of journal entries will appear relating to the topic. These articles and journal entries can range from a short explanation of a problem or construction issue to a large report including a complete estimate and schedule.

Tips

- ~ Be as detailed as possible in the search, making the results more specific and relatable.
- ~ When entering phrases or terms and not entering the title of an article, quotation marks must be used.
- ~ Save all articles that prove helpful. This will be of great assistance later.

U.S Government Publications

Catalog of U.S. Government Publications: Construction Management

URL:

http://catalog.gpo.gov/F/JK1PITANFV3E4MM12Q3C2RLDBTV5QY4KXJSSAICU9X2ATTKA8A-09346?func=find-b-0&local_base=GPO01PUB

Navigation & Content:

The Catalog of U.S. Government Publications serves as a valuable database for searching for Construction and Project Management Documents. With different ways to search: you can use the basic method where either keywords or a title is used, or you can use the advanced method, where publication year, author, shipping list #, etc. can be used.

By searching using the basic method with the term “construction management” and scrolling down to number 25, it brings you to the “full view of record” for that particular article. Under the subtitle internet access, a url is provided. Upon clicking, the U.S. Department of Transportation Federal Highway Administration provides an informative technical document titled “Work Zone Safety and Mobility Rule for Design-Build Projects.” Provided is very useful information regarding methods on improving the project management which includes successes, challenges, and tips. With many of the results being similar to this, this resource provides very specific information towards the specific job type a project manager may be currently working on or working on in the future. Focusing especially in the area of Preconstruction, Mobilization, and Project Safety, some of the main topics a project manager faces on a day-to-day basis can be found here. Like all other search engines previously mentioned, this site can be navigated by the search bar, in either a basic or more advanced way.

Tips:

~Topics can be found on the left hand side of the site if unsure of what to search. This can be helpful if general knowledge is being sought after instead of a particular topic or issue.

~Information contained in this publication dates back to 2005, so if there is a particular time period you are searching for, specify that in the advanced search bar.

Statistical Abstract of the United States

The U.S. Department of Commerce and the United States Census Bureau releases a Statistical Abstract annually on the Construction Industry, more specifically Housing Construction

URL: <http://www.census.gov/compendia/statab/>

Navigation & Content::

By finding the Construction & Housing tab on the left side of the website, and by holding the mouse over it, several topics arise. The topic “Construction Industry” is an option and when clicking on it you can have the option of viewing the statistics provided in PDF version and/or Excel version. Depending on the information needed, many payroll and employee salary information is provided along with other monthly and annual statistics in the industry that may apply. One of the basic pdfs I found can be found at: <http://www.census.gov/compendia/statab/2012/tables/12s0961.pdf>. This shows the difference in pricing between the different fields of engineering (civil, mechanical, electrical, etc.) and also breaks down the difference in contractor costs by trade.

Whether it be to negotiate a contract or have a better understanding of current industry salaries, there are very few reliable sources that provide this information. Because it is published by the U.S. Department of Commerce, the numbers and salaries given are reliable. This type of information is very significant and is essential that the source is valid. The topics vary so simply searching the topics give a multitude of helpful statistics.

Tips:

~ Make sure to have a PDF viewing program for this source. Most statistics are provided in either PDF format or on Microsoft excel.

~ Be aware of what dates the statistics are from. They range from 2007 to present so it is important to take the date into consideration.

United States Department of Labor

Occupational Safety and Health Administration

URL: <https://www.osha.gov/>

Navigation & Content::

Safety is a major topic that needs to be covered in every Construction job. A project manager is always held responsible for the safety of the workers on the job. With some previous experience in the field of project management, I know how much safety is emphasized and how crucial a role it plays in ensuring the job remains within the budget and on schedule. With so many deaths and even more injuries every year, the topic of safety cannot be covered enough. The national enforcer of these safe practices is the Occupational Safety and Health Administration, better known as OSHA. This agency, backed by the United States Department of Labor, is always working to better improve on site safety, especially in the construction field.

With topics such as first-aid assistance, fall protection, machine guarding, electrical requirement, scaffolding, and many more, every topic is covered. With thousands of employees nationwide, these regulations are strongly enforced. Within each section of the OHSA guide further contains subsections to help narrow the search. This guide needs to be accessible and easy to navigate due to its frequent use and the nature of its contents.

Tips:

~Use the table of contents provided. With such a wide range of safety issues covered, it is helpful to use the sections and also subsections listed.

~Utilize the use of illustrations and pictures. These often offer better explanations than the text, especially if the terminology is too advanced.

Construction Project Management Handbook

FTA Construction: Project Management Handbook

URL: http://www.fta.dot.gov/documents/Construct_Proj_Mangmnt_CD.pdf

Navigation & Content:

Last Revised in April of 2007, this handbook contains 9 different chapters ranging from commissioning and construction design to environmental clearance and project closeout. Just like this guide, it contains a very well organized table of contents, making navigating the handbook easy. By opening the handbook as provided (in PDF format), the contents appear on the left side of the page and act as tabs. By double clicking the tabs, a group of subsections appear, further narrowing down the topics. Under each subsection there are even more subsections appearing that specify further. With this very detailed table of contents, finding your exact topic is quite easy. The handbook resembles a textbook the reader may have used in the past. It contains tables, graphs, and a good deal of color that makes significantly improves readability.

Also contained toward the end of the handbook is a glossary. Much like an educational textbook, this can be used if a specific term is not understood within the text. Assuming that each individual is familiar with navigating through a basic textbook format, locating specific topics and ideas is relatively self-explanatory.

Tips:

~Use table of contents and/or index. Searching by browsing through the handbook is inefficient

~References are included at the end of the handbook. If further information is required on a certain topic, these can be helpful.

~Pay attention to bold faced words. They are the important terms covered in the respective sections.

Specialized Dictionary

Construction Dictionary & Glossary of: Construction Terms

URL: <http://www.builderspace.com/glossary.html>

Navigation & Content:

Provided by BuilderSpace.com, this document contains roughly 20 pages of commonly used construction terminology. No matter what the experience of the reader, there can always be an uncertain word or phrase that is not understood. With an alphabet across the top of page, simply go to the letter of the word you may need to look up. The use of a dictionary/glossary is assumed to be self-explanatory and each reader is assumed to have a working knowledge of a dictionary. Definitions are well spaced out but vary greatly in detail. Some terms have a few sentences dedicated to them while other just a few words.

Not being certain of a term or phrase on a construction site can lead to a vast array of problems and issues. If two people possess different understandings of the same word, unsafe construction can result. This Dictionary does not contain all words and/or terms a project manager may need, but further references are provided that can aid in locating uncertain terminology.

Tips:

~The spelling of the word being referenced can be important. Many terms tend to be extremely similar in the construction industry so knowing the difference is important.

~A term can either be found by typing it in the search bar or by using the alphabet across the top of the webpage.

Discussion Groups & Blogs

Top 10 Construction Industry Recommended Blogs of 2013

URL: <http://www.truelook.com/blog/my-top-10-recommended-construction-industry-blogs-and-news-websites-for-2013/>

Navigation & Content:

The provided URL takes the reader to an updated list of the top 10 used and most popular construction blogs and chat groups. This list is easy to use through its provided URLs which lead the reader directly to the next list. For example, going to the above URL, and selecting the first choice, you will end up here: <http://aec-business.com/>. This provides more topics such as “featured posts,” “what’s hot,” and “latest posts.” With a less professional atmosphere, these documents provided are very easy to read and offer a real world look at the industry for a project management point of view. It contains more of a conversational style and results in the information appearing more honest and straight forward.

These blogs about various issues and current topics also contained discussion groups beneath them, where people were given the opportunity to make observations, ask questions, and give their opinion. Often times the comments proved more helpful than the blog itself, because such a vast array of opinions were given. Searching by topic does not prove as helpful as the previous mentioned sources, but browsing through the article titles seems to be the best method.

Tips:

~Pay attention to the article and blog titles because they often contained specific details on the contents

~ Be aware of when the blog was written as well as who it was written by

~ Also be aware that these are blogs and discussion groups so information is not always necessarily reliable and the sources may not be completely accurate.