



# Project Primer

## It's a Blast!

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### About Us

**It's our 10 year anniversary this year!**

**10 year anniversary tidbits:**

From December 2007 through April 2008 our firm had the opportunity to provide scheduling and resource optimization services for a major material handling EPC firm. Our services included organizing a central

## Greetings

We hope that this month's issue of the "Project Primer" offers you valuable insight on the topic of Resource Optimization. This topic is a natural follow-up to last month's Scheduling article and we hope you see the value of the resource optimization process as both a planning tool as well as an on-going field management and recovery planning tool integral to improving overall project performance.

## Resource Optimization

Resource Optimization is a term that has renewed meaning in today's environment of cost-cutting, downsizing, and budget reductions. Traditionally, resource optimization has centered on integration of the bid plan with the field manager's construction plan. Discussion revolved around questions such as:

1. Are the resources that were estimated during the bid process still available for the project?
2. Does the bid plan reflect the way the field will sequence the work activities?
3. Does the bid plan reflect the most efficient use of the available resources?
4. Do we have the correct amount of resources for the optimized work sequence?

Resource optimization is the process of maximizing the efficient use of all available resources, e.g. equipment, manpower, technology, etc..., by minimizing the non-productive time between activities. Resource optimization begins with an analysis of the

scheduling database as well as preparing and managing CPM schedules for dozens of projects.

From April 2008 through October 2008 our forensic scheduling and resource optimization expertise was requested by other Fortune 500 clients on several projects that included preparing claims management negotiating strategy and supporting documentation for successfully collecting \$45 million in change orders and helping to closeout and complete an entire project portfolio across several states.

From December 2008 through July 2009 we had the privilege to help prepare the resource optimization plan for a major IT project. This low latency dark fiber network from Chicago to New York is planned to have the lowest transit time available, 13.33 milliseconds over an 825 mile fiber route, and it is currently on target for activation in July 2010.

project schedule to identify the size and quantity of crews required to complete all work activities. This initial manpower-loading is then analyzed for peak requirements as well as "gaps" where the activity sequence prevents the crews from performing productive work due to activity constraints and logic ties.

Once the non-productive schedule gaps are identified, the manpower-loaded schedule is reshaped to reduce peak manpower requirements and fill the gaps to create an optimized manpower-loaded schedule. Typical optimization choices can include:

1. Re-sequencing activities
2. Adjusting the crew mix, crew size, and working hours
3. Adding/deleting crews

This "Gap Analysis" resource optimization process should be performed for all project resources which could impact manpower decisions, such as equipment availability, equipment types, technology, etc... The Gap Analysis process is rarely a "one-and-done" process and may need to be revised several times during the course of a project due to changing needs and field conditions. For example, a site access issue could prevent you from proceeding to an area as planned and you need to determine where your crews and equipment can be utilized until the unavailable area can be worked back into the schedule.

Proper resource optimization improves project efficiency and ultimately project profitability. Developing and using a resource-loaded schedule generates a "big picture" snapshot that ties together man-power, equipment, technology, etc... and allows for greater control of all project resources. Resource optimization helps us navigate through the environment of cost-cutting, downsizing, and budget reductions to achieve lower costs and increased productivity by identifying an efficient method for deploying assets.

Mike Allen, P.E.  
President  
Allen & Associates

## **Additional Resource Optimization Resources**

### **Gap Analysis**

[Wikipedia](#)

### **Optimizing Project Cost While Maintaining Scope**

[PMI](#)

## **Service Spotlight**

Do you have questions about Resource Optimization, or are you thinking about expanding your use of schedules to provide greater project control and maximize the value of resource optimization? We would be happy to discuss this with you in more detail as part of our margin improvement program and help you sleep better at night.

We can be contacted at (630) 515-0883 or by using our website [Contact Form](#).

## Future Topics

If you have a topic of interest you'd like to see please submit your suggestion on our website

[Contact Form](#)

# Resource Optimization Humor

1. A man goes to a resource optimization consultant for help:

Man: What is your least expensive fee?

Planning Consultant: \$100 for three questions.

Man: Wow! That is pretty expensive isn't it?

Planning Consultant: Yes, so what is your third question?

2. A doctor, civil engineer, and a resource planner were sitting around late one evening discussing whose profession was the oldest. The Doctor pointed out that according to the Bible, God created Eve from Adam's rib, which obviously required surgery, so therefore that was the oldest profession in the world. The Engineer countered with an earlier passage from the Bible that stated, God created order from the chaos, and therefore this civil engineering marvel most certainly made engineering the oldest profession on earth. The planner leaned back in his chair, and with a sly smile responded, "Yes, but who do you think created all the chaos?"

3. One afternoon a resource optimization student was riding across campus on a shiny new moped. He ran into one of his planning professors who said, "Wow! That's a great way to motor across campus. Where did you get it?" "Well, the darndest thing happened," said the planning student. "A girl came riding up to me and got off the moped, threw off all her clothes, and said that I could have anything that I wanted." "Wow", remarked the professor. "That's great. Good move. Her clothes probably wouldn't have fit you anyway."