Best Practices and Strategies in Organizational Structure and Design

The following report presents a review of best practices in organizational structure and redesign. We provide an overview of critical steps necessary for undertaking an organizational design initiative, followed by presentation of a series of common organizational models. The final section of the report discusses the organizational structures of four construction companies based in North America.
Introduction

In this report, Hanover Research provides an overview of best practices regarding organizational structure, with particular emphasis on how these practices relate to the construction industry. We begin with a general discussion of literature surrounding organizational design and restructuring. In this section we offer insight into important issues that should be considered when evaluating an existing or selecting a new organizational model.

We then proceed to a discussion of common organizational models including functional, product-divisional, geographic-divisional, and matrix structures. For each model, we offer a visual depiction of the structure; an analysis of its key strengths and weaknesses; and a discussion of the types of companies for which the model is most applicable. We further discuss the structures in terms of how they would appear in the construction industry.

Our final section provides information regarding the organizational structures of four construction companies: Granite Construction, Flatiron Construction, RailWorks, and Matrix Service Company. While limited information was available explicitly discussing the organization of these companies, we were able to gain insight into their basic organizational models through company websites, SEC filings, news articles, Hoover’s company profiles, and job vacancy announcements.

Overview of Key Findings

Based on our examination of organizational models and our review of the four construction companies, we found that matrix organizational structures appear to be the most common in practice. As discussed later in the report, these structures blend elements of functional and divisional models. While matrix models typically may have multiple units organized by business segment or geography, the heads of these units share decision-making authority with leaders of company-wide functional support units such as human resources, finance, or IT.

Two of the companies we reviewed structure their operational units by geography, while the other two organize them by business segment. All four display evidence of having functional units – such as finance or human resources – with responsibilities across the entire organization. At the same time, however, we found that some of these companies exhibit functional duplications within divisions; that is, they have a functional unit that serves the entire organization, as well as individuals working within divisions who perform similar functions.

It is our hope that these and other findings revealed throughout the report should be helpful to those organizations reviewing and evaluating their own organizational models.
Organizational Design: An Overview

Changes in management and personnel; new product or service initiatives; technological advances; regulatory adjustments; and increasing competition in the marketplace: each factor, or combination of factors, can mean the difference between a vibrant, competitive organization and a dysfunctional one. In today’s business environment, change comes quickly and from many angles, and organizations designed to meet the exigencies of the past may be ill-equipped to handle new customer demands, environmental shifts, and internal strategy going forward. From the perspective of company managers, organizational design (or redesign) can be a powerful tool for aligning a company’s workforce and strategic goals with the needs of customer segments, supplier relationships, and other external factors, helping the company remain competitive in the face of change.

At the root of any design effort is flexibility. A successful end result creates workflows, incentives, and reporting/decision making structures that best support a company’s strategic mission and unique product lines, while allowing the company to adapt quickly to unforeseen events. Too often, though, organizational design is conducted without the requisite care, guided more by managerial whimsy than necessity. According to Amy Kates and Jay R. Galbraith:¹

[Research] confirms what many suspect: piecemeal adoption of management practices has little impact on business performance. It also means that simple benchmarking and copying of another company’s structures and processes has little useful application in organizational design. For example, using a matrix structure is neither a good nor a bad practice in itself. But when a matrix is installed without the appropriate and corresponding role clarity, governance processes, reward systems, performance management methods, and training that are needed to make it effective, its introduction can actually have a negative impact on the organization.²

Organizational design requires far more than a simple redistribution of lines and boxes on a company’s organizational chart. Cultures and modes of interaction are firmly entrenched throughout company hierarchies, and new designs must account for formal and informal relationships, logical groupings of tasks (and people) required to produce a good or service, incentive structures for achieving high performance from employees, and the degree of independence or interdependence between units. If executed competently, each component of the design should be mutually

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¹ Note that Amy Kates is a principal of Downey Kates Associates, a consulting firm focusing on organization design and development based in New York City. Jay R. Galbraith is professor emeritus at the International Institute for Management Development in Lausanne, Switzerland and formerly held faculty positions at the Sloan School of Management at MIT and the Wharton School at the University of Pennsylvania.

supportive, and all should work towards the company’s strategic plan. Consider Kates and Galbraith’s STAR model below:\(^3\)

![STAR Model Diagram]

As this model clearly illustrates, successful design must be informed, first and foremost, by a company’s strategic objectives. In certain cases, it may be discovered that a company is capable of meeting its objectives and adapting to change through its present organizational configuration. If, however, redesign is considered necessary for company progress and competitiveness, several aspects of the design must be carefully aligned to ensure that the resulting organizational configuration supports the company’s overarching strategic mission. Authority for decision making must be clearly delineated in the organizational structure; work flows must be constructed based on employee skill sets and overlapping job duties; communications channels must allow for quick decisions and collaboration; and reward structures must incent high performance at every level of the organization. Achieving the proper balance is entirely context specific; what works for one company might be wholly inadequate for another, ruling out the possibility of across-the-board design best practices.

\(^3\) Ibid, p. 3.
Finding the right organizational design, then, requires a systematic approach to identifying organizational requirements and evaluating numerous competing design types.

**The Design Process**

Management consultancy Oliver Wyman observes that while discussions of organizational design tend towards the theoretical/academic, there are a few concrete questions that management must ask throughout the organizational design process:4

- What changes will the new strategy require in the organization’s core work? How will tasks be modified? Will there be new constraints, resources, processes or technologies involved?
- Do the organization’s people have the skills, interest, characteristics, and capacity to perform the required work in a manner consistent with the strategy?
- Are values, beliefs, behavior patterns, and leadership styles associated with the culture—or informal organization—likely to aid or hinder the performance of the new work?
- How will the explicit structures and processes that make up the formal organizational arrangements affect the new work requirements?

Answering these questions requires a multi-step process to account for current competencies, work flows, and reporting structures (among others); identify areas in need of reorganization to achieve strategic objectives; identify how those areas should be reorganized; and implement the new organizational design. In its simplest form, the process involves the following four steps: Preliminary Analysis, Strategic Design, Operational Design, and Implementation.5 Brigham Young University’s Human Resource Development unit offers a helpful outline explaining the types of analysis and activities required at each step:6

**Phase I: Preliminary Analysis**

Conduct structured interviews to:

- Identify strengths and weaknesses of the existing organization
- Clarify issues related to business strategy and organizational design

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5 Ibid, p. 11.
6 Outline taken verbatim from the original. See: “Strategic Organization Design” Human Resource Development, Brigham Young University. p. 3. training.byu.edu/documents/StrategicOrganizationDesign.doc
Phase II: Strategic Organization Design

- **Design Criteria**: Review information from the preliminary analysis and generate criteria for a new design

- **Grouping**: Generate several design options and evaluate against criteria
  - Grouping by Output – Product, Service, or Project
  - Grouping by Activity – Function, Work Process, Knowledge or Skill
  - Grouping by Customer – Market Segment, Customer Need, or Geography

- **Linking**: Identify information flow requirements, select ways to facilitate the flow of information to meet the requirements, and evaluate against the criteria.

- **Impact Analysis**: Analyze each option to determine feasibility given the existing leadership skills, power relationships, and work environment.

Phase III: Operational Design

- Carry out the operational homework necessary to put organization design decisions in place

- Design work charters, reporting relationships, information flows, etc.

Phase IV: Implementation

- Develop a strategy for implementing the new design

- Assess the potential resistance to the new organization

- Determine the best way to manage the transition from the old organization to the new one

According to Kates and Galbraith—and as indicated by the above outline—“organizational design” denotes a process more expansive than structural reshuffling. However, “if the structure is not approximately right, then it will be harder to align the other design elements with the strategy.” Theoretically, a company could reasonably justify the adoption of a functional, divisional, or matrix structure, but each presents inherent limitations and may not be a best fit for that company. Understanding the relative merits and demerits of common structural types is an important step towards determining which type holds the most promise for aligning a company’s people with its strategic plan. In the following pages, Hanover discusses several common organizational structures. While real-world organizational design typically results in hybrid structures, these theoretical organizational models serve as common foundations for organizations of varying sizes and complexity.

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7 Kates and Galbraith, op. cit., p. 9.
Key Components of Organizational Structure

How will information about products or tasks be shared? At what level of the company hierarchy will decision-making authority be vested? How will the company respond to changing customer demands and competitors’ new market initiatives? Will the company’s structure nurture and reward innovation? In large part, the formal structure of a company determines the answers to these types of questions. As with any choice, selecting an organizational structure requires weighing a series of advantages and trade-offs. Below, Hanover profiles several common models of organizational structure and discusses the types of companies for which each model is most applicable.

Functional Structures

The functional structure organizes employees by major job function/activity, with functional units typically falling under categories such as Human Resources, Marketing, Finance, Research and Development, and Manufacturing. Employees in a functional grouping tend to achieve a great degree of specialization, and economies of scale often develop as “common work done together reduces its cost.” Decision making typically is concentrated in upper managerial levels, making the structure more attractive for small companies, companies specializing in one product line, or others for which delegated authority is unnecessary for improving company performance. A functional structure is particularly useful when the following conditions are met:

- Single line of business serving one set of customers
- Small organization or large, single-product business
- Need for depth of expertise and specialization
- Common standards are important
- Company seeks scale efficiencies
- Long product development and life cycles

The following graphic presents a simplified functional structure with attendant advantages and disadvantages.

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8 Ibid., p. 10.
9 Ibid., p. 11; List taken from original with slight changes
Divisional Structures

Below we describe two divisional structures: product-divisional and geographic-divisional. While they share similar strengths and weaknesses, one is organized primarily by product/business line and the other is organized by region.

Product-Divisional Structure

As companies begin to develop product or business lines beyond their initial core offerings, functional structures become less effective for organizing people and processes. Companies must be responsive to changes in customer desires, competing
product offerings, or any other relevant trends. So long as all decisions are funneled to upper management for approval, organizations will not achieve the responsiveness and flexibility necessary to manage multiple product lines. A product-divisional structure can prove highly effective for companies moving away from a single product focus. Oftentimes, the business models underlying each new product are unique, rendering cross-functional collaboration impractical and necessitating the placement of functional groups under product divisions. As a result, functional departments like HR and marketing will be duplicated under each product division and work solely with their designated product groups. Each product division, then, is a more or less autonomous unit, responsible for its product from start to finish. Kates and Galbraith observe three distinct advantages to the product-divisional structure:  

- Product development cycles can be compressed because all the employees focused on the product are housed together.  
- Focusing more narrowly on one line of products can promote product improvements and innovations.  
- New opportunities can be more easily pursued because of the autonomy afforded by the divisional structure. There is not the constraint of working with other divisions.

At the same time, the product-divisional structure can restrict information flows between divisions and create division-centric mentalities. Thus, divisional goals can—and often do—take precedence over company-wide goals. Cultures and methods of doing business can also develop differently such that one division’s operations might be barely recognizable against another’s. Additionally, functional duplication can eliminate economies of scale. While these disadvantages are not insignificant, the product-divisional structure can be particularly effective when:

- Product life cycles are short  
- There is an emphasis on quick product development, new product features, and being first to market  
- The company produces multiple products for separate market segments  
- Product lines require different underlying business models

11 Kates and Galbraith, op. cit., p 12; Taken verbatim from the original  
12 Ibid, p 13  
13 Ibid; Taken from the original with slight changes.
The following graphic presents a simple product-divisional structure – modified slightly to reflect the units that may exist in a construction company – with attendant advantages and disadvantages.\(^{14}\)

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### Divisional Organization

#### Strengths

- Suited to fast change in an unstable environment
- Leads to client satisfaction because product responsibility and contact points are clear
- Involves high coordination across functions
- Allows units to adapt to differences in products, regions, and clients
- Best in large organizations with several products
- Decentralizes decisionmaking

#### Weaknesses

- Eliminates economies of scale in functional departments through duplication
- Leads to poor coordination across product lines
- Eliminates in-depth competence and technical specialization
- Makes integration and standardization across product lines difficult

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\(^{14}\) Adapted from Roper and Jackson, op. cit. and “Chapter 3: Fundamentals of Organization Structure.” op. cit.
Geographic-Divisional Structure

The geographic-divisional structure, as the name suggests, organizes company functions and processes by geographic region. Primarily useful for organizations expanding into new territories, structuring an organization by geographic region allows companies to focus on distinct groups of buyers (and local politics, customs, market pressures, etc.) outside of their home territories. Like the product-divisional structure, the geographic-divisional structure requires duplication of functions, may limit cross-divisional interaction and collaboration, and can create micro-cultures that place divisional goals above company goals. On a more positive note, it can facilitate rapid responses to changes in regional customer demands and regional environmental pressures.\(^\text{15}\) A very basic geographic-divisional structure resembles the preceding graph, substituting products for geographic areas. Note that the figure below displays a slightly different geographic-divisional structure, with some functional units reporting directly to the president and duplication among other functional units at the division level.\(^\text{16}\)

Matrix Structures

Very generally, a matrix structure involves organization by functional department and team. Horizontally, team leaders manage entire product lines or processes, including all functional components necessary to facilitate the final output. Vertically, functional units assume partial responsibility for functional components embedded in the teams. Thus, the manager for Business Team A shares decision-making authority for Team A’s marketing efforts with the company’s marketing function head. The company-wide head of marketing also shares responsibility for Team B and C’s

\(^{15}\) Kates and Galbraith, op. cit., p. 13-14

\(^{16}\) Adapted from Roper and Jackson, op. cit., Kates and Galbraith, op. cit. and “Chapter 3: Fundamentals of Organization Structure.” op. cit.
marketing functions, as necessary. The dual authority structure is complicated and difficult to maintain effectively.

Below, Hanover presents a simplified matrix structure, along with its advantages and disadvantages:17

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Functional, Divisional, and Matrix Structures in the Construction Industry

Functional organizational structures can be of great benefit to smaller companies that separate their business development functions from their operations. As noted above, these structures can foster specialization of activities that target specific customer needs. At the same time, however, functional models require extremely high levels of communication in order to move from one function to the next.

Roper and Jackson, management consultants specializing in the construction industry, contend that “Design/build customers want to maintain one relationship throughout the life of a project. Consequently, a divisional structure that embraces both design and construction will prove more user-friendly to external and internal customers.” Additionally, Roper and Jackson note that a divisional organization can provide strong general management experience opportunities for divisional managers. This could prove to be a useful tool in developing these individuals to step into more senior roles in the company in the future.

Based on our research and as we demonstrate in our profiles of construction firms later in this report, many organizations within the construction industry organize their operations by product/business or geographic divisions. There appear to be good arguments for either model. First, with regard to product/business, such a divisional model will likely encourage some specialization in the handling of specific types of projects.

On the other hand, a geographic-divisional model, offers advantages with regard to local knowledge and relationships. Former head of Skanska USA Building, Michael J. Healy placed strong emphasis on the importance of local relationships noting that “Construction is definitely a local business. Unless you’re from the area, you’re an out-of-towner.” Making a similar comment, Skanska’s annual report from 2000 noted that “In our business, it is important to have decentralized operative decision-making, close to the client.” A geographic-divisional structure may benefit from its ability to facilitate relationships with customers in a particular region, while its characteristic decentralization of authority may increase the speed of decision making.

As mentioned earlier, however, companies will have to balance these positive aspects of the divisional model (either product/business segment or geographically oriented) with redundancies in responsibilities, as divisions will often duplicate supporting functions. Many contracting organizations therefore employ a matrix design,

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18 Roper and Jackson, op. cit., p. 8.
21 Ibid., p. 7.
seeking to combine “the services and advantages of a functional design with the highly focused, relationship-based service delivery of a divisional design.”

Indeed, while the companies reviewed below tended to organize their operations by geography or business segment, these companies are likely best described as matrix organizations. Each displayed evidence of having functional units such as human resources or finance holding responsibilities across the entire organization in addition to their business segments or regionally oriented operations divisions.

As mentioned in the introduction to this report, it is also important to note that some of these companies display functional duplications within divisions. For example, in the case of BBRI, it appears that finance units are located both at the corporate level and within some divisions (such as Transit which has a financial controller reporting to the Vice President of Transit). Similarly Flatiron Construction lists a vice president of human resources on its leadership team, while advertising for a human resources manager within one of its geographic divisions. It may be the case that these duplications are the results of earlier acquisitions, where the support units of an acquired organization have been carried over and left unchanged. Alternatively, the duplications may be intentional as the company has found it necessary to place individuals responsible for certain functions at both the corporate and divisional levels in order to execute its strategic mission.

On this note, and as discussed in the first section of this report, an organization will ultimately have to decide which model will best facilitate the execution of its particular strategic vision. Nevertheless, reviewing common organizational models, as we have in this section, and examining the organizational structures of similar companies within its industry, as we will do in the next section, will likely be helpful in evaluating a company’s current organizational model or considering organizational redesign.

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22 Ibid., p. 8.
Organizational Structures of Selected Construction Firms

In this section, we provide information regarding the basic organizational structures of four construction companies: Granite Construction, Flatiron Construction, RailWorks, and Matrix Service Company. While detailed information regarding their organizational structures was not publicly available, we were able to gain some insight into the basic organization of these companies’ operations – primarily whether they are organized by business segment or geography. Additionally, some information regarding the placement of support services such as HR, IT, and finance within the organizational structure could be inferred from job vacancy announcements and executive position titles. The information presented below was drawn from company websites, SEC filings, news articles, and Hoover’s company profiles. Please keep in mind that our conclusions regarding organizational structures have been inferred based on this available information.

Granite Construction Incorporated

*Location:* Watsonville, CA  
*Company Type:* Public  
*2009 Employees:* 2,700  
*2009 Revenue:* $2.0 billion (Granite West: $1.4 billion; Granite East: $550.2 million)  
*Organized by:* Business Segment

Granite Construction Incorporated describes itself as “one of the largest heavy civil construction contractors in the United States,” operating nationwide and serving clients in both the public and private sectors. Public sector projects are typically heavy civil infrastructure projects involving the construction of mass transit facilities, roads, highways, bridges, dams, canals, and airport infrastructure. Private sector projects include site preparation and infrastructure services related to residential development, commercial and industrial buildings, and other facilities. As of December 31, 2009, Granite employed 1,800 salaried employees including those working in management, estimating, and clerical roles, as well as 600 hourly employees. Given seasonal fluctuations, the company employs an average of 2,700 individuals over the course of the year.

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In the past, the company’s construction business has been organized geographically into two segments: Granite West and Granite East. As noted in the company’s Form 10-Q for the period ended September 30, 2009, Granite West’s offices, located in the western United States, engaged in a variety of heavy civil construction projects, primarily focusing on “new construction and improvement of streets, roads, highways, bridges and airports as well as site preparation for housing and commercial development.”

Though most of the work conducted by Granite West was completed within a year, the segment also had the capacity to work on larger construction projects. In addition to construction revenue, all of the revenue generated by construction materials sales came from Granite West. The segment “mines aggregates and operates plants that process aggregates into construction materials for internal use and for sale to others.” Such activities were described as vertically integrated into Granite West’s business, “providing both a source of profits and a competitive advantage to [Granite’s] construction business.”

Granite East was comprised of three regional offices in the eastern United States. Working primarily east of the Rocky Mountains, the offices focused on large, complex infrastructure projects such as major highways, large dams, mass transit facilities, pipelines, canals, bridges, waterway locks, and airport infrastructure. Granite East’s construction contracts were usually for periods longer than two years.

In addition to the two construction segments, Granite operated the Granite Land Company (GLC). GLC focused on purchase, development, operation, sale, and investment in real estate, in addition to the provision of real estate services to other Granite operations.

**Changes in Organizational Structure**

According to the firm’s most recent 10-K, on August 31, 2009, Granite announced significant changes to its organizational structure. Aimed towards improving operating efficiencies and positioning the company for long-term growth, the company’s segments were reorganized to reflect its product/business lines. For fiscal 2010, the company’s business segments are: Construction, Large Project

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28 Note that according to the firm’s 2009 Form 10-K, Granite West’s operating structure included 14 branch offices, of which several had additional satellite operations. See: “2009 Form 10-K – Granite Construction.” op. cit., p. 3.
30 Ibid.
31 Ibid.
Construction, Construction Materials and Real Estate.\textsuperscript{33} Real Estate represents what was previously referred to as Granite Land Company.\textsuperscript{34} The table below describes each segment.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Focuses on a variety of heavy civil construction projects, with the majority of the work related to new construction and improvement of streets, roads, bridges, and site work, among other infrastructure projects. These are usually bid-build projects that will be completed within two years with contract values less than $75 million.</td>
</tr>
<tr>
<td>Large Project</td>
<td>Devoted to long-term, large, complex infrastructure projects. The projects include major highways, bridges, tunnels, mass transit facilities, waterway locks and dams, pipelines, canals, and airport infrastructure. These are typically bid-build, design-build, and construction management/general contractor contracts. Contract values are typically greater than $75 million.</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>Responsible for mining and processing aggregates, as well as operating plants that produce construction materials for use in other Granite operations or sale to third parties.</td>
</tr>
<tr>
<td>Real Estate</td>
<td>Purchases, develops, operates, sells, and invests in real estate related projects and provides real estate services for Granite’s operations.</td>
</tr>
</tbody>
</table>

Source: Granite Construction.\textsuperscript{35}

Providing additional details on the changes in the company’s organizational structure, a September 2009 Investor Presentation noted: “Our reorganization will not change what we do; we are changing how we do it.”\textsuperscript{36} The presentation further stated the goals and key highlights of the reorganization.

<table>
<thead>
<tr>
<th>Goals of the Reorganization</th>
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<tbody>
<tr>
<td>To become ONE Granite, a company that is more efficient and more effective in any economic environment</td>
</tr>
<tr>
<td>Develop a structure that is scalable, positions us for growth and ultimately makes us more competitive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Highlights</th>
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</thead>
<tbody>
<tr>
<td>Realigning Granite East and Granite West business units under one company umbrella</td>
</tr>
<tr>
<td>Creating functional areas of expertise that will provide company-wide operational support</td>
</tr>
<tr>
<td>Streamlining processes, consolidating functions and reducing redundancies</td>
</tr>
</tbody>
</table>

Source: Granite Construction.\textsuperscript{37}

\textsuperscript{33} Please note that the company’s website does not currently reflect this reorganization and still describes the business in terms of Granite East and Granite West. For example, see: “Granite East.” Granite Construction Incorporated. http://www.graniteconstruction.com/about-us/granite_east.cfm
\textsuperscript{34} “2009 Form 10-K – Granite Construction Incorporated.” op. cit., p. 2
\textsuperscript{37} Ibid.
Commenting further on Granite’s reorganization, CEO William G. Dorey (who is set to retire on August 31, 2010), stated,

This new organizational structure will enhance our overall effectiveness throughout the Company and ultimately will allow us to be more competitive in all our markets. By realigning our operations and providing more efficient support for those operations, we anticipate being able to improve execution, reduce costs, and streamline our decision-making processes. Our goal is to become a more collaborative, flexible, and adaptive organization that is better positioned to take advantage of future growth opportunities.\(^{38}\)

In addition to the reorganization of its operating segments, a *Business Wire* article covering the reorganization noted that the new structure would also feature “a broad-based functional realignment of all financial, information technology, and human resources functions, to build operation efficiency and expertise across the Company.”\(^{39}\) Unfortunately, the article does not provide further details on this part of the reorganization. However, a review of the company’s recent job postings indicates that all IT and finance-related positions are being advertised for Watsonville, CA, the location of the company’s headquarters. By contrast, construction-related positions are distributed among locations across the United States.\(^{40}\) While not conclusive, this suggests that support functions such as IT and finance are centralized at the corporate headquarters.

**Flatiron Construction Corp.**

*Location:* Longmont, CO  
*Company Type:* Subsidiary  
*Employees (date not specified):* 2,000  
*2009 Revenue:* $1.038 billion\(^{41}\)  
*Organized by:* Geography

Flatiron Construction Corp., a subsidiary of HOCHTIEF, is described as “one of the leading providers of transportation construction and civil engineering in North America,” with core competencies in major bridge, highway, and rail projects.\(^{42}\)

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http://www.thefreecallibrary.com/Granite+Announces+New+Organizational+Structure+and+Appoints+James+H....-a0206952829

39 Ibid.

40 Note that these job openings were current as of August 12, 2010. See: “Career Opportunities.” Granite Construction Incorporated. http://granite.hodesiq.com/careers/job_start.asp


Offering insight into the company’s organizational structure, the following table provides a brief overview of Flatiron’s leadership team.

<table>
<thead>
<tr>
<th>Flatiron Leadership Team</th>
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<tbody>
<tr>
<td>Chief Executive Officer</td>
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<tr>
<td>Executive Vice President, Business Development</td>
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<tr>
<td>President, Canadian Division</td>
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<tr>
<td>Chief Operating Officer</td>
</tr>
<tr>
<td>Senior Vice President, Human Resources</td>
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<tr>
<td>President, Western Region</td>
</tr>
<tr>
<td>Chief Financial Officer</td>
</tr>
<tr>
<td>Vice President, Safety</td>
</tr>
<tr>
<td>President, Heavy Civil Division</td>
</tr>
</tbody>
</table>

Source: Flatiron Construction Corp. 43

As the above table suggests, Flatiron is largely organized based on geographic units. First, the Canadian Division works primarily on public private partnerships, design-build, and traditional bid-build projects throughout Canada. 44 The Division has offices in Richmond, BC and Calgary, AB. 45

Next, the Western Region offers construction services for civil projects including bridges, highway widening, underground and utility works, and concrete and asphalt paving, as well as work on major highways throughout California, Utah, and other western states. Also located within the Western Region is Flatiron’s Electric Group, which offers services related to traffic signal installation, ramp metering, highway lighting, voltage conversion, traffic interconnect systems, and fiber optic CCTV system installation. 46 The region has five offices, with four located in California and one in Utah. 47

In addition to the Canadian Division and the Western Region, Flatiron’s headquarters are located within its Intermountain Region in Longmont, CO. 48 The Intermountain Region focuses primarily on Colorado and offers construction services related to roadways, bridges, treatment plants, and commuter rail, among other heavy civil projects. 49

An exception to this regionally-divided structure, the company’s Heavy Civil Division focuses on large, complex civil construction projects. In particular, the division specializes in highway and transportation projects. Despite its seemingly specialized

43 “Executive Team.” Flatiron Construction Corp.
44 “Canadian Division.” Flatiron Construction Corp.
45 “Contact Us – Flatiron Regional Offices.” Flatiron Construction Corp.
http://www.flatironcorp.com/index.asp?w=pages&r=1&pid=10
46 “Western Region.” Flatiron Construction Corp.
47 “Contact Us – Flatiron Regional Offices.” op. cit.
48 Ibid.
49 “Intermountain Region.” Flatiron Construction Corp.
http://www.flatironcorp.com/index.asp?w=pages&r=18&pid=56
focus in terms of type of service, the division still has a regional mission. It primarily operates in the southeast, northeast, and Midwest regions of the United States.\textsuperscript{50}

In addition to these divisions and regional operating units, a subsidiary of Flatiron, E.E. Cruz and Company, also specializes in heavy construction projects, mostly in the New York/New Jersey metropolitan area.\textsuperscript{51}

While more detailed information on the company’s organizational structure is unavailable, it is helpful to examine recent job postings advertised by the company. Flatiron organizes its job openings by division/region, which provides some insight into the types of functions performed in different segments of the company.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
\textbf{Flatiron Construction Corp. – Job Openings by Division/Region} & \\
\hline
\textit{Intermountain Region/Headquarters} & \\
\hline
Assistant Corporate Counsel & Corporate Environmental Manager \\
Corporate Treasury Manager & Executive Assistant \\
IT Specialist & Mail Room Coordinator \\
\hline
\textit{Canadian Division} & \\
Earthwork Administrator & Human Resources Manager \\
Structures Administrator & -- \\
\hline
\textit{Western Region (Utah and California)} & \\
Senior IT Specialist & Senior Project Manager \\
Concrete Paving QC Manager & Operations Manager – Concrete Paving \\
Project Engineer (2) & Project Manager (3) \\
Senior Project Manager & Equipment Manager \\
\hline
\textit{Other Areas} & \\
Project Manager – Pacific Northwest & Project Safety Manager - Southeast \\
\hline
\end{tabular}
\caption{Job Openings by Division/Region}
\end{table}

Note that while the majority of openings for staff positions not directly related to construction services (human resources, IT, finance, etc.) are located in the Intermountain Region/Headquarters office, two postings stand out. First, an opening is advertised for a Human Resources Manager in the Canadian Division. According to the posting, this individual is responsible for planning, directing, and coordinating HR management activities “of the operating division/region to maximize the strategic use of human resources, and maintain functions such as employee compensation, recruitment, personnel policies, and regulatory compliance.”\textsuperscript{53} Second, a Senior IT Specialist vacancy is advertised for the Western

\textsuperscript{50} “Heavy Civil Division.” Flatiron Construction Corp. http://www.flatironcorp.com/index.asp?w=pages&r=18&pid=57
\textsuperscript{52} Note that these job openings were current as of August 9, 2010. See: “Current Openings.” Flatiron Construction Corp. http://www.flatironcorp.com/index.asp?w=pages&r=8&pid=37&region=all
Region. The individual is responsible for providing “second level Desktop and LAN support for approximately 250 users at various offices and remote jobsites.”

These two postings suggest that some of the HR and IT functions are distributed throughout the regional divisions of the company, rather than being exclusively centralized in the corporate headquarters.

**RailWorks Corporation**

_Location:_ New York, NY  
_Company Type:_ Private  
_2008 Employees:_ 3,965  
_2008 Revenue:_ $294.4 million  
_Organized by:_ Business Segment

As a private company, there is not a great deal of information available regarding the organizational structure of RailWorks Corporation. However, an article published in 2002 indicates that the firm underwent a significant reorganization in the early 2000s, emerging from bankruptcy after having been taken private. Jim Kimsey, the individual who took over as president and Chief Operating Officer of the company after its reorganization noted that its move towards bankruptcy largely stemmed from its “unusual organizational structure.” The company had been formed in 1998 from an assortment of rail businesses, with the aim of achieving economies of scale and taking advantage of brand recognition. RailWorks continued to acquire new companies at a rapid pace but eventually ran into cash-flow issues and was forced to default on its large debt. According to Kimsey, “The concentration was on the market play and not on the business itself. We [new management and owners] are focused on the business and the market at hand.”

This description of how the company was formed provides a helpful picture of the company’s current structure. Still composed of a number of subsidiaries, it does appear that the company has made efforts to organize them into more cohesive business segments, as we discuss in greater detail below.

Today, RailWorks Corporation and its operating subsidiaries offer construction and maintenance services through two main business segments: Track and Transit &

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54 “Senior IT Specialist.” Flatiron Construction Corp.  
http://articles.baltimoresun.com/2002-11-15/business/0211150379_1_railworks-kimsey-bankruptcy  
57 Ibid.
The company provides some information regarding its relationship with its subsidiaries and its executive-level management structure, as displayed in the charts below.

Source: RailWorks Corporation.

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As indicated by the leadership positions, the organization of its subsidiaries, and the map of its office locations below, RailWorks appears to be organized by service (and more specifically, subsidiary) rather than geography.

**Locations of RailWorks Offices**

![Map of RailWorks Offices](http://www.railworks.com/office-map-transit-systems-track-contractor-construction-address-phone-numbers-directions)

Source: RailWorks Corporation.

Within its subsidiaries, however, there is some evidence suggesting geographical structures. For example, PNR RailWorks, a subsidiary operating in Canada, presents a mixed structure, organizing some of its operations by region. The table below provides a brief overview of the subsidiary’s leadership.

<table>
<thead>
<tr>
<th>PNR RailWorks Leadership</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PNR RailWorks, Inc.</strong></td>
<td></td>
</tr>
<tr>
<td>President</td>
<td>Vice President</td>
</tr>
<tr>
<td>Vice President – Operations Eastern Canada</td>
<td>Corporate Controller</td>
</tr>
<tr>
<td>Corporate Human Resources Manager</td>
<td>Health &amp; Safety Officer</td>
</tr>
<tr>
<td><strong>Track</strong></td>
<td></td>
</tr>
<tr>
<td>Manager – Pacific Region</td>
<td>Manager – Prairie Region</td>
</tr>
</tbody>
</table>

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Beyond the mixed organizational structure of its subsidiary, the existence of a Human Resources Manager and a Corporate Controller on the PNR RailWorks leadership team indicates that support functions are at least somewhat distributed across RailWorks Corporation. As noted in the previous RailWorks leadership table, the organization has corporate-level HR and finance functional units.

### Matrix Service Company

- **Location:** Tulsa, OK
- **Company Type:** Public
- **2009 Employees:** 2,818
- **2009 Revenue:** $689.7 million
- **Organized by:** Geography

The Matrix Service Company (MSC) offers services related to two business segments: Construction and Repair & Maintenance. The Construction segment offers a variety of “turnkey and specialty” construction services including civil/structural, mechanical, piping, electrical, instrumentation, millwrighting, and fabrication. In addition to construction of new facilities, projects include modifications, retrofits, and expansions of existing facilities. The Repair & Maintenance segment offers a wide range of “routine, preventative, and emergency repair and maintenance services,” enabling MSC to act as “a single source provider to our clients for their repair and maintenance needs.”

The two operating segments primarily serve four markets: aboveground storage tanks, downstream petroleum, electrical and instrumentation, and specialty. Specialty markets include liquefied natural gas/industrial gas projects/liquefied petroleum gas, specialty tanks and vessels, power projects, and fabrication.

As of May 31, 2009, MSC had 2,818 employees, with 464 working in non-field positions.

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65 Ibid., p. 8.
Unfortunately, we were unable to locate any materials explicitly discussing the organizational structure of the company. However, information regarding the company’s physical facilities and executive leadership offers some insight into this issue. For example, providing a rough indication of the firm’s organizational structure, the following chart lists MSC’s “principal properties,” as noted in the company’s 2009 Form 10-K. In addition to information on the location and nature of each facility, the company indicates the business segment with which the facility is associated.

<table>
<thead>
<tr>
<th>Location</th>
<th>Description of Facility</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tulsa, Oklahoma</td>
<td>Corporate Headquarters</td>
<td>Corporate</td>
</tr>
<tr>
<td>Bellingham, Washington</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Catoosa, Oklahoma</td>
<td>Fabrication Facility, Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Cranbury, New Jersey</td>
<td>Sales Office</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Deer Park, Texas</td>
<td>Recruiting Center</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Eddystone, Pennsylvania</td>
<td>Fabrication Facility, Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Houston, Texas</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Orange, California</td>
<td>Fabrication Facility, Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Newark, Delaware</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Norwich, Connecticut</td>
<td>Sales Office</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Rahway, New Jersey</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Sewickley, Pennsylvania</td>
<td>Regional Office</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Temperance, Michigan</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Calgary, Alberta, CA</td>
<td>Sales Office</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Leduc, Alberta, CA</td>
<td>Regional Office and Warehouse</td>
<td>Construction and Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Afton, Illinois</td>
<td>Regional Office and Warehouse</td>
<td>Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Suisun City, California</td>
<td>Regional Office and Warehouse</td>
<td>Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Saint John, New Brunswick, CA</td>
<td>Regional Office</td>
<td>Repair &amp; Maintenance</td>
</tr>
<tr>
<td>Sarnia, Ontario, CA</td>
<td>Regional Office and Warehouse</td>
<td>Repair &amp; Maintenance</td>
</tr>
</tbody>
</table>

Source: Matrix Service Company.

As the above table indicates, the majority of facilities perform functions associated with both of the company’s business segments. While not conclusive, this suggests that the company does not organize its operations primarily by business segment.

Next, we can gain insight into the company’s organizational structure by examining the titles of executive officers. Keep in mind that MSC has “separate union and merit subsidiaries, which allows [the company] to serve customers on both a union and a merit basis.” The subsidiaries are Matrix Service, Inc. (merit operations) and Matrix Service Industrial Contractors, Inc. (union operations). As the table below displays, MSC provides a list of executive officers, categorized by whether they are associated with corporate headquarters (Matrix Service Company) or one of the two subsidiaries.

<table>
<thead>
<tr>
<th>Matrix Service Company (Corporate)</th>
<th>Matrix Service, Inc. (Merit Operations)</th>
<th>Matrix Service Industrial Contractors, Inc. (Union Operations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>President and CEO</td>
<td>President</td>
<td>President</td>
</tr>
<tr>
<td>Chief Operating Officer</td>
<td>Vice President, Business Development</td>
<td>Vice President, Accounting and Administration</td>
</tr>
<tr>
<td>Vice President and Chief Financial Officer</td>
<td>Vice President, Accounting and Financial Reporting</td>
<td></td>
</tr>
<tr>
<td>Vice President, Human Resources</td>
<td>Vice President, Gulf Coast Operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vice President, Western Operations</td>
<td></td>
</tr>
<tr>
<td>Source: Matrix Service Company.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table suggests a handful of interesting points. First, despite the fact that MSC describes its operations in terms of two business segments – Construction and Repair & Maintenance – there are three executive level positions responsible for operations within defined geographic areas: Midwestern, Western, and Gulf Coast Operations. Coupled with the fact that the majority of its physical facilities are associated with both business segments, it appears that MSC’s operations – at least those associated with its Matrix Service, Inc. subsidiary – are organized largely along geographic lines.

The organization of Matrix Service Industrial Contractors, Inc. is less clear. A map of MSC’s facilities (displayed on the following page) indicates that locations operated by Matrix Service Industrial Contractors, Inc. are situated primarily in the eastern portion of the country, while Matrix Service, Inc. facilities are much more spread out.

Based on publicly available information, we are unable to determine how the Matrix Service Industrial Contractors, Inc. subsidiary is organized.

**Locations of Matrix Service Company Operations**

Source: Matrix Service Company.  

As for the location of support functions such as HR and finance, based on executive positions it would appear that these are centralized at corporate headquarters. None of the executive level positions associated with Matrix Service, Inc. suggest that HR or finance functions are distributed among its units. Once again, Matrix Service Industrial Contractors, Inc. is somewhat more difficult to read since the position of the Vice President, Accounting and Administration is listed under the subsidiary. A review of job postings did not provide additional insight into this question, as the currently posted vacancies are for craft/labor positions or other positions not associated with support functions such as HR, IT, or finance.

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