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The Driving Force Behind Automotive's Migration

Find out why the industry is moving to the Southern U.S. and what factors you should consider when choosing a location for your next auto-related expansion or relocation.

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Economic development professionals, as well as corporate executives responsible for site selection activities, ask the same question; "Why has the automotive industry migrated to the South?" The most popular answer, and the easiest to defend, is "huge incentives." While incentives are indeed an important consideration, they are by no means the driving force behind this migration. In fact, they are not even in the top half of important factors. Readers will no doubt argue this assertion, much like the economists' battle over the merits of fiscal versus monetary policy to correct an ailing economy. It is true, nevertheless. One need only look at the automotive industry over the past several decades to understand the primary impetus behind this movement.

Competitive operating costs, logistics synergies and to some degree environmental considerations were, and continue to be, important factors. The sum of these factors, however, is the most important of all—a competitive environment that was, and continues to be, relentlessly market driven.

A Catalyst for Moving

Our system is based on a market economy where competition rules. The law of a market economy is straight-forward and easy to understand—provide the best product at a fair and reasonable cost. If you do, you may survive. If not, you will go the way of the Edsel automobile and the Beta VCR. Quality products, at a reasonable cost, are a mandate from the consumer. Both economic developers and companies must heed their call, and respond accordingly. In order to do this, companies must constantly innovate to create better products as well as produce them at competitive prices. Add to this the fact that we live in a country where the classic rules of economics govern—we have an open market, where foreign investment is encouraged, and barriers to market entry are relatively few compared to other countries—and you can see why it is a dogfight.

In the current economic environment, companies are struggling to survive. This requires constant attention to each and every function of the company to enhance efficiency and streamline operations. Is it any wonder that companies moved away from locations where organized labor's rigid work rules created inefficiency and redundancy, where business climates were more costly and to some extent almost confrontational, and where environmental regulatory practices punished the entire industry instead of the offenders? Oddly enough, with the exception of a few truck plants and one automotive plant, it was foreign automotive companies that recognized the need to rethink the entire assembly process—starting with the very first step—where to build it. Market competition for their products would drive the site selection process, and not historical precedent. Out of necessity, this pointed to locations away from the traditional automotive corridor around the

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Great Lakes region. It appears too that the big three are tentatively exploring possibilities in the South, although their undertaking will require state and local acceptance of the infusion of a large unionized workforce.

Site Selection Factors

The pull toward the South was a gradual migration, with the Japanese establishing a presence outside of Detroit in Ohio, Kentucky and Tennessee followed shortly thereafter by the Germans in South Carolina and Alabama. Both the Japanese and the Korean firms have continued this trend by locating in Alabama and Texas. The manufacturing process centered on assembly operations with component sourcing and stamping outsourced in varying degrees. While the specific factors for each site selection project varied by company and the inherent conditions prevailing at the time—in general, location issues centered on the following categories—which is still true today:

- Community/Site Factors
- Infrastructure Considerations
- Transportation/Logistics
- Human Resources
- Environmental
- Taxes
- Incentives
- Schedule

These categories are evaluated from a dual perspective by the manner in which they either add to, or detract from, creating a competitive manufacturing climate. From a site selection process approach, each of the factors above can fall into two broad issues—capital and operating. Capital issues are investment and non-recurring costs considerations, while operating issues are the day-to-day factors that affect manufacturing operations and recurring costs. Capital issues include site, infrastructure, environmental, human resources, training, taxes and finance. Operating issues include transportation/logistics, labor relations, labor cost/productivity, utility costs, on-going training, and taxes. The following broad categories are consistently evaluated in most automotive site selection projects.

Community/Site factors

There is a clear preference for a location near a large community; however, the definition of a large community and what constitutes proximity varies from firm to firm. The population of the metro region is not nearly as important as the community's assets. Access to both a community college and university is important as well as ease of access via commercial air service. An adequate workforce to fulfill employment requirements is equally important, as is the training infrastructure and the complementary basic building blocks of the K-12 school system. Automotive facilities have located in metro regions as small as 30,000 populations, but within 30-45 minutes from a large one million plus metro area, while others have located in a relatively small metropolitan areas of 10,000-30,000 people. Quality of life issues are consistently evaluated, with particular emphasis on education, health care and crime statistics.

Generally the sites are around 1,000 to 2,000 acres and fairly rectangular in shape with property usability determining the acreage requirements. Obviously, this means wetlands have been identified and a mitigation plan, if required, is in place. Appropriate soil and geotechnical characteristics are important to avoid additional costs as a result of design and structural considerations. Endangered species, areas of historical significance and anthropological considerations should all be addressed in the environmental assessment.

Property ownership and control must be in place through either outright ownership by the local economic development authority or options in place that

extend through the expected decision date and beyond, with multiple renewal rights. In addition, the site should be capable of accommodating additional suppliers who may or may not locate adjacent to the plant. Finally, site readiness is always an important issue. Invariably, automotive projects are under a punishing deadline. The faster start-up operations can begin the better.

Infrastructure Considerations

Typically, utilities consist of water, sewer, electricity and natural gas — although telecommunications and solid waste disposal is important as well. It is not unusual for consumption to reach up to 2.0 millions of gallons per day (MGD) of potable water, depending on production volumes. As a result, most companies insist on having this capacity available at the outset, along with convincing evidence that this consumption will be protected. Water quality and clarity is an issue as well. Wastewater considerations include pretreatment capability on-site and a public system that has excess treatment capacity 2.0 MGD minimum. Most companies have no desire to be in the waste treatment business and prefer not to own and operate the pretreatment facility.

Automotive plants are large energy users which depend on a reliable source of electricity. It is not unusual for electrical requirements to approach or exceed 20 MW. A typical scenario would include a transmission feed (230 kV is not unusual), into a dedicated substation with redundant supply. A failure response plan, in the event of a significant power interruption, is a must. The provision of natural gas must also demonstrate a reliable supply with adequate line sizes and pressure. Demand varies from plant to plant as well as prevailing climate, with a minimum usage of 1,000 decatherms per day.

Solid waste is sometimes overlooked. In general, the expectation is that the landfill will be capable of operation for a minimum of 20 years. Proximity to a hazardous waste disposal facility is an issue as well.

Telecommunications consist of fiber optics facilities on a SONET based system. Radio frequency transmission for communications clarity is important also.

Transportation and logistics

Transportation infrastructure is crucial to an automotive facility for both just-in-time component delivery as well as vehicle distribution. Logistics costs are the single largest variable cost of production. Inefficiency in any one aspect of the logistics supply-chain ripples throughout the entire manufacturing process, adding delays and increased cost. Transportation cost, reliability, access and north/south and east/west connectivity go hand in hand.

An interstate-quality highway with dual access to the site is highly desirable. For the site itself, redundant access on high quality secondary roads is important in the event the interstate is temporarily blocked. Appropriate controls for truck access and employee access are important.

A rail served site is a must, preferably with competing carrier access. There is some preference for a connection to a main-line carrier; however, with the proper operation and improvements, a short line rail system is acceptable. A rail yard and vehicle processing center is preferred on site, or in very close proximity.

Air transport is important for suppliers, vendors, and executives. Usually, proximity to a hub is desired, although it is not an absolute requirement. Most companies have common key domestic destinations such as Detroit, Washington DC and New York—but will include others, according to the company. International destinations are entirely dependent upon the company.

The need for water borne transportation will vary with each project depending on where components are sourced. In some cases, power train components may be

coming from either Asia or Europe. A link to a deepwater port via rail and interstate highways is important if this is the case. For international vehicle product distribution, the port must be reliable and efficient and well served for the product market. Adequate storage capability and roll on/roll off (RO/RO) containerized truck trailers capability are required as well.

Human Resources

Generally speaking, most automotive companies are not so concerned with the experience level of employees in an assembly operation as they are with their basic skills in reading comprehension, math, and ability to work in a teamwork environment. It is expected that the initial screening will be performed by the state and community. This includes identifying a pool of acceptable candidates and training them in basic manufacturing skills—with no cost to the company. On-site facilities are expected to be a part of the package. In addition, an ongoing commitment for training of new hires as well as existing workforce retraining/upgrading of skills is expected. Finally, the company usually demands that training is provided on an exclusivity basis to protect proprietary product knowledge and manufacturing processes. The state and community's program and delivery infrastructure are evaluated for capability, capacity and cost.

Most automotive companies desire to have a workforce that operates in a highly flexible and multi-task oriented environment based upon a teamwork environment. Great care is taken in the screening and selection process to assure that employees are capable of thriving in this environment. A considerable amount of care and due diligence is undertaken to assure that previous work practices in the region of interest do not run contrary to this type of operation. A locale that has a history of labor-management strife, a culture ingrained with inflexible work-rules and constant turmoil is usually avoided.

Contrary to popular opinion, the cost per hour for a fully trained employee in the automotive industry is not cheaper in the south. Granted, in the beginning hourly rates are lower; however, as the employee progresses with skills achievement, the target is to achieve a competitive wage and benefit package comparable to the industry as a whole. The variance in costs, aside from the initial start-up years, is a result of inflexible work rules that foster inefficiency and redundant operations and not geographic disparities from region to region. Although average manufacturing wage geographic disparities do in fact exist. There is very little difference in benefit packages too, with the exception of legacy burdens that may have carried over from incumbent or pre-existing labor agreements.

Environmental Factors

By far, obtaining an air permit is probably the most crucial bottleneck in the project schedule due to emissions associated with a paint shop. Most auto companies prefer an "Attainment" air quality control region and are very wary of being within 100 miles of a Class I environmentally sensitive area. Compromising either of these general practices could double the amount of time required to obtain an air permit, as well as increase the cost for addition control technology. At a minimum, and under the "very best" of circumstances, (assuming that historical data is available and modeling is not required), a "major source" permit can be obtained in six months. But this is the exception, not the norm. Most companies plan for at least a year and even include a contingency plan for up to 18 months. The companies expect the state to have the capability to administer and approve Federal EPA air permits and are able to expedite the pre-application process. In addition, a maximum amount of flexibility must be demonstrated (that is not in violation of any local, state or federal laws) which allows concurrent activities for site preparation, construction, and equipment installation to proceed (at risk) in the event of an unexpected problem. Other environmental issues associated with the site are expected to be resolved or with an absolute rock-solid mitigation plan in place for corrective action provided in advance of offering the site for final consideration.

Taxes

Tax burdens are evaluated as part of the process, although the impact of these on the site selection process is sometimes over rated. They are evaluated as either a one-time non-recurring capital cost or an ongoing operating expense. Taxes considered one-time, non-recurring capital expenses include sales tax on construction labor and materials, machinery and equipment and property tax treatment during construction. Usually, these are already incorporated into existing statute, although it is not unusual for special legislation to be enacted which addresses any one of these on a case-by-case basis. Recurring taxes include income, franchise, sales, property and in some states and localities a business and occupational tax. Tax liability is usually subject to a variety of existing statutory exemptions and/or abatements that reduce the total tax burden; however, that are usually enhanced considerably for automotive projects. Workmen's compensation and unemployment insurance rates are investigated and are considered not only as a cost element, but also as one indicator of the overall business climate in the state. These two costs are a topic of considerable debate and concern in both the public and private sectors these days.

Income taxes are usually not a huge tax burden in the automotive industry, depending on the profitability of the company and the allocation and apportionment formula's allowed in the state of interest. Various income tax credits available in most states minimize the impact of this tax as a result of either capital investment, job creation or both.

Automotive facilities are high capital intensive investments and have the potential for very high tax liabilities on a recurring basis. Many states either restructure rates, allocation or apportionment formulas, or simply place a cap on the total tax liability.

Automotive firms have huge purchasing budgets and will seek either exemptions or caps on their sales tax liability from both a one-time non-recurring basis and an ongoing recurring one as well. One time non-recurring sales taxes include tax on machinery and equipment, construction labor and construction materials. Recurring purchases include purchases of raw material, equipment replacement, repairs and services. Each new model change results in a new investment in equipment and tooling. Tax relief is sought not only for initial investment when the assembly plant is established, but on an ongoing basis as well.

Similar to the franchise tax, the high capital investment can result in a huge property tax impact—depending on the applicable rates and assessments for real and personal property. Fee-in-lieu of tax is a popular way to mitigate this issue. Most companies, particularly automotive firms, are particularly sensitive to the education funding portion of property taxes and demand that the communities demonstrate that the company is pulling its weight. Tax liability for vendor tooling is an issue as well. Regardless of who actually owns the tooling, the cost eventually flows down to the assembler. Treatment of property tax on real on personal property during construction is an area often overlooked.

Incentives

Most automotive companies concentrate on the value of incentives from a Net Present Value perspective; however, each company places different value and importance certain incentives compared to others. In general, this does not vary significantly. Abatements, credits and exemptions used to offset or correct an already high cost business environment are scrutinized very closely. Incentives include everything from capital contributions to ongoing subsidies against annual recurring cost. In short, the value of incentives are normalized and applied to a base case scenario according to the companies own internal financial models. Economic development agencies spend a considerable amount of time demonstrating cost savings and incentive values (as they should) and not nearly enough time concentrating on the underlying mechanics of eligibility and applicability.

Important, though difficult to quantify, incentives include ease and predictability of permit acquisition, concerned/helpful leadership, work-ethic values and quality of life issues. Some of the major incentives include: Job Screening, Hiring and Recruitment—Initial screening and testing of prospective employees as well as the provision of facilities, staffing and administration of the process is considered a must. An on-going training program over a defined number of years is expected as well.

Finance—Overall project finance is something unique to each and every firm. Most economic development finance programs tend to focus on improved access to capital with the benefit to the company based on either tax benefits that accrue to the company or exempt status on property tax. In contrast, automotive firms are more focused on improved rates with limited recourse.

Tax Abatements, Credits and Exemptions—Every state has an entire arsenal of tools intended to provide relief in some form from taxes. Many states have a program whereby a portion of the personal income tax paid by the employee is captured and diverted back to the company. This incentive potentially can have a high value and high impact to the project Contributions—Land and the associated due diligence and site preparation required are typically at no cost to the company, including all infrastructure connections and upgrades required. In addition, significant transportation infrastructure (rail and highway) improvements that are required are usually borne by the state and/or the community. It is not unusual for grants and various subsidies to logistics operations to be included in an aggressive incentive package.

Other—Permitting assistance and the commitment to providing a liaison to coordinate activities is common and very important. Because of volume and load characteristics automotive assembly plants are considered attractive customers. Utility rates are often subject to considerable negotiation with connection and service fees usually waived. Communications and marketing assistance in the form of announcement coordination and groundbreaking ceremonies is not uncommon as well as a commitment to on-going marketing assistance. There is a considerable spectrum of creativity exhibited in this category of incentives.

Project Schedule

As mentioned several times, project schedule affects virtually every aspect of the site selection process due to market forces. Permitting ease is evaluated with particular attention paid to the environmental concern issues—particularly air permits. Workforce development and training, which takes a considerable amount of time and effort, is directed at selecting not only the best employees, but also at coordinating and implementing this very complex undertaking.

Invariably, there are improvements required to the site or to the surrounding infrastructure. Firm guarantees must be in place to assure the client that there is a commitment of funding and resources, as well as a viable plan of action, to complete the task. Delayed infrastructure improvements could have catastrophic impacts on manufacturing and product delivery to the marketplace.

Continuing Migration Trends

The recent Toyota announcement in Texas only confirms the continuing trend for automotive facilities moving south. As indicated in the previous commentary, there are several factors that have, and will continue to contribute to this ongoing trend. Brutal project schedules, due to competitive market pressures, require that project startups are achieved by a date certain—with no surprises. Examination of a map of the non-attainment status across the U.S. for various pollutants clearly demonstrates those areas where permitting will be difficult and more costly. Can facilities be permitted in these regions? The answer is "Yes—in time, with added cost and uncertainty clouding the entire process," though this hardly makes sense.

Continuing with the theme of compressed project schedules, the workforce must be brought up to speed very quickly. Those states and communities that recognize the need to have the capacity and delivery structure to provide pre-employment screening, hiring and training assistance will have a definite advantage. Few companies will publicly admit their aversion to organized labor. It is inflexible work rules, not labor cost nor the union itself that are considered undesirable and run counter to effective and efficient operations. Right-to-work legislation and the historical absence of organized labor in many parts of the South is considered fertile ground for creating a new workplace culture. While any one of the factors mentioned would not be the sole reason to consider a Southern location, the sum total of all these factors do. Moreover, contrary to popular opinion, incentives are not pulling assembly plants south, it is the market that is driving them there.

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