Repurposing Former Automotive Manufacturing Sites

A report on closed auto manufacturing facilities in the United States, and what communities have done to repurpose the sites.

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ABOUT THE CENTER FOR AUTOMOTIVE RESEARCH

The Center for Automotive Research (CAR), a nonprofit organization, is focused on a wide variety of important trends and changes related to the automobile industry and society at the international, federal, state and local levels. CAR conducts industry research, develops new methodologies, forecasts industry trends, advises on public policy, and sponsors multi-stakeholder communication forums. For the last decade, CAR has managed the Automotive Communities Partnership, a program focused on sustaining automotive communities throughout the Great Lakes region.

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EXECUTIVE SUMMARY

Automotive and parts manufacturing are potent economic forces in regions where assembly, engine, transmission, stamping, parts and component plants are located. The input demands of automotive manufacturing — from raw materials, parts and components to engineering, technical, logistics, sales, marketing and other services — support jobs at direct suppliers as well as businesses in the communities where workers live and spend their income. After more than 100 years in the United States, the automotive manufacturing landscape has changed dramatically. Many plants opened across the country, but many also closed during lean economic times.

When an automotive facility closes, the impact on the local community is both broad and deep. Decreased economic output, concentrated job losses and scars to the physical landscape of the community can lead to serious long-term repercussions. Given the significant number of workers needed to staff an assembly plant, the new use of the site rarely employs as many workers as the original. Redeveloping automotive industrial sites and replacing even a portion of jobs once supported can be a very long and complicated process.

The best outcome for a community is usually to keep automotive facilities operating in the first place. As a result, local and state officials should make every effort to keep these facilities open. When that is no longer an option, these closed facilities represent challenges and opportunities for communities to reinvent themselves by finding new, productive uses.

Automotive property redevelopments involve a unique set of challenges for multiple stakeholders. This report provides policymakers with an assessment of trends in closed and repurposed facilities, and also provides communities with facts, guidance, and lessons to model as they move forward with redeveloping shuttered auto manufacturing plants in their regions.

After an exhaustive review of both proprietary and public sources, CAR researchers compiled a database of all automaker and automaker-captive parts division[1] manufacturing facilities that have closed in the United States since 1979. To learn more about the characteristics of the property transitions, researchers created a web-based survey for economic developers in communities with repurposed sites and conducted seven case studies that explore the key elements involved with transitioning these properties to productive use.

[1] Captive parts plants are plants owned by an automaker but operated as a separate division.

KEY FINDINGS

Since 1979, 447 automaker and automaker-captive plants have been in operation across the country. Nearly 60 percent – 267 total – have closed and only 180 remain in operation at present. Of the plants closed since 1979, 42 percent of the closures were concentrated between 2004 and 2010. Survey responses indicate that 72 percent of closed plants were one of the top three employers in the community when they closed. Nearly a third of the former plants employed more than 2,000 people at the announced time of closure, and over half employed between 400-999 people. Many of these modern facilities were supported by significant public sector investments in transportation and utility infrastructure.

The greatest concentration of automotive plant closings is in the traditional automotive production center, the Midwest. Nearly 65 percent of all closed facilities are located in Michigan, Ohio and Indiana. Not surprisingly, the Midwest also has the highest concentration of active plants compared to other regions. The vast majority of the facilities were owned by General Motors (GM), Ford, Chrysler or one of their captive suppliers.

A significant number of the plants remain closed. Of these 139 plants, 36 percent closed in the 1980s or 1990s, indicating they have been closed for eleven or more years without being repurposed. These long-term closures, combined with the concentration of plant closures since 2000, suggest a need for focused attention to assist in repurposing these sites. Whether the resources for this type of intervention are available is a key question.

Of the 267 facilities that closed since 1979, 128 have been repurposed. Former production facilities, and the properties on which they are situated, are valuable for a variety of new uses. The most common site reuse is for industrial purposes, including some that are auto-related, as well as logistics and warehousing. In other situations, especially when a community's economy has shifted away from manufacturing, the facility may be demolished to make way for an entirely new use of the site, such as retail, education or housing.

Rezoning, building demolition, slab removal, environmental remediation and purchase price negotiation are all significant barriers that must be overcome before a property can be reused. Federal funding programs from various departments assisted with some of the repurposed sites, and often allowed communities to leverage local programs such as tax abatements, Brownfields Cleanup Grants and enterprise zones achieve redevelopment. Local conditions, including low area unemployment, strong

population growth and a low density of closed plants, enhanced a region's probability of successfully repurposing a site.

The number of transitioned sites is now trending upward. While very few sites transitioned to a new owner and a new use before 2000, more than 40 percent of the sites surveyed were purchased for a new use between 2008 and 2010 alone.

However, even when a site is successfully repurposed, outcomes can be mixed. Many survey respondents reported that while property value was successfully restored, present employment levels do not match those the former facilities provided.

CASE STUDIES

The research team visited seven communities to hear firsthand from community members about efforts to develop a new vision for each site, bring key players to the table and follow a project to fruition. In the case of Doraville and Sleepy Hollow, much also was gained from understanding the barriers and roadblocks that have stood in the way of redevelopment. Each location faced the same daunting task of repurposing a former automotive manufacturing facility, yet each had different ways of achieving – or attempting to achieve – that goal. Some communities took ownership of the property and then sold to developers (South Gate and Kenosha), others had little to no role in the actual sale of the property (Coopersville and Baltimore). Some communities had a desire to move away from industrial and manufacturing uses at the site (Doraville, Sleepy Hollow, and Kenosha), while others felt it was economically advantageous to maintain industrial zoning (Baltimore, Batavia, Coopersville and South Gate). Other actions, such as building demolition prior to developer purchase or transferring property ownership to the community, may encourage development in some cases but not in others.

TABLE 1: SELECTED SITES AND CURRENT STATUS

FACILITY	LOCATION	FORMER OWNER	FORMER USE	YEAR CLOSED	CURRENT USES AT SITE
Broening Highway Assembly Plant	Baltimore, Maryland	GM	Assembly Plant	2005	Industrial Park
Batavia Transmission Plant	Batavia, Ohio	Ford	Transmission Plant	2008	Education, Industrial
Delphi Coopersville Plant	Coopersville, Michigan	Delphi	Parts Supplier Plant	2006	Industrial
Doraville Assembly Plant	Doraville, Georgia	GM	Assembly Plant	2008	Vacant
Kenosha Lakefront Assembly Plant	Kenosha, Wisconsin	Chrysler	Assembly Plant	1988	Residential, Commercial, Museum, and Park Space
Sleepy Hollow Assembly Plant	Sleepy Hollow, New York	GM	Assembly Plant	1996	Demolished
South Gate Assembly Plant	South Gate, California	GM	Assembly Plant	1982	Education, Industrial

LESSONS LEARNED

Each community's needs are different, and though one action may work in one community, it may not necessarily work in another. Blanket statements about which actions are necessary for a successful redevelopment need to be weighed against local conditions and the will of the community to resolve the issue of a vacant site. However, some themes emerged from the case study research that community leaders (and others) can bear in mind when attempting to repurpose a facility site.

GENERATE SUPPORT FOR A GROUP EFFORT

Eliciting support from neighboring communities, economic development associations, and state and local governments can be influential in raising awareness of redevelopment sites and lining up public funding mechanisms. When a community acts alone, it risks generating insufficient interest and alienating neighboring communities – who can often become the most vocal opponents to a project when a developer does show interest. A focused, regional team with one or two voices helps to avoid confusion, attract redevelopment partners and secure funding.

South East High School in South Gate, CA

ENGAGE THE COMMUNITY

Involving community members in planning allows residents to express their own ideas for the site and voice concerns. It also allows community leaders and interested developers to take these comments into account as plans are developed. While engaging the community may lengthen the initial process, communities that did so were able to avoid future public complaints and diminish issues with redevelopment plans.

The Chesapeake Commerce Center in Baltimore, MD

Customize Policies

Communities frequently run into policy roadblocks during the redevelopment process. When Kenosha and Batavia representatives ran into policy impediments to financing and land use, they worked with state officials to amend policies and allow the redevelopment to move forward. Changing long-standing policies simply to encourage development is unwise, but communities should recognize policy changes as viable options when they make broad sense.

HarborPark Development in Kenosha, WI

Understand Local Politics

Despite the involvement of state and federal agencies, final development approval decisions are most often made at a local level, so making sure that developers know with whom to work at the local level is extremely helpful. In some cases, developers did not have adequate contact with decision-makers at the local level, resulting in rejected development plans. Developers should understand the approval process within a community, ensure that all parties involved are apprised of the redevelopment plans and know where they can go for assistance.

UC Clermont East in Batavia, OH

Streamline Bureaucracy and Paperwork

Straightforward and easy-to-follow development approval processes at the local, state, and federal levels can significantly smooth the path to redevelopment. State and federal organizations can ensure that their incentive and environmental requirements are as simple as possible, since several communities cited difficulties navigating these processes. One way to

Continental Dairy Facility in Coopersville, MI

navigate the bureaucracy within these broader governmental entities is to offer a point person who has a thorough understanding of the steps involved in the redevelopment process. Additionally, streamlining state and federal environmental or other procedures is also helpful when it can be done without jeopardizing the regulatory authorities' obligations. This makes a redevelopment opportunity more enticing to a potential developer by helping to ensure that the development won't be delayed due to paperwork.

Leverage Expertise

Each community is unique, and using outside experts who have experience in successfully navigating other redevelopments can bring creativity to the process that may help a community repurpose a site. People with expertise in disciplines such as environmental remediation, brownfields, urban planning, tax policy, economic development policy, private sector developers and real estate professionals, along with others, can be extremely beneficial in providing targeted knowledge to a community. In addition, they bring an impartial perspective to the process unencumbered by local issues and biases.

DATA ON CLOSED AND REPURPOSED AUTO MANUFACTURING SITES

The information contained in the database is current as of August 31, 2011.[2] CAR researchers determined that a total of 447 large[3] automaker manufacturing facilities were in operation at some point between 1979 and today. Researchers then created a database of those that closed and remain closed and those that were repurposed.[4] This database represents 267 automaker and automaker captive parts division facilities[5] that have closed in the United States since 1979. The database encompasses all facilities that have ceased operations, noting those that remain closed, those sites that have been repurposed and pertinent facts regarding the property transitions.[6] For the purposes of this project, "closed" plants refer to all plants whose operations ceased. These plants were then categorized by their current status, "closed" indicating the site remains unused, and "repurposed," "transitioning" or "repurposed/closed," indicating the site has a new use, is transitioning to a new use or had a new use but that has since closed. There are a few cases where an automaker sold a facility to another company that seamlessly continued manufacturing essentially the same products on the site. Those examples are not included in the database since operations did not cease, and the site was not technically repurposed. However, communities are often involved with recruiting a new buyer to continue the same operations, and though this effort is not commonly successful, it is often the ideal outcome for the community.

METHODOLOGY

CAR researchers developed the closed and repurposed plants database with the objective of capturing basic information for all closed facilities such as location, year closed and the like. The work was aided by previous CAR research that produced a preliminary list of closed facilities starting in 1979, a year where auto industry employment was near its peak. This preliminary list contained information about the closed plants, such as the parent company, product information, and city and state. Researchers

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[2] Slight discrepancies between the data in the paper and the database are due to information received after analysis for the paper was performed. The discrepancies are minimal, and do not change the overall conclusions of the analysis.

[3] "Large" facilities are defined as including assembly, bodies, chassis, engine, parts, parts processing and distribution centers, and transmission manufacturing. For further explanation on the categories included, see Appendix A.

[4] The Closed and Repurposed Database is located here: <http://acp.cargroup.org/research/repurposing-report>

[5] Captive parts plants are plants owned by an automaker but operated as a separate division.

[6] See Appendix B for a full list of closed and repurposed sites.

then supplemented this information by systematically reviewing data from the Motor Vehicle Manufacturers Association (MVMA) annual facilities listings[7] to ensure inclusion of all manufacturing facilities. Because MVMA address information was occasionally incomplete, researchers also used documents from the U.S. Environmental Protection Agency (EPA) and other government agencies to help assign plant addresses. Once the address information was complete, the database was merged with a current list of all automaker plants that CAR created in 2000 and maintains today.

With an expansive core database on closed automotive manufacturing facilities in place, researchers determined the history of each plant, including year constructed, year closed, and the current use of the property. For use status, CAR relied on address information to determine activity on a site. If a new business was linked to the address, researchers called to confirm that the business was still operating at the site. If no business was listed, researchers looked to news articles for announcements of new uses at the sites. In this manner, a preliminary list of repurposed facilities was developed.

CAR sought input on this preliminary list from Chrysler, Ford, and General Motors (GM) to validate the information on facilities previously owned by each automaker.

Repurposed Facilities Survey

To learn more about the repurposed plants in the most efficient way possible, researchers identified a local contact in each community with a repurposed plant and received their approval to send a web-based survey on property characteristics and the transition process. CAR drafted the survey with input from representatives of the DOL, community economic development, and a commercial real estate brokerage.

Surveys were sent for 107 of the 128 repurposed sites, and 74 responses were received, representing nearly a 70 percent response rate. Respondents were not required to answer every question in the survey. The 21 sites not surveyed were repurposed, but either remained in the original automaker's ownership, or CAR researchers determined the site had been repurposed after the survey collection period had closed. An example of the first reason a survey was not sent is the former Ford glass plant in Dearborn, MI, which remained in Ford ownership and is now a Ford new model quality center. For sites

[7] MVMA listings reviewed include years 1984-1991; and 1995 under MVMA's successor, the Alliance of Automotive Manufacturers (AAM).

where a survey was sent but not completed, CAR researchers contacted leaders in those communities to confirm, at a minimum, whether the repurposed outcome in the database was correct.

Key Database Elements

Below are definitions of key database elements; a full glossary of descriptors is located in Appendix A.

Facilities

"Facilities" refers to both the buildings of a plant and land that it occupies. Often, many distinctly different plants will be located on a single piece of land or a "campus." For the purpose of this study, each of the individual buildings on a shared piece of land has its own entry — provided that it was used for a separate manufacturing purpose. For example, a large assembly campus may include an assembly plant, an engine plant, a stamping plant, and a parts or components plant. In that case, the single campus would be represented by four entries, one each for the assembly, engine, stampings, and parts manufacturing plants. Engineering or other non-manufacturing buildings on a campus are not included.

Current Status

- *Closed:* The automaker ceased operations, and to-date, there is no new use at the site.
- *Closed*:* Other than in a bankruptcy proceeding, a plant cannot be officially "closed" unless agreed to by the company and the union in the labor agreement, regardless of whether production has halted. Two plants fit this category – Janesville, WI, and Spring Hill, TN.
- *Repurposed*: There is a new use on the site of the former facility; the original building may or may not have been demolished.
- *Repurposed/Closed:* There was a new use on the site of the former facility, but it has since closed.
- *Transitioning:* A site's ownership has changed from the automaker to another entity, but plans for the site are still in development.

Type of Reuse/Property Status

This database element denotes a broad category of use, including whether the site is vacant or demolished.

- *Automotive (Non-Manufacturing):* Indicates the activity on the site no longer produces automobiles or automotive components, but still has some automotive-related purpose, such as automotive technical or testing centers.

- *Commercial:* Used for conducting business; may contain offices and retail space.
- *Demolished:* Closed facilities where the original manufacturing building has been torn down.
- *Education:* Includes reuses such as entire classrooms, schools, and, university lab space.
- *Government:* Owned by government, and used for a variety of purposes that do not fit under other classifications. Examples include government-owned maintenance facilities, office space, and military bases.
- *Industrial:* Involved in either primary (raw materials, farming) or secondary (refining, construction, manufacturing) sector production.
- *Industrial – Automotive:* This is a subset of the "Industrial" category denoting sites that may have been sold to a different owner, but are still producing (or have restarted production of) automobiles or automotive products.
- *Logistics and Warehousing:* Includes distribution and storage centers.
- *Recreational:* Includes a wide variety of reuses, including golf courses, casinos, off-road courses, and physical fitness centers.
- *Research & Development:* Includes non-automotive technical centers and laboratories.
- *Residential:* Describes developments that offer private living space.
- *Vacant:* For closed facilities, the category indicates that the site retains an original manufacturing building that has not been repurposed.

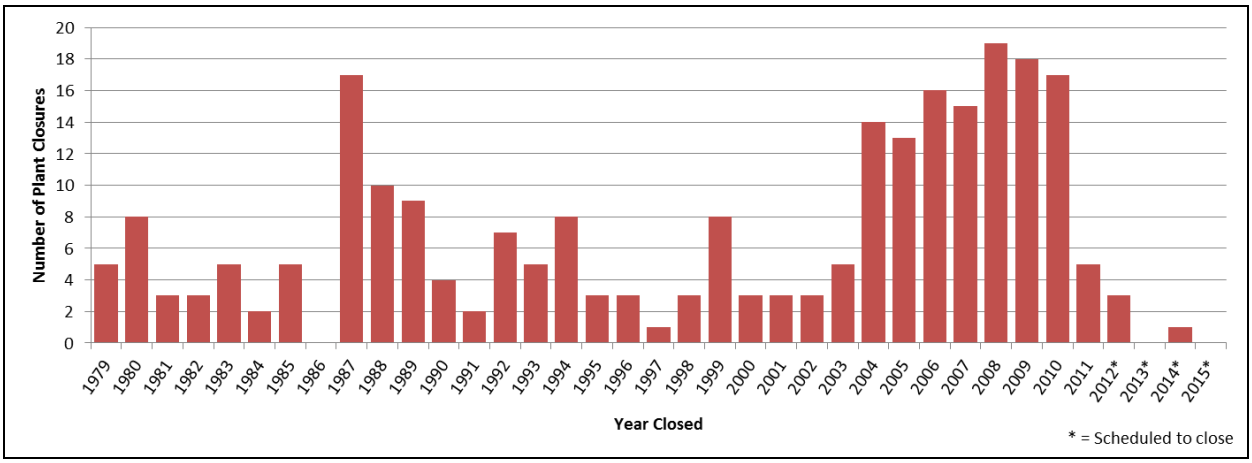
Trends in Closed and Repurposed Facilities

After researching large automaker and automaker-captive plants in operation since 1979, CAR determined that 447 automaker and automaker-captive plants have operated at some point during this period. Of that number, 267 automotive manufacturing facilities (60 percent) have closed across the country, meaning that 180 plants (40 percent) remain in operation at present. CAR developed a database of plants that closed between 1979 and 2011, as well as some plants slated for closure within the next few years. Of the 267 closed plants, 128 sites (48 percent) have been repurposed, and 139 (52 percent) remain closed.

Timeline Analysis

Approximately 60 percent of plant closures occurred in the periods between 1987-1989, and 2004-2010. Figure 1 displays the frequency distribution of plant closures by year. Plants that are scheduled to close in 2012 and 2014 are also included in the graph.

FIGURE 1: U.S. AUTOMOTIVE PLANT CLOSURES BY YEAR, 1979-2015



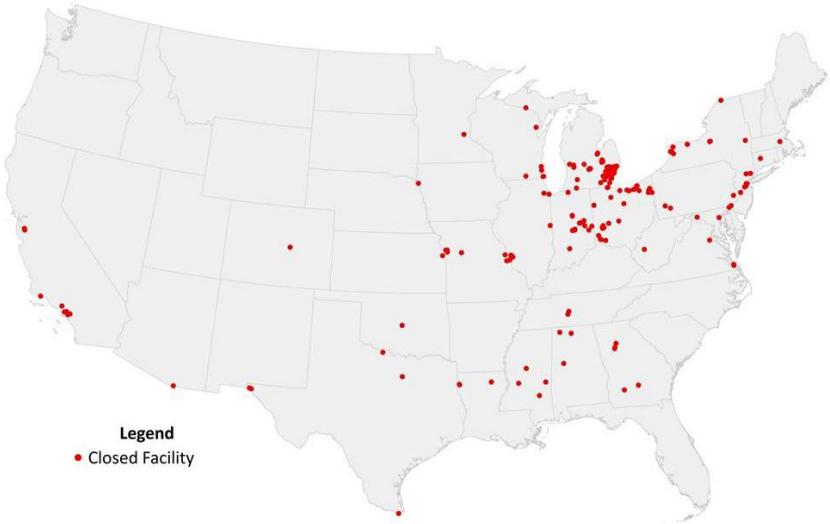
Source: Center for Automotive Research

Geographic Analysis

The greatest concentration of automotive plant closings is in the traditional automotive production center, the Midwest. Concurrently, the Midwest also has the highest concentration of plants compared to other regions. Nearly 65 percent of all closed facilities are located in Michigan, Ohio, and Indiana. With 105 closed facilities, Michigan alone accounts for 39 percent of all closings since 1979. Ohio and Indiana follow with 37 and 31 closed facilities, respectively. Other states with large numbers of plant

closings include New York (13), Missouri (10), California (9), and Wisconsin (8). Figure 2 displays the geographic distribution of all closed facilities in the United States included in CAR's database.

FIGURE 2: MAP OF AUTOMOTIVE PLANT CLOSINGS IN THE U.S. SINCE 1979

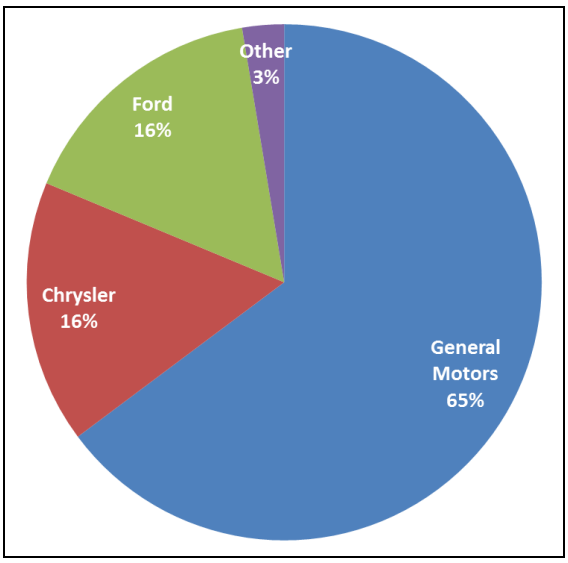


Source: Center for Automotive Research

Closed Plants by Automakers

The closed plant sites encompass several different parent companies and reflect a diverse history, sometimes involving several ownership changes. In reviewing the plants' most recent automaker owners, the vast majority of facilities were closed by General Motors, which owned 173 (65 percent) of the facilities in the database. Of these GM sites, 69 were Delphi and American Axle facilities, and another 53 facilities stayed with Motors Liquidation Company (MLC) during the GM bankruptcy, many of which were then transferred to the Revitalizing Auto Communities Environmental Response (RACER) Trust. Another 44 facilities were owned by Chrysler and 43 were owned by Ford. Among the Ford facilities, ownership of 17 of the 43 facilities was transferred to supplier spinoffs Visteon and Automotive Components Holdings (ACH) at some point. The remaining facilities in the database were owned by automakers with relatively small investments in U.S. manufacturing — including Volkswagen and Avanti Motors, as well as the NUMMI joint venture between General Motors and Toyota. Figure 3 displays the share of closed facilities by automaker.

FIGURE 3: PERCENTAGE OF CLOSED FACILITIES BY AUTOMAKER



Source: Center for Automotive Research

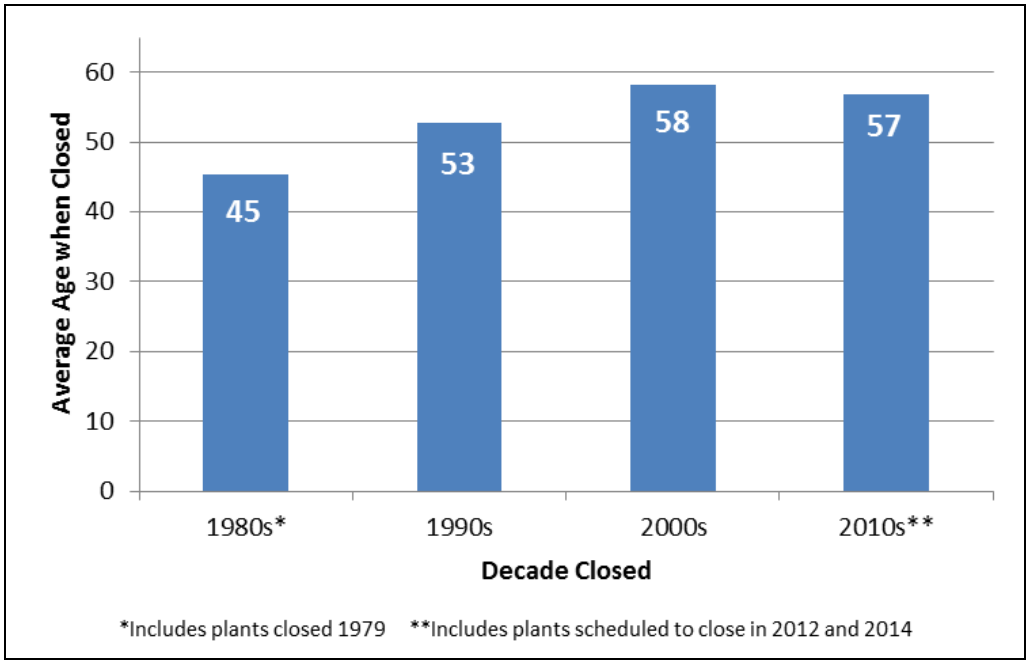
Historically, both Ford and General Motors relied on branch assembly plants to serve various markets across the nation. These plants were often located in the center of major regional markets, and would assemble vehicles using parts that were primarily manufactured in the Midwest. The companies relied on this strategy because it was less expensive to ship unassembled parts and components than finished automobiles, and one plant could efficiently produce a few models that would supply an entire region (Rubenstein, 1992). But as more models came to the market and foreign competition reduced the market share of the domestic automakers, the dominant production strategy shifted to one where a single assembly plant produced all of one particular model (or models) for the national market. The transition from a branch assembly strategy to more centralized production, as well as the loss of market share, drove the decisions to eliminate excess capacity and close plants along the coasts. Chrysler, on the other hand, never used a branch assembly plant strategy. Therefore, the majority of Chrysler plants are located in the Midwest, and over 90 percent of the company's closed plants are centralized in the Midwest (Indiana, Michigan, Missouri, Ohio and Wisconsin).

Age of Plants

As Figure 4 depicts, plants closed in 2000 or later tend to be older than plants closed in the 1980s and 1990s. Those closed in the 1980s were, on average, 45 years old; those closed in the 1990s were 53 years old; those closed in the 2000s were 58 years old; and those closed in the 2010s were 57 years old.

This indicates plants that closed more recently were older than their counterparts closed in earlier decades.

FIGURE 4: AVERAGE AGE OF PLANT CLOSURE BY DECADE



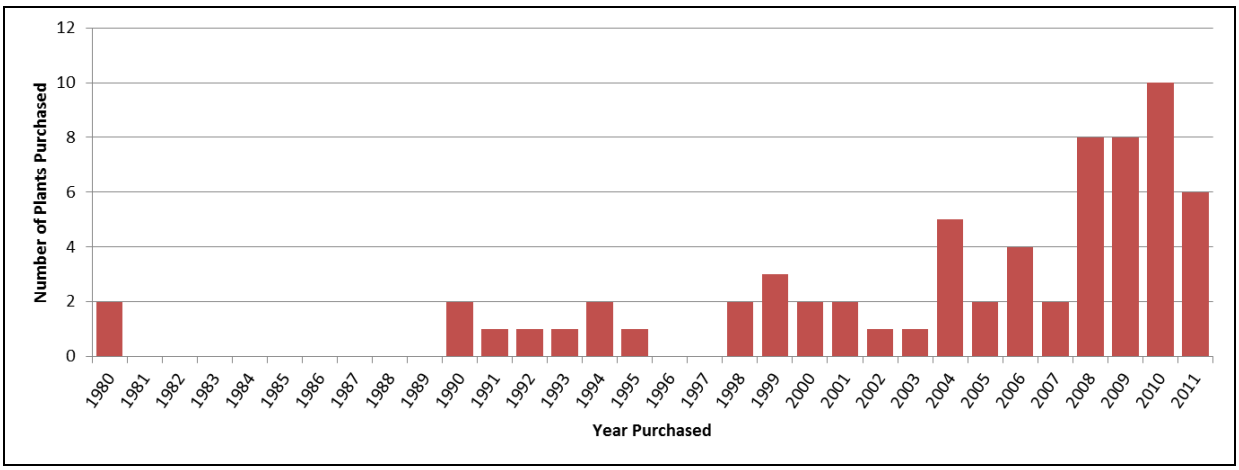
Source: Center for Automotive Research

Trends in Repurposed Facility Sites

Of these closed facilities, a substantial amount of the sites have transitioned to new uses. Former production facilities are valuable to many other entities for a variety of new uses. In some cases, closed sites are sold to other automakers or automotive parts suppliers and are repurposed for automotive-related production. In other cases, the facility might be reused for other types of industrial purposes. In still other situations, especially when a community's economy has shifted away from manufacturing, the facility may be demolished to make way for an entirely new use on the site.

An encouraging sign among the 267 closed automotive plants is that nearly half, or 128 sites, have either been repurposed or are currently transitioning to a new use. Specifically, 107 sites have been repurposed and are currently occupied; five sites were repurposed but the new operations have since ceased (labeled repurposed/closed in the database); and 16 sites have changed ownership and are currently transitioning into reuse. The remaining sites are still closed. Figure 5 displays the number of closed facilities purchased for redevelopment by year from 1980 to 2011.

FIGURE 5: SITES PURCHASED FOR REPURPOSING BY YEAR, 1980-2011

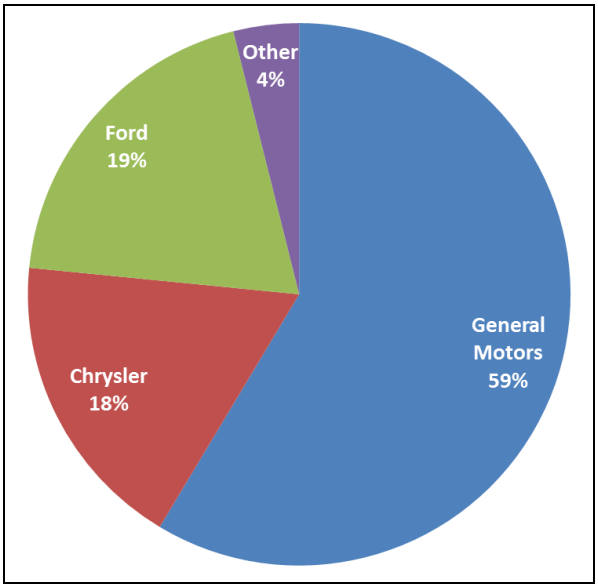


Source: Center for Automotive Research

Repurposed Plant Sites by Automakers

Sorting repurposed sites by their most recent automaker owner shows that the majority (76 of the 128 repurposed and transitioning sites) were originally owned by General Motors. These include 27 Delphi and American Axle facilities as well as 11 facilities that stayed with MLC and RACER during the GM bankruptcy. Another 23 facilities were owned by Chrysler, and 25 were owned by Ford (9 of these were transferred to Visteon or ACH at one point in time). All three of Volkswagen's closed production facilities were repurposed, as was the NUMMI joint venture assembly plant. Figure 6 displays the array of repurposed plant sites by automaker.

FIGURE 6: REPURPOSED PLANTS BY AUTOMAKER



Source: Center for Automotive Research

Geographic Analysis of Repurposed Facility Sites

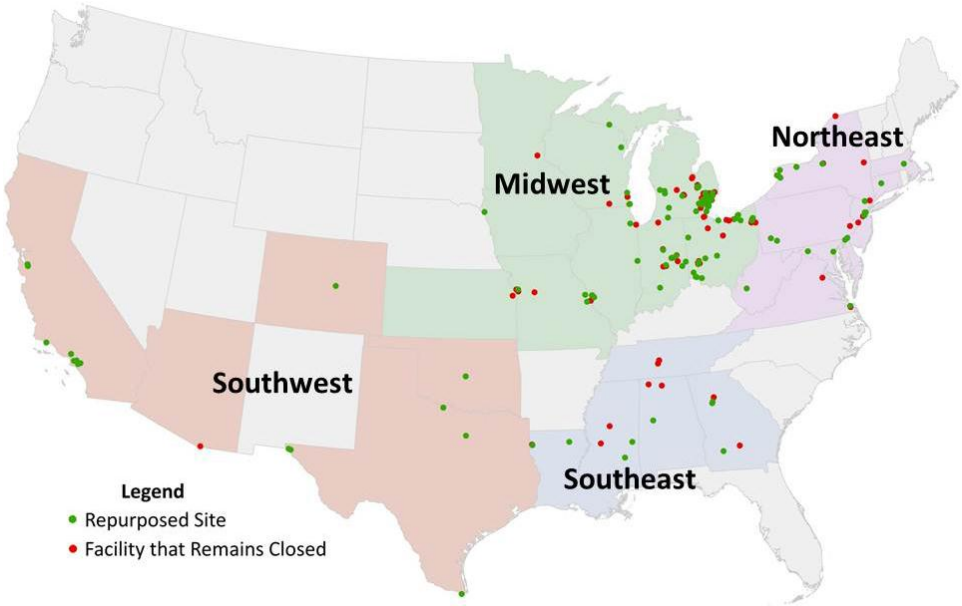
Because the automotive industry is highly concentrated in only a few regions of the country, both closed and repurposed sites are generally located in the same areas. Analyzing the repurposed facilities by geographic location, sites in coastal states were more frequently redeveloped, as were sites located in the South. Figure 7 displays the locations of closed sites that remain closed as well as sites that have been repurposed or are transitioning to a new use. Note that for visual displays, "Repurposed" encompasses plants that are repurposed, repurposed/closed and transitioning.

FIGURE 7: GEOGRAPHICAL COMPARISON OF FACILITIES THAT REMAIN CLOSED AND REPURPOSED SITES

Source: Center for Automotive Research

Closed facilities in the Southwest and Northeast regions have higher rates of repurposing. All closed facilities in California, Colorado, Connecticut, Delaware, Iowa, Maryland, Massachusetts, Oklahoma, Texas and West Virginia have been repurposed, although eight of these states had two or fewer plants. California and Texas had nine and five plants, respectively. The Midwest and Southeast trail the other regions, with only around 40 percent of sites repurposed within the two regions. It is worth noting that the Southeast region only had 20 sites that closed compared to the Midwest's nearly 200 sites, making the magnitude of sites yet to be repurposed in the Midwest much greater. As for the other regions, the rate is over 60 percent for Northeastern states and over 90 percent for Southwestern states. Figure 8 shows closed and repurposed facilities within each region.

FIGURE 8: FACILITIES THAT REMAIN CLOSED AND REPURPOSED SITES BY REGION



Source: Center for Automotive Research

Repurposed Use Categories

The 128 repurposed and transitioning sites encompass many new uses. The use categories in the database were defined as Industrial (including Automotive Industrial as a subset), Logistics and Warehousing, Commercial, Education, Research and Development, Automotive (non-manufacturing), Recreational, Vacant and Government. Many sites had multiple uses and therefore received multiple classifications. Table 1 displays the categories and the associated number of repurposed sites.

TABLE 2: REPURPOSE USE CATEGORIES

Type of Reuse	Number of Sites
Industrial	**76**
(Automotive Manf.)	(22)
Logistics and Warehousing	**33**
Commercial	**31**
Education	**8**
Research and Development	**8**
Automotive (Non-Manf.)	**6**
Vacant	**6**
Recreational	**5**
Government	**4**
Residential	**4**

Source: Center for Automotive Research

Industrial use was the most common category, representing the use on 76 of the sites; 22 of those sites are engaged in automotive industrial activities. Other automotive uses (i.e., non-manufacturing uses such as office buildings, research centers and museums) were found on 6 sites. Logistic and warehousing uses were found on 33 of the sites, commercial uses were found on 31, education uses on 8, research and development uses on 8, recreation uses on 5, government uses on 4 and residential uses on 4. Only six of the 128 sites were listed as vacant; four due to the fact that they were repurposed to a new use at one point, but that new operation has since closed. The remaining two vacant sites have been purchased, but new owners have not yet announced development plans.

Employment at Repurposed Site

Survey respondents were asked to estimate the current or proposed employment for the new property uses at each site. About 45 percent said the new use either employs or will potentially employ 100 or more people, 17 percent said the new use employs or will employ 800 or more people, and 16 percent said employment on the site is or will be 50-99 people. Given that over 75 percent of respondents said the original manufacturing plants employed more than 400 people, new uses at the site generally offer fewer employment opportunities.

Site Location Features

Respondents were asked how near the site is to the city center, in an effort to gauge whether the site was close to a concentration of businesses or residential areas. Thirty-five percent of respondents said the repurposed site was less than one mile from the nearest city center, and half said it was within five miles. Additionally, nine respondents indicated the site is located on a waterfront. Other common features of repurposed properties were on-site railroad spurs and proximity to mass transit stops (i.e., bus, subway and light rail), major freeways and arterial routes. Some additional features included proximity to an international border crossing, higher education campus, industrial park, airports, parks, restaurants and other amenities, as well as access to industrial utility capacity.

Building Size

For repurposed plants, just over half of the original manufacturing buildings were 1 million square feet or less, and just over a quarter were larger than one but smaller than 2 million square feet. For the square footage of the new facilities on sites, 65 percent were 1 million square feet or smaller, trending towards smaller, and 20 percent were between 1 and 2 million square feet.

As sites were repurposed, the new use generally occupied less square footage. On average, repurposed facilities use 89 percent of the square footage of the original plant, including both occupied and vacant space. Much of the difference is due to the fact that some buildings were either partially or completely demolished. While just over half of respondents indicated that no demolition was required, a quarter said that the entire building was demolished and 22 percent indicated partial demolition took place.

Zoning

In terms of zoning, 68 percent of the repurposed properties remained zoned for industrial use, 11 percent of the properties were zoned for commercial use and 17 percent of the properties were zoned for some type of mixed use (mostly industrial and commercial, but some residential as well). Other respondents indicated that individual properties had been zoned residential, or that a special research and development zone was created.

Environmental Aspect

Respondents reported that 24 percent of repurposed sites were considered brownfields at one point. Given that most sites remained zoned as industrial, a majority of repurposed facilities had either no environmental cleanup (30 percent) or the environmental cleanup standard remained industrial (39 percent). Respondents were evenly split between those where the original owner or the new owner performed the cleanup.

Role of Governmental Entities in Repurposing

For those properties considered brownfields, several projects received Brownfields Assessment and Cleanup Grants from the EPA. About half of the survey respondents indicated the redevelopment received additional incentives beyond the federal brownfields program funding.

Additional federal funding sources included the U.S. Department of Commerce (DOC) Economic Development Administration, the U.S. Department of Agriculture, and the U.S. Department of Housing and Urban Development (HUD). Some projects received stimulus loans under the American Recovery and Reinvestment Act (ARRA).

State incentives took the form of funding from State brownfields programs, Community Development Block Grants (CDBG), other grants, loans, tax abatements and tax credits. Local incentives were generally tax-related – abatements, credits or increment financing. Other local incentives included the use of

Enterprise or Renaissance Zones, partial ownership or stewardship of the property, various local brownfields incentives and local loans. A few redevelopment projects received assistance from local or regional foundations.

In a few cases, new state or local legislation was passed or court decisions were made promoting development of a specific site. One well-known case occurred in Detroit/Hamtramck, MI, where GM built its Detroit/Hamtramck Assembly plant on the site of a closed Dodge Assembly plant. General Motors wanted to expand the original footprint of the Dodge plant, but the area surrounding the plant was residential and residents were not in favor of the proposed expansion. After years of court battles, the Michigan Supreme Court passed a judgment allowing cities to use eminent domain for private enterprise development, as opposed to solely for public works projects. This change allowed the City of Detroit to purchase residential properties surrounding the plant so that GM could expand. Also in Michigan, state legislation removed a restriction on interstate pharmaceutical distribution to assist with the redevelopment of the former GM Fisher Body 1 Plant in Flint. In Wisconsin, changes to Tax Increment Financing and environmental liability laws assisted with redeveloping a Chrysler plant in Kenosha.

Success of the Redevelopment

Survey respondents were asked to rate, on a scale of one to five, how successful the site's new use has been in restoring property value, with a score of five signifying "very successful" and a score of one signifying "not at all successful." Forty-five percent of the respondents rated the new development as very successful. While only five respondents felt the repurposed sites were not at all successful, the majority of responses were positive, with 63 percent selecting a 4 or 5 on the scale. One possible reason for the positive scores is that while many sites have not been completely redeveloped, community officials feel that some activity on a site is better than none at all.

Using the same 5 point scale as above, respondents were also asked how successful the property's current use has been in restoring the job base of the original plant. Respondents were more negative on this measure; only 19 percent said the current use had been very successful in restoring the job base, and 14 percent said that it was not at all successful. The remaining respondents selected intermediate responses. Rather than trending positive as in the property value restoration question, the job restoration responses were evenly distributed across the range. Because manufacturing, especially automotive, is a large generator of jobs, the new property uses rarely reach the employment levels

provided by former automotive plants. This is especially true of residential, recreational, and logistics and warehousing uses.

Respondents were asked if there were anything they would do differently with respect to repurposing the property. Some mentioned that more communication with the community during the redevelopment process would have made the process smoother. Regarding incentives, one respondent indicated that a comprehensive incentive package would have helped by immediately distinguishing the property from other available properties. Yet other respondents mentioned allocating incentive funding differently to avoid cash flow problems during the redevelopment would have been beneficial. The majority of respondents said there was nothing they would do differently.

Around 70 percent of respondents indicated that there was a particular leader (or several leaders) active in bringing the redevelopment about. These leaders included mayors or other local administrators, city council members and members of local development agencies.

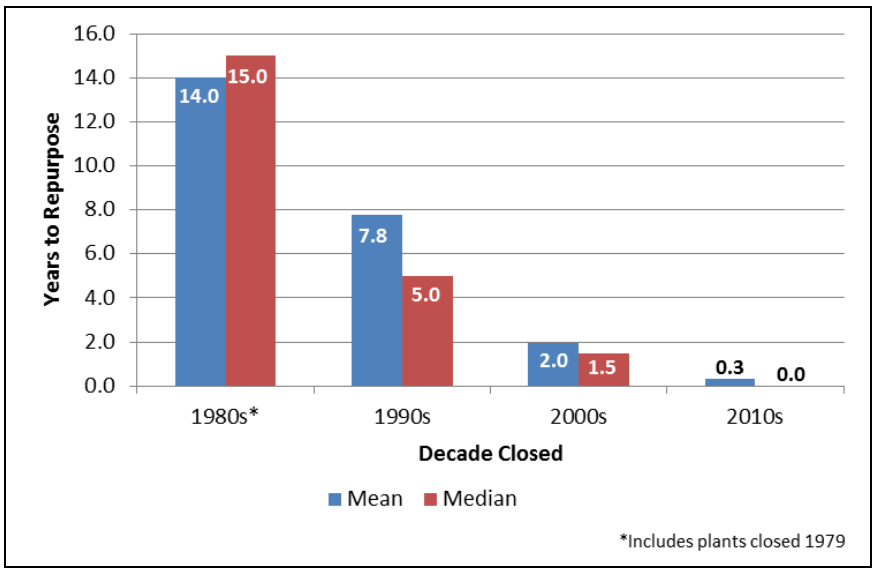
Closed and Repurposed Plant Site Comparisons

It is important to note the differences between the plants that remain closed and plants that closed but were then repurposed or are in the process of transitioning. While survey data only provide information for 74 of these shutdown and then repurposed or transitioning locations, there are notable differences between the two populations.

Time Taken to Repurpose Sites

One way to visualize the amount of time taken to repurpose sites is to compare how long facilities took to be repurposed based on their year of closure, as shown in Figure 9. This view reflects changes in the economy over the years, as well as evolving practices in site selection and reuse. The obvious caveat to this approach is that when reviewing only repurposed facilities, those that closed most recently must, by definition, have taken only a few years to be repurposed, otherwise they would not be included in this analysis. Given the number of plants that closed in the 2000s and remain closed (shown in Figure 10), the analysis below is directional, but not indicative of all closed manufacturing plants.

FIGURE 9: MEAN AND MEDIAN YEARS TO REPURPOSE BY DECADE



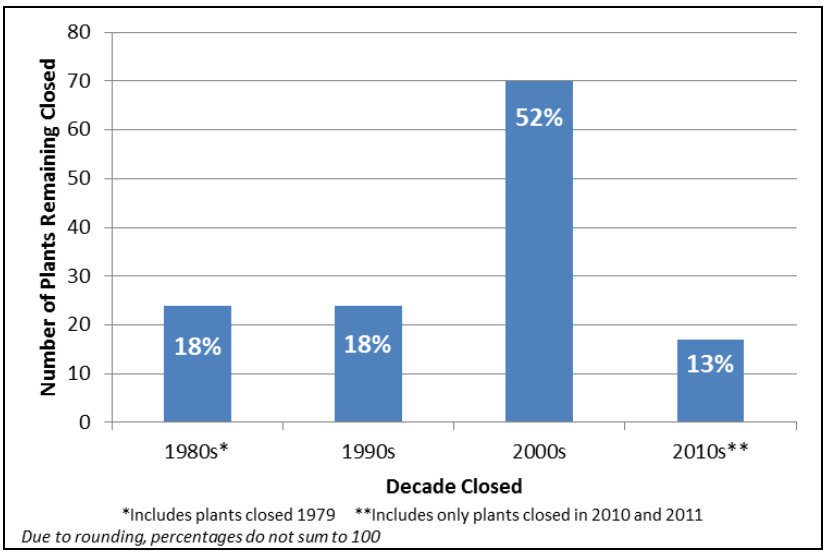
Source: Center for Automotive Research

The trend is that facilities closed in the 1980s took longer to repurpose at the mean and median than did those closed in the 1990s, and those closed in the 1990s took longer to repurpose than those closed in the 2000s. Plants that closed in the 1980s had a mean repurpose time of 14 years, and the median was 15 years. By comparison, plants that closed in the 1990s had a mean repurpose time of 7.8 years, and the median was 5 years. Plants that closed in the 2000s had a mean repurpose time of 2 years, the median repurpose time was 1.5 years. For the three observations of plants closed in 2010 and 2011 that were repurposed, two were repurposed in the same year, and one took one year. This explains why the mean is 0.3 years and the median is zero. The analysis suggests that while closings occurred broadly across time, repurposing closed plants has occurred in a relatively smaller range of years, generally between 2001 and 2009.

Plants that Remain Closed

Of the 135 sites that remain closed, excluding four sites that are scheduled to close in 2012 and 2014, Figure 10 shows a vast majority were closed in the 2000s. Eighty-seven sites (65 percent) closed in 2000 or later remain closed, compared with just over 24 sites (18 percent) for those closed in the 1980s and 1990s.

FIGURE 10: NUMBER AND PERCENT OF PLANTS THAT REMAIN CLOSED BY DECADE CLOSED

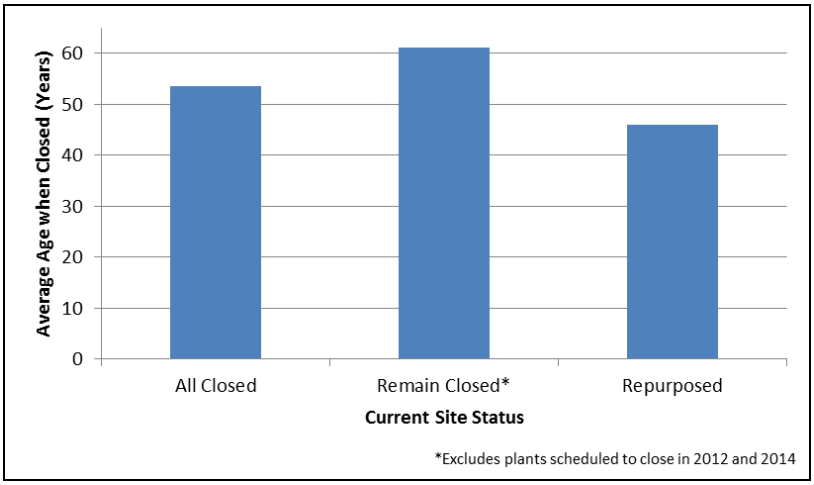


Source: Center for Automotive Research

Age of Plants – Repurposed and Closed Comparison

The average age of a plant at its closure date was 54 years. As Figure 11 displays, plants that were repurposed tend to be younger when they closed (46 years), compared to the age at closure of plants that remain closed (61 years). This difference of 15 years is statistically significant at the 95 percent interval.

FIGURE 11: AVERAGE AGE A PLANT CLOSED AND CURRENT SITE STATUS



Source: Center for Automotive Research

Unemployment

The unemployment rate is often used to measure the economic well-being of an area. A comparison of the weighted 2010 annual unemployment rate for counties that contain repurposed and closed

automotive plants reveals that in counties with facilities that remain closed, unemployment averaged 11.6 percent in 2010, compared to 11.0 percent in counties with repurposed plants.[8] The 0.6 percentage point difference is both statistically significant at the 95 percent interval and economically significant.

Population

Population change in an area is another measure of economic health. Population growth in counties that had repurposed plants has outpaced growth in counties with plants that remain closed over the past two decades.[9] On average, population growth in counties with repurposed or transitioning plants was approximately 7.5 percent from 1990 to 2010, while it was around 4 percent in those counties where plants remained closed.

Number of Closed Plants by County

The 267 closed facilities are located in 104 different counties in the United States. As shown in Figure 12, counties with large numbers of plant closures did not repurpose their facilities as frequently as those with only a few closures. The top five counties for automotive facility closings are Wayne, MI (37 facilities); Genesee, MI (24 facilities); Madison, IN (18 facilities); Oakland, MI (12 facilities); and Montgomery, OH (10 facilities). In total, these five counties contain 101 closed automotive facilities, with just over a third that have been repurposed. In counties with 6 to 9 closed facilities (including Ingham, Macomb, Washtenaw counties in MI; Saint Louis, MO; and Cuyahoga, OH), 44 percent have been repurposed; for those counties with 3 to 5 shutdown facilities, 45 percent have been repurposed; and for counties with only 1 or 2 shutdown facilities, 62 percent have been repurposed.

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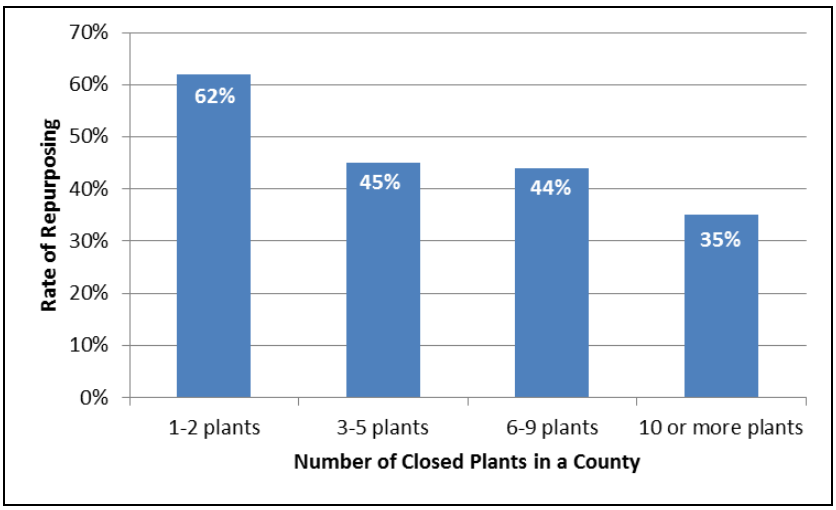
[8] Bureau of Labor Statistics – Local Area Unemployment Statistics (www.bls.gov). All county-level analysis in this paper includes all plants in the database, even those closed recently which have had little time to be repurposed. Counties with multiple plants were given proportionally more weight by number of facilities in determining averages.

[9] U.S. Census Bureau (www.census.gov)

FIGURE 12: COUNTY PLANT CLOSURE DENSITY AND RATE OF REPURPOSING



Source: Center for Automotive Research

Urban versus Rural Locations

Closed facilities were relatively evenly divided between urban and non-urban areas. Major urban areas, as defined by the Census, contain 126 of the 267 closed facilities, or 47 percent. Therefore, plants in urban areas were repurposed slightly less frequently than those in more rural locations. Within urban areas, 45 percent of facilities were repurposed or transitioning, and 55 percent remain closed. Outside of urban areas, 50 percent of facilities were repurposed or transitioning and 50 percent remain closed.

Database Conclusions

Key conclusions related to overall trends in closed and repurposed facilities are below.

- The majority of survey respondents said that the original automotive plant was one of the top three employers in the community, indicating its economic importance. Not surprisingly, these plants generally employed many more people than do current uses at the various sites.
- The majority of closed automotive manufacturing plants are located in the Midwest region of the United States, and most were owned by General Motors. Similarly, most repurposed plants were GM-owned, and the majority of repurposed plants are concentrated in the Midwest.
- Repurposed sites frequently remained zoned industrial, and industrial was the most common reuse category. As such, most of the repurposed sites did not require environmental remediation. In general, buildings on repurposed sites occupy less square footage than original buildings did.
- Plants on repurposed sites tend to be younger than plants that remain closed, and plants that closed after 2000 are slightly older than those closed in the 1980s and 1990s.

- Federal, state, and local government incentives played a positive role in many redevelopments. Additionally, new state or local legislation helped enable property transition in a few instances. Given the large number of plant closings in the past eleven years, assistance from outside the community would be particularly helpful.
- The redevelopment's success varied in the eyes of survey respondents. Most believed the new use was successful in restoring property value, but most also recognized that the new use has not restored the original job base of the former manufacturing facilities.
- Conditions in a county that enhanced the transition from a vacant site to a repurposed site include low unemployment, population growth, and a low density of closed plants.

Case Studies of Former Auto Manufacturing Facilities

While the database provides a thorough overview of the status and basic characteristics of former automaker manufacturing facilities, it is limited in the ability to go beyond these basic facts. To get to the core of an auto community's story, it is necessary to delve deeper. Therefore, CAR performed seven case studies to achieve an in-depth perspective on the processes and challenges communities faced as they endeavored to transition a site.

Once the preliminary database of closed and repurposed facilities was developed, CAR researchers selected 13 sites that have been repurposed and four sites that remain closed. This initial list encompassed sites that were diverse on many levels, such as geography, former automaker owner, and urban versus rural location, as well as sites that appeared to have a unique story in their path to redevelopment. Of the initial list, the DOL chose seven locations for further investigation, with five that have been repurposed, and two that remain undeveloped. General Motors is represented more because the majority of closed facilities were originally GM-owned.

The selected sites were:

- Baltimore, MD: Former GM Assembly
- Batavia, OH: Former Ford Transmission
- Coopersville, MI: Former Delphi Fuel Injector Plant
- Doraville, GA: Former GM Assembly
- Kenosha, WI: Former Chrysler Assembly
- Sleepy Hollow, NY: Former GM Assembly
- South Gate, CA: Former GM Assembly

The primary method of collecting case study information was through interviews. CAR researchers contacted local officials in each community to create a list of appropriate individuals to interview. The goals were to visit each site, learn about the surrounding community, and speak with people who were familiar with the actions taken to redevelop the property. In most cases, two CAR researchers visited each community for two days. This enabled the research team adequate time to meet with community members who could tell the redevelopment story from multiple perspectives. These people included current and former mayors, city/township/village administrators, city and county economic development directors, real estate developers, real estate brokers, environmental remediation

specialists, and current tenants, among others. Most of the interviews were conducted in person, though some were completed over the phone.

In some locations, interviewees were very familiar with the redevelopment process and provided a wealth of information. In others, it was necessary to supplement the information from interviews with other sources, such as news articles, journal pieces, and books.

The information and opinions expressed in the following case studies belong to the interviewees in each location.

Case study visits were conducted between the end of May and the middle of July in 2011.

General Motors Assembly Plant in Baltimore, Maryland

GM Broening Highway Assembly Plant at a Glance:

Former Owner	Former Use	Year Closed	Current Uses at Site
GM	Assembly Plant	2005	Industrial Park

One of the buildings at the Chesapeake Commerce Center, with the Port of Baltimore visible in the background.

The last v

Background

The General Motors Baltimore Assembly Plant was located on Broening Highway in the southeast section of the city. It is near the intersection of I-95 and I-895, adjacent to two CSX rail lines, and close to the Chesapeake Bay just off the waterfront near the Seagirt and Dundalk marine terminals. The facility was originally a Chevrolet branch plant, and was built between 1934-1935 (Rubenstein, 1992). The original plant site covered 45.7 acres and the assembly building was nearly 600,000 square feet. Over the years, the site increased to 185 acres with nearly 3.2 million square feet of floor space. At its peak in 1979, the factory employed 7,000 workers, but by the time it closed in May 2005, employment was only about 1,000.

In November 2004, General Motors announced the plant would close the following year. Some community members felt the closure was almost a foregone conclusion, as the product produced there — the Astro van — was not selling well. The community suffered substantial job losses, but under the terms of the UAW-GM National Agreement, some workers were able to transfer to the nearby GM plant in White Marsh, MD.

Community Strategy

Through the years, much of Baltimore's waterfront property has been rezoned from industrial to commercial and residential. However, community leaders did not want the same rezoning to occur at this site. The Port of Baltimore and related businesses and industries have always been the major drivers of the local economy, and community leaders were determined to ensure the city's economic vibrancy by maintaining industrial zoning at the GM property.

Once GM ceased operations in 2005, the Baltimore Development Corporation (BDC) assisted GM with issuing a request for proposals (RFP) to redevelop the site. Given both the strong economy at the time and the site's assets — 185 acres of industrial space in a coveted location less than a mile from the Port of Baltimore — the RFP generated a lot of interest. Seven bids were submitted, and in January 2006, Duke Realty of Indianapolis, IN, was selected. Duke purchased the property for $27 million.

Duke Realty's Interest

Duke's overall strategy at the time of purchase was to transition its portfolio away from office and toward industrial property, particularly along the coasts. The company's philosophy was that transportation drives industry, and given the location near highways, rails, and marine terminals, this property was a trifecta of sorts. The company was interested in building an industrial business park called the Chesapeake Commerce Center on the site. Duke also had previous experience working with General Motors when they purchased the former GM assembly facility in Linden, NJ. In addition to Duke's price offering, the developers' agreement to take on environmental liability at the site helped them win the bid.

Community Relations

The corrective action process mandated by EPA regulations under the authority of the Resource Conservation and Recovery Act (RCRA) required that Duke and their environmental consultants, Hull and Associates, write a public involvement plan. As part of this plan, Hull held numerous public meetings and made information publicly available via factsheets and websites to educate and encourage community involvement.

During the initial public meetings, community residents voiced concerns about increased dust, noise, truck traffic and vermin that may occur during demolition. As required by the RCRA, Hull developed a plan that addressed each of these concerns. This was the first time Duke had engaged with a

community in this way, but the process worked so well that they now follow the same procedure with all large site redevelopments that are located near residential neighborhoods. Before conducting any remediation or site work, Duke conducted extensive due diligence activities to fully characterize the property.

Environmental Aspect

When the plant closed in 2005, GM was required to satisfy its state and federal hazardous waste management obligations. As plans progressed toward a sales agreement with Duke, GM met with representatives from EPA Region 3 and the Maryland Department of Environment (MDE) to confirm that the company chosen to redevelop the site would take on the environmental liability for cleaning up the property. Both the EPA and MDE had stringent cleanup requirements that the selected developer had to meet. Soon after being chosen as the developer for the site, Duke and their environmental consultants, Hull, organized a meeting with representatives from MDE and EPA to try to streamline the cleanup process while still being responsive to both agencies and meeting regulatory compliance (Allison, 2010). The EPA and MDE formed an intergovernmental team that met intensively during the early stages of the revitalization process, and also worked closely with Duke. This collaborative public-private partnership focused on both the cleanup goals for the project, as well as the overall commercial reuse scenario planned for the Chesapeake Commerce Center. Together, they developed and executed a Remediation Action Plan (RAP).

Duke entered into voluntary site remediation programs with both agencies – the Facility Lead Program with the EPA and the Voluntary Cleanup Program (VCP) with the MDE. Both voluntary programs allow site owners to conduct investigation and cleanup activities on potentially contaminated sites. Companies either planning to sell property or wishing to satisfy corrective action requirements before government enforcement mechanisms are implemented frequently use these types of agreements. These programs also generally offer reduced administrative burdens and greater scheduling flexibility. Participation in these programs can also offer protection from certain environmental litigation, and, in some cases, eligibility for a number of financial incentive programs.

To assist with the environmental site remediation and further redevelopment, Duke received grants from Maryland's Department of Business and Economic Development (DBED) through the Brownfields Revitalization Incentive Program (BRIP). These grants included nearly $300,000 for assessment and $500,000 for remediation. The total cost of remediation on the site was approximately $5 million

(DeBoer, 2010). Remediation included tank removals, excavation and off-site disposal of contaminated soil, and mass excavation of clean soil from a portion of the site for use as clean cover and structural fill across the facility.

The overall environmental cleanup process was designed specifically with Duke's planned redevelopment of the Chesapeake Commerce Center in mind. Redevelopment of the site simultaneously satisfied the requirements of RCRA Corrective Action Program and MDE's VCP, and as a result, the former site of the GM Baltimore Assembly Plant was the first redevelopment project to proceed through both regulatory programs concurrently, resulting in the informal creation of a single cleanup program based on inter-agency cooperation (Allison, 2010).

MDE and EPA representatives were open to interagency cooperation as an opportunity to promote economic development while still meeting their environmental regulatory requirements. Often, an environmental cleanup process can take up to seven years, but this alternative process reduced the time to 18 months. Demolition began in April 2006, and by fall 2007, the cleanup was complete. By March 2008, the first new building was completed.

Overcoming Hurdles

While selling the property was not very difficult due to the strong economy at the time and the site's desirable location, the city and developers still faced redevelopment challenges that had to be overcome.

State and Federal Government Cooperation

One of the biggest challenges in the Baltimore Assembly redevelopment was remediating the property within a tight timeframe. If it weren't for the MDE and the EPA's ability and willingness to cooperate and coordinate, the development would not have happened on schedule. By working together, the two governmental organizations ensured not only that necessary environmental regulations were met, but also that they were met in a timely manner that benefited the city, developer and future tenants of the site.

Community Engagement

Engaging the community in the early stages of the development process also helped ensure the overall success of the redevelopment. Residents were able to voice concerns and participate in the process to determine what would become of the immense property in their neighborhood.

Outcome

Duke built two buildings at the site on speculation (without pre-signed tenants), and both are now fully leased. In addition, Duke sold 14 acres on the site to MTC Logistics, a refrigerated and frozen food warehousing and distribution company. MTC developed the parcel within the design guidelines of the commerce park. Duke also sold 14.6 acres to the Port of Baltimore, which plans to use that portion of the site as storage space as its needs increase.

As part of the redevelopment, Duke preserved the original plant water tower and incorporated it into the final development. Residents considered the water tower a historical community landmark, and Duke also learned the tower was higher than any billboard was permitted to be. Therefore, Duke decided to use it as advertising for the site. Both the company and the community were pleased with this outcome.

Duke's overall investment at the former GM site is anticipated to total $150 million over ten years. This includes costs for due diligence, planning, remediation, site infrastructure, construction of new buildings and all other supporting activities (DeBoer, 2010).

Financing Summary

	Name	Amount	Notes
Purchase Price	Duke Realty	$27 Million	
Total Investment	Duke Realty	$150 Million	Over the course of 10 years. Total remediation cost was $5 million
State Funding	MD Department of Business and Economic Development (DBED), Brownfield Revitalization Incentive Program (BRIP)	$800,000	Around $300,000 for assessment and $500,000 for remediation

References

Allison, Kara A. “From Idle to Full Throttle: The Development of the Chesapeake Commerce Center” Case Study. *Brownfields Renewal*. Feb-March 2010. <http://www.hullinc.com/resources/Full%20Throttle.pdf>.

DeBoer, William. *Phoenix Award (Brownfields Redevelopment) Application Form, Section 1*. Duke Realty. June 23, 2010.

Rubenstein, James. *The Changing US Auto Industry: A Geographic Analysis.* Routledge. New York. 1992.

Ford Transmission Plant in Batavia, Ohio

Ford Batavia Transmission Plant at a Glance:

Former Owner	Former Use	Year Closed	Current Uses at Site
Ford	Transmission Plant	2008	Education, Industrial

UC Clermont East occupies the former office space of the plant.

An example of a classroom inside the remodeled facility.

Background

Located approximately 20 miles west of Cincinnati, Ford's Batavia transmission plant is directly off Ohio State Highway 32 in Clermont County, OH. The plant began operations in the late 1970s, initially joining two other Ford transmission plants located in southeastern Ohio — one in Sharonville and another in Fairfax. The Batavia plant replaced Fairfax, which closed in 1979, and many of the Fairfax employees transferred to Batavia once it became operational. In the early 1980s, the community had high hopes that the facility would develop spinoff supplier employment, although these jobs never came to fruition.

In the late 90s, Ford entered a joint venture with German-based supplier ZF to build a new variable speed transmission. ZF invested heavily in upgrading machinery at the Batavia plant to produce the new products. Some community members sensed friction between the two companies, as ZF appeared to be more technologically advanced than Ford was at the time. While the community hoped the joint venture would breathe new life into the productive capabilities of the plant, only about half the building was

utilized during this period. In 2005, Ford repurchased ZF's stake in the plant and once again took 100 percent control of the facility.

In 2006, Ford announced it was closing the plant. At the time, the plant's workforce was around 1,200 people. In an unusual turn of events, the plant actually added employees before it officially closed, given that the products produced there were still used in many Ford vehicles, and production needed to increase to meet demand. When the wind-down began, some workers with high seniority used provisions in the UAW contract to transfer to the Sharonville plant. They displaced workers with lower-seniority, creating a net job loss for the region. The Batavia plant officially closed in September 2008.

Community Strategy

Clermont County's initial response was three-pronged:

1. Lobby to keep the plant open
2. Provide worker assistance and retraining opportunities
3. Find a user for the facility

The community's first reaction to the closure announcement was "[Ford] can't do that." Community members argued that Ford should not close the plant because it was more modern than most. But county and township officials quickly realized they needed to be realistic. In the community members' eyes, it came down to geography and politics; they felt that Michigan wasn't going to take another hit from a plant closing, so an Ohio plant would have to close. Community leaders also sensed a lack of coordination and focus at Ford during this period, which is why Clermont County decided not to expend many resources trying to convince Ford to keep the plant open.

The second response involved efforts to assist workers in the transition from plant employment. The County, other government offices, the UAW and several educational institutions coordinated to offer career days, job and education fairs, and buyout packages — some of which included tuition assistance.

The third response, finding a new use for the facility, is where much of the repurposing story lies. There were many paths the community might have chosen to follow. The decisions made by local government officials and Ford, in addition to other opportunities that presented themselves, are what ultimately shaped the successful outcome.

Finding a New User for the Facility

Initially, the search for a new user yielded no results. From the county's perspective, Ford was less interested in finding a productive use for the property than county officials were. There was some discussion that Ford might hand over ownership of the facility to the county, but community leaders were hesitant to accept because they were unsure what to do with the property if they owned it. The county would also lose the tax revenue that Ford had been paying on the property if it assumed public ownership. To the county's knowledge, the site was not a brownfield and no environmental cleanup was necessary prior to a new use at the facility.

Ford engaged commercial realty broker CB Richard Ellis (CBRE) to market the property, and initially priced it at $10 million — a price higher than the market would support. Ford received four proposals, each offering significantly less than the asking price. Ford rejected all of the bids, and eventually dropped the price to $6 million.

Toward the end of 2008, the economy had started to decline, and the local real estate market was slack. Industrial Realty Group (IRG), a California firm, remained the only interested developer from the group of initial bidders. After the price was lowered, IRG entered into negotiations with Ford, but encountered difficulty securing financing from the private capital markets. At the same time, another interested buyer surfaced who attempted to supersede IRG's offer. This new bidder was a single tenant user who wanted to launch a new business manufacturing a specialized automotive part. Given the higher offer, this deal would have won, but this prospective buyer also faced financing hurdles and the deal fell through.

By early 2009, Ford was reportedly motivated to get the property "off the books," ending its tax obligation for the site. The company considered demolition, and the scrap value was estimated at $3 million. County officials strongly opposed this idea; in their minds, the buildings on the property were an asset that could be reused, but a slab would be a liability. Worried the county would be left with a permanent reminder of what had once been on the site, officials continued efforts to reach a deal with IRG.

Financing

IRG approached county and state government officials about available financial assistance that might help the deal work. The county initially balked, stating they did not have the kind of money necessary for such a deal. The Clermont County economic developer then contacted the Ohio Department of

Development (ODOD) to explore available state funding options. Initially, ODOD had no mechanisms in place to finance a developer for land acquisition. There was a loan program —the Ohio Enterprise Bond Fund (OEBF) — but at the time, it was focused only on owner-occupied building acquisition or machine and equipment upgrades. As IRG had no signed tenant leases at the time, and was not planning to occupy the building themselves, it did not qualify for OEBF funding.

At the suggestion of an ODOD official, the county leaders contacted a representative from Baird, a bond advisor to ODOD. The Baird representative is credited with developing a convincing case to adapt the OEBF to include land acquisition by developers. In the end, $6.13 million of OEBF bonds were issued at Recovery Zone rates; $4.49 million of which were tax exempt (rate varies between 3.25-4.125 percent; term between 8-15 years) and $1.64 million were taxable (3 percent rate; 5-year term).

County Financial Support

With OEBF financing in place to purchase the site, the county was asked to contribute $2 million toward securing project funding. County commissioners were skeptical of committing that much money, especially given the poor economy and their fear of squandering public dollars on a bad investment. In an effort to make the deal more appealing, a draft agreement was developed stating that the $2 million would be used as a debt service in case IRG ceased making payments. Commissioners were still not convinced. They told IRG they needed some form of collateral, such as deeding land for free if IRG could not make payments. IRG ultimately agreed to transfer 36.6 acres of land on either side of the building as a temporary form of collateral, with plans to repurchase the land over a three year period beginning in 2012. The county would then use that money to reinvest elsewhere in the community. Additionally, the parties agreed to grant Clermont County Transportation Improvement District 7.4 acres of land for future improvements at the nearby highway access ramp.

Knowing it was important to invest in the future, the commissioners eventually agreed to this plan. A sum of $2 million was put in an Operating Deficit Reserve (ODR), where the money would be in escrow and would earn interest. IRG also agreed to pay a $10,000 annual fee to the county as long as the ODR is in place.

Once the financing terms were finalized, IRG purchased the property from Ford on April 1, 2010, for $3.5 million.

The First Tenant: UC Clermont Looks to Expand

In 2008, the University of Cincinnati Clermont (UC Clermont) was in need of temporary space for its Allied Health program. UC Clermont is a regional campus of the University of Cincinnati, and is also located in Batavia Township. It offers year-round courses and more than 50 associate degree and certificate programs to its students. The University estimated that it needed 10,000 square feet, and began exploring the region for a space that would meet this requirement.

The Dean at the time considered the former Ford plant site, but there were two problems. The first was that it was zoned as industrial, which would not permit educational uses on the site. The second was that the available office space at the facility was 80,000 square feet – significantly more than what was needed. However, the Dean began to realize that more space might be useful, especially if the University needed to expand again in the near future. University officials recognized the need to offer a 4-year degree program to compete with other schools in the region, and therefore started looking for 70,000-80,000 square feet to house both 2-year and 4-year Allied Health programs. The location of the former Ford plant in the southeastern corner of the state also appealed to University officials. UC Clermont wanted to expand its presence in that region because there were few nearby opportunities for higher educational attainment for area residents.

Clermont County and IRG worked with the University, as both were anxious to confirm an anchor tenant. A leasing agreement for UC Clermont to occupy all of the former office space of the original manufacturing facility was finalized, and the deal was approved once the OEBF bond was issued.

Securing Tenants in the Manufacturing Space

The county and IRG continued to seek tenants for the manufacturing space, and Engineered Mobile Solutions (EMS) emerged as a prospect in late 2009.

EMS is a company specializing in designing and manufacturing custom trailers, shelters and other mobile facilities. It was already located in the area, but was quickly outgrowing its 17,000-square-foot manufacturing facility and was looking to expand. After negotiations for another property fell through, EMS was back to square one.

EMS had been working with the county's Chamber of Commerce, and officials there encouraged EMS to look seriously at space within the former Ford facility. In many ways, it suited the company's needs. The plant's extensive energy infrastructure would more than meet its electrical needs, and the space also

offered overhead cranes and high ceilings that would be particularly helpful in manufacturing the company's large trailers.

At first, IRG required prospective tenants to lease a minimum of 100,000 square feet, but this was too much space for EMS's immediate needs. IRG was flexible on this front, and wrote EMS a 10-year lease on 60,000 square feet, with an option to negotiate for an additional 30,000 square feet. The company has plans to expand in the near future.

EMS originally planned to move in December 2010, but regulation and permitting issues caused a delay. Once these issues were resolved, EMS signed the lease in April 2011, and moved into the property at the beginning of May 2011.

UC Clermont East's occupation of another part of the building was not much of a factor in EMS's selection of the site. Another manufacturer, however, may have affected its decision as the other company could either positively or negatively impact EMS's operations.

Overcoming Hurdles

Transitioning industrial property is often complex, presenting unique challenges that must be overcome as a project moves forward. The Ford Batavia plant project was no different, and some of the larger hurdles are summarized below.

Public Incentive Dollars for Non-Profit Entity

Some community members were concerned about providing public incentive dollars to a private developer who was refurbishing a building for a non-profit entity like the university. However, most came to the conclusion that it was better to have something on the property as opposed to an abandoned building, so they agreed to the financing.

Local Political Issues

There were some local political obstacles to rezoning the property to allow for use by an educational institution. Some believe that Batavia Township trustees did not initially pass the zoning modification because they felt IRG was courting county government officials more than the township leaders. In response, IRG representatives arranged for a special meeting with the trustees to assuage concerns, and trustees passed the rezoning the following month.

Policy Flexibility and Customization

When seeking financial support from the state, the county was initially told there was no funding mechanism to help a developer purchase a property on speculation. It took creativity and flexibility for the OEBF funds to be used for this purpose.

Paperwork

The amount of paperwork surrounding the financing also created challenges and frustration for those involved. One community member noted that at one point, there were 15 attorneys involved—representing the state, county, township, developer and UC Clermont, and that there was brinksmanship on all fronts. The Baird representative is credited with working with all the parties involved to keep the project moving.

Joint Economic Development District Possibility

Finally, there was some concern over the property becoming a Joint Economic Development District (JEDD). Ohio townships cannot levy an income tax. However, under a JEDD, townships can enter into an agreement with another municipality (such as a city) to levy the tax and split the proceeds with the township. From a redevelopment perspective, the fear is that a JEDD would discourage tenants, since their employees would have to pay an additional income tax. However, the property owner would have to agree to the property becoming a JEDD, which is unlikely in this situation given the potential negative of discouraging tenants.

OUTCOME

There was no demolition at the site, and the building still consists of 1.8 million square feet. Of that, 136,000 square feet is office/cafeteria space, and the remainder is manufacturing/warehouse. In a relatively short time after the closure, 211,000 square feet have been utilized and 1.6 million square feet remain unoccupied.

UC Clermont East is using 81,000 square feet of what was once the office space of the plant, with a right-of-first-refusal on an additional 55,000 square feet. The University also has an option to purchase all the office space plus 45 acres of land around the building. The current Dean thinks it may be possible to move two more departments there: CAD/CAM (computer-aided manufacturing) and a police academy with a forensic lab. The building houses both 2-year associates and 4-year bachelor degree programs in Allied Health careers, and is the first dedicated campus in Clermont County to offer a bachelor's degree.

EMS, a company specializing in designing and manufacturing custom trailers, shelters and other mobile facilities, is a tenant occupying about 60,000 square feet of the original manufacturing space.

A second company, Global Scrap Management, recently signed a lease for 70,000 square feet of the former manufacturing area. This company provides aluminum scrap management services and processing to reduce waste and increase scrap value for customers.

As an interesting anecdote, some former Ford employees are actually enrolled at UC Clermont East. One said when she left the Ford plant as a worker, she felt "devastated, discarded, and dead" (Clermont Sun, 2011). Now, she's about to graduate with a bachelor's degree in nursing, earned in the same building where she used to work assembling automobile transmissions.

Financing Summary

	Name	Amount	Notes
Purchase Price	IRG, LLC.	$3.5 Million	
State Funding	Ohio Enterprise Bond Fund	$6.13 Million	$4.49 million tax exempt (3.25-4.125%; 8-15 years); $1.64 million taxable (3%; 5 year)
Local Funding	Operating Deficit Reserve	$2 Million	In a trust account; only to be used for debt service payments if IRG ceases making payments

References

The Clermont Sun. "New life found at UC East." *The Clermont Sun.* Page A9. May 19, 2011.

Delphi Fuel Injector Plant in Coopersville, Michigan

Delphi Coopersville Plant at a Glance:

Former Owner	Former Use	Year Closed	Current Uses at Site
Delphi	Parts Supplier Plant	2006	Industrial

Background

The Delphi Coopersville plant, which produced fuel injectors for engines, is located near I-96 in Ottawa County, approximately 16 miles northwest of Grand Rapids, MI. The original building is 300,000 square feet and was built on 125 acres. The plant opened in 1980, and until the time it closed in 2006, was consistently one of the top 10 employers in Ottawa County, and the largest employer in Coopersville. At its peak, Delphi employed nearly 1,300 workers at the site. Even at the time of the plant's closing, despite many workers leaving through retirement and buyouts, the plant continued to employ 680 workers.

In 2005, Delphi filed for bankruptcy. In December of that year, a group of several Michigan communities with Delphi plants held a meeting with corporate executives in an attempt to convince Delphi not to close their facilities. Despite the effort to get Delphi executives to reconsider, the company decided to close the Coopersville plant and many of the others. Community members were surprised, given that the plant was productive, in good shape and was a relatively new facility. Delphi's decision to close the

Coopersville plant was based on two factors: there was excess capacity at other plants that could take on Coopersville's work, and because it was relatively new, it would be easier to sell than the other sites.

The Coopersville Delphi plant closed in October 2006, and under the provisions of its UAW contract, many of the plant's former workers either moved to other Delphi facilities in Wyoming, MI, or Rochester, NY, or took buyouts. By April 2007, Delphi had vacated the building, and by November 2007, the plant was on the market.

Even though the closure was unexpected, city leaders were aware of the difficulties in the broader automotive industry; one leader noted that he "reads the same papers as everyone else." In this environment, the city delayed larger expenditures and investments in order to conserve cash. When the closure was announced, it wasn't as large of a financial shock to the community as it would have been otherwise.

Community Strategy

Early on, the community had difficulty in getting information from Delphi. They sent several letters requesting details of the company's plans, but no one at Delphi headquarters responded. Any new information gleaned about the plant and its prospective purchasers came from the Michigan Economic Development Corporation (MEDC). Despite the company's bankruptcy status, Delphi did not appear motivated to sell the property. Delphi was no longer paying utility bills or taxes on personal property, and it was fairly inexpensive for them to hold the property.

The MEDC was very involved with marketing the site, and it brought potential buyers to the city. Two prospects were very promising: a solar panel manufacturing project, and a powdered milk manufacturing project.

Finding a New User for the Facility

The first prospective client was a Colorado-based solar panel manufacturing company. This project would have expanded the building on the site to 675,000 square feet and would have created an estimated 824 jobs.

According to local officials, the solar company had two main concerns: the prospect of unionization and the high electricity costs. The concern regarding unions was easily addressed because unionization rates are low in western Michigan and right-to-work zones have been proposed in the area. The issue of high electricity costs was addressed by examining the potential for a special tariff with the local utility

company, Consumers Energy. But when Delphi refused to offer the solar company an exclusive deal, they decided not to pursue the purchase further.

In early 2008, Coopersville officials met with a local realtor who told them there was another interested party, without providing any details. In November of that year, officials learned that Arizona Maricopa Associates LLC, a holding company out of San Marcos, CA, had purchased the property for a total of $4.4 million. Initially, local officials knew very little about the new property owners and their intentions, but the MEDC soon apprised them that another company with business connections to Arizona Maricopa, Continental Dairy, was interested in purchasing the property and creating a powdered milk processing facility.

Continental Dairy's Interest

Continental Dairy (CD) had been considering multiple sites for the construction of its new plant—including sites in Michigan, Indiana and Ohio. Because of its comprehensive incentive package, Michigan offered the most attractive proposal.

According to CD, three items were critical to make the deal happen: 1) the condition of the facility, 2) the price of the facility in relation to CD's valuation of it, and 3) available incentives. The state and community only had control over the incentive package, which was critical to attract the project. Another important aspect of the deal was that Coopersville was amenable to implementing necessary waste water treatment system upgrades for a powdered milk processing facility. The treatment upgrades were key, because food processing requires substantial waste water capacity. Michigan's incentive package, and Coopersville's agreement to upgrade the waste water system were important signals to CD that the community was willing do whatever was reasonable to attract a healthy and growing company.

Coopersville was also an appealing location due to logistical considerations, as it has access to main interstate routes and is located near the geographic center of CD's raw milk supply. The company was also interested in the site because of the city's willingness to allow CD to expand its facilities as needed. The site is large enough to encompass warehousing, office space, and potential future expansions. CD considered it for powdered milk manufacturing, as well as for additional milk processing operations and potentially selling parcels of the property to other parties, if needed. Developing a "greenfield" property would have been much more capital intensive, and therefore was not seriously considered by CD for its operations.

FINANCING SUMMARY

It is not common for a site to be purchased without pre-determined incentives. One local official believed that because of the low price for the size of and assets on the property, Arizona Maricopa knew it was a good investment. Once the community learned of CD's interest, representatives were keen on providing an incentive package for the deal, with the belief that agriculture is "recession-proof," will keep growing, and fits well in the region given the region's other economic activities.

CD hired a site consultant to advise the company on appropriate incentive packages, and the two parties met with local government officials in January 2009 to discuss the deal. State, county and city government agencies worked together with CD to create an incentive package that would work for all parties.

The U.S. Department of Agriculture's (USDA) Rural Development funding program became involved with the redevelopment project in March 2009. This program helped pay for a necessary upgrade to the city's waste water treatment system. The city had an opportunity to upgrade its water system—not only to meet the new developer's demands, but also to add additional capacity to better position the community for future development opportunities. In total, the upgrades would cost the community $9 million; the MEDC provided $2.5 million, but Coopersville still needed to finance an additional $6.5 million.

As part of the American Recovery and Reinvestment Act (ARRA), each county in the United States received an allotment of bonds. In late 2009, Ottawa County's share of $31 million in bonds was issued to CD. The bonds were a lower cost form of capital, and were backed entirely by the financial creditworthiness of the company they were issued to — similar to an industrial revenue bond. The Ottawa County Board of Commissioners led the local approval process to award the bonds as part of the public sector financing process. There were competing interests for the bonds, but at the time, the CD project was the only shovel-ready project, and so the company received the full amount of Ottawa's ARRA bond financing.

Continental Dairy, along with city and county officials, worked with the MEDC to generate a list of incentives that fit with the project, and then specific incentives were negotiated and discussed. Use of each incentive is governed by its own statutes with separate criteria and application processes. The MEDC identified the value for each incentive based on details of the project (jobs created, wages, etc.). Then the company received a commitment letter that identified incentives and the value of the

proposed incentives, assuming they were approved. Once the MEDC issued a commitment letter to CD, the company was required to sign off and then continue with individual applications for each of the incentive programs. The commitment letter earmarked the incentives to the developer, as long as they completed the application.

The incentives used for the project were:

Federal

- USDA: Rural Development Utilities Program Loan of $6,404,000 (to Coopersville)

State

- MEDC: Small Cities Community Development Block Grant (CDBG) of $2,465,000 (to Coopersville)
- MEDC: Michigan Economic Growth Authority (MEGA) tax credits with an estimated value of $1.5 million over 10 years (to CD)
- MDOT: Economic Development Fund- Category A Grant of $321,600 (to Coopersville)
- MI Department of Treasury: Water Pollution Control Tax Exemption with an estimated value of $1,136,745 (to CD)

Local

- City of Coopersville: P.A. 198 Industrial Facilities Tax Abatement with an estimated value of approximately $8.8 million over 12 years (to CD)
- Ottawa County: Allocation of $31 million in Recovery Zone Bonds (to CD)

Each incentive is not independent. Instead, the incentives were carefully selected and constructed to work together in a consistent and beneficial manner. CD, for instance, would not have been approved for the Michigan Economic Growth Authority (MEGA) grant if the city had not provided the P.A. 198 incentive.

In addition to the incentives listed above, Coopersville has applied for an additional $400,000 from the Michigan Department of Transportation's Rural Task Force program for improvements to Randall Street, and CD has applied for $511,500 from Ottawa County Michigan Works for worker training assistance.

Environmental Aspect

Continental Dairy performed its due diligence and conducted full Phase 1 and 2 environmental assessments. The most challenging environmental aspect for the company was the unknown history on the site. While some areas were clean, there were several areas where the assessments revealed issues related to different types of contamination. Aside from these environmental issues, the package as a whole was attractive to CD. As part of the deal, Delphi had full indemnification for environmental liability. In addition, CD purchased insurance to cover unforeseen environmental problems.

After CD purchased the facility, the company worked with environmental engineers and attorneys to plan proper remediation measures. The company also worked with the Michigan Department of Environmental Quality (MDEQ), the EPA (MDEQ facilitated work with EPA) and environmental attorneys.

As part of the site remediation plan, some contaminants were found at concentrations below industrial cleanup levels, and therefore were left in place and the area was capped. The contaminants were not mobile – they were stable and would not enter the water table. CD also worked with an environmental engineering firm to remove old tanks and fluids, as well as to remediate other environmental issues.

Overcoming Hurdles

The community surpassed several hurdles to achieve the property transition, and they are listed below.

Receiving Public Incentive Dollars

Organizing and applying for incentives is a difficult process. Each incentive has many stipulations, and it is hard to ensure that a company maintains its eligibility when business plans change, even slightly. The paperwork required for incentive activities is considerable, and annual budget changes make it difficult to know which programs are available to provide funding. As an example, MEGA grants will soon no longer be available due to Michigan tax restructuring, though they were instrumental in this deal. Even with specialists from the USDA and MEDC, coordinating the incentive process was difficult for all of the parties involved.

Appropriately Assessing Project Value to a City

The MEDC and Michigan Department of Agriculture wanted the area to be deemed an Agricultural Renaissance Zone, which would allow for a 100 percent tax abatement. The City of Coopersville, however, said that it was not willing to give up all tax revenues from the site for the creation of only 70 jobs — especially since the city would still have to provide services to the facility. Coopersville assessed

the value that the project would yield, and realized it was not in the city's best interest to forego all tax revenue, despite encouragement to do so from other levels of government.

Lack of Regionalism

Ottawa County is decentralized and does not have a unified marketing effort, making it difficult to attract projects to the region. A coordinated economic development approach and more communication between the state and the local communities would have been beneficial in finding prospects for the site.

Local Political and Community Issues

Other major hurdles for the project were dissidence among the city council members and concerns voiced by community members. Some council members worried that the city was giving away too many incentives without the assurance they would be repaid. City administration held a closed door discussion involving CD and Council members to make the case that the company would not invest $120 million only to walk away. Other community members were concerned about traffic issues. In order to serve the needs of CD's new facility, there would be 80 to 90 trucks each day on Randall Street, which could adversely affect the residents in the community. After a redesign of the building's addition plans and the roads surrounding it, as well as securing state funding to add additional roads, traffic concerns were largely resolved.

Environmental Remediation

One of the biggest challenges for the company was the risk associated with and the remediation of environmental contamination. CD understood the value of the facility, the logistics involved, and other business concerns; however, dealing with environmental concerns on old industrial sites was a new experience and not one of the company's strengths. CD had to make sure they knew everything about the facility in order to fully comply with regulatory agencies, and so the company largely relied on assistance from external consultants, engineers and attorneys.

OUTCOME

Arizona Maricopa, LLC sold the property to CS Facilities LLC, which is doing business as Continental Dairy. CS Facilities, LLC and CD are owned by Continental.

For CD's powdered milk project, the north half of the original building has been remodeled for warehousing, storage, and office space. New construction is currently underway for the building that

will house the actual processing of milk product. The company expects to be operating at full capacity by March 2012.

FINANCING SUMMARY

	Name	Amount	Notes
Purchase Price	Arizona Maricopa Associates, LLC.	$4.4 Million	Purchased in 2008
Federal Funding	USDA Rural Development Utilities Program Loan	$6.4 Million	To be used for work on wastewater treatment system
State Funding	MEDC Small Cities CDBG	$2.5 Million	
	MEDC Michigan Economic Growth Authority tax credit	$1.5 Million	Tax credit for Continental Dairy with a value of $1.5 million over ten years
	MDOT Economic Development Fund-Category A Grant	$321,600	To Coopersville for road work
	MI Dept. of Treasury Water Pollution Control Tax Exemption	$1.1 Million	A tax exemption to Continental Dairy with a value of $1.1 million
Local Funding	P.A. 198 Industrial Facilities Tax Abatement	$8.8 Million	A tax abatement from the City of Coopersville to Continental Dairy with a value of $8.8 million over a 12 year period
	Recovery Zone Bonds	$31 Million	Allocation of all $31 million in Recovery Zone Bonds that were allocated to Ottawa County to Continental Dairy

General Motors Assembly Plant in Doraville, Georgia

GM Doraville Assembly Plant at a Glance:

Current Owner	Former Use	Year Closed	Current Uses at Site
GM	Assembly Plant	2008	Vacant

The Doraville Assembly plant buildings and employee parking lot.

The former UAW hall that is currently for sale.

Background

The General Motors Doraville assembly plant is located in Dekalb County, GA, approximately 12 miles northeast of downtown Atlanta. GM opened the plant in 1947 and employed 1,250 people, which was more than three times Doraville's population at the time. The facility was the driving force behind much of Doraville's development, and is therefore well-connected to the region's transportation infrastructure. Presently, it is adjacent to I-285, as well as the MARTA public rail station. The site includes 165 acres of land, and 3.6 million square feet of manufacturing buildings, parking lots, and paved areas (CBRE and GM, 2008).

Toward the end of production at the plant, Doraville received close to $1 million annually in tax revenue from GM, comprising just less than 10 percent of the city's total budget. As demand fell for the products GM built there, the plant's future became uncertain. The announcement to close the plant was made in 2005, and plant operations ceased in September 2008.

Community Strategy

An asset to Doraville, this property is viewed by many in the region as one of the largest and best development opportunities in the southeastern United States. When the plant closed, Doraville determined that it was in the community's best interest to look beyond manufacturing for a reuse of the property. City officials felt that Doraville is a microcosm of the nation, which they feel is moving away from manufacturing to an innovation-based economy. Therefore, the city engaged researchers at Georgia Tech to develop a preliminary plan with recommendations for the site that would help achieve the desired economic transition.

At the same time, General Motors contracted with CBRE to market the property prior to the official closure, in the hopes of selling it soon after operations ceased. The property went on the market in the spring of 2008, and received several bids. The field was narrowed to four bids by July 2008. In mid-September, the four developers presented plans to the GM Real Estate team in Detroit. Almost simultaneously, however, the financial and real estate markets began to collapse. GM attempted to negotiate with one developer, but the offer price kept slipping, and by early 2009, it was clear the deal was not going to go through. GM's pending bankruptcy also affected opportunities to make a deal work for this property.

In July 2009, the new General Motors was formed, and community members learned that the Doraville plant was one of two closed GM facilities purchased by the new GM, and was not left in the liquidation assets of the old company. GM's asking price was, and continues to be, $60 million for the property. New Broad Street Developers, a developer from Orlando, FL, showed interest and in January 2010, signed a contract with GM with intent to purchase the property, and began working to secure bond financing from the county.

Dekalb County and New Broad Street Developers

To provide financial assistance to struggling communities in the midst of the economic recession, the federal government approved the American Recovery and Reinvestment Act (ARRA). Through ARRA, Dekalb County received bond funding in the fall of 2009. New Broad Street believed that with this financing, they could complete a deal to purchase and redevelop the property. The developer's goal was to secure $36 million in ARRA funds to help with the purchase price. The Dekalb County CEO was in favor of the deal, believing it was a good investment since once the property was leveled and remediated, its

property value would rise. Under this plan, the county development authority would own about 50 percent of the project, giving the community some equity and control over the site.

Despite the city's tight budget, the County strongly encouraged Doraville to contribute funding as well. After intense negotiations, the city agreed to service $3.6 million of the debt, and the County agreed it would service the remainder. Some County Commissioners were still not convinced this was a good deal. Under some projections, it could take up to 15 years to pay off the debt, and the Commissioners did not like the idea of subsidizing the asking price. In August 2010, the County learned New Broad Street had not secured sufficient financing to do more than demolish the site and remediate the brownfield. This provided further reason for the Commissioners to vote against the plan, which they did later that month. The County CEO, however, still felt this plan was a good option because the site would have been ready for development, and the proposed plan provided options for local control of the site.

After the Commissioners' vote, Doraville conducted a Livable Centers Initiative (LCI)[10] to develop a plan for the site. The LCI program tries to promote and create a vibrant, urban core to minimize sprawl and improve land use patterns (Doraville LCI, 2011). This plan goes beyond what Georgia Tech originally created, and makes the city eligible for federal transportation dollars for the site. The LCI involves a transit-oriented development on the former GM site, including corporate office and research facilities, sidewalk retail, and housing interwoven with public space. The plan is not definitive, but provides potential developers with an idea of what the community envisions for the site.

Impediments to Redevelopment

Community members believe the property remains unsold and undeveloped for several reasons.

Understanding Local Politics

One opinion as to why the New Broad Street deal fell through is that the developers did not understand the local politics well. Instead of working with the county commissioners, city representatives, and holding town hall-type meetings to share their vision for the site with the community, New Broad Street worked primarily with the County CEO, and did not offer a well-defined project plan. These actions contributed to an overall lack of public confidence in the development.

City-County Relations

[10] The Livable Centers Initiative is a program administered by the Atlanta Regional Commission that awards funding to local government and non-profit organizations to create development plans for cities in the region.

Another issue associated with the New Broad Street deal is the perception that the county did not involve the city early enough in the proceedings, and sought too much financial support from Doraville. The city was in a difficult financial situation after the plant closed, while the county budget was not as tight. Given that the proposed project would have helped the region and not just the city, it might have been appropriate for Dekalb County to be the sole public funding source.

Regional Involvement

The county did not involve other regional economic development organizations in the proposed plan. This may have encouraged commissioners to approve the plan, given the support and encouragement from other regional players.

Asking Price

Community members view GM's asking price of $60 million as a key impediment to transitioning the property. Developers have complained that they cannot pay that asking price in addition to the property taxes on the site. If the price were lower, public funding would not be required to help finance a deal, and the process might proceed more smoothly. GM maintains that $60 million is a fair asking price.

By comparison, in 1989, CBRE was engaged to sell the Atlantic Steel Company plant that had recently closed in downtown Atlanta. The company was asking $100 million for 125 acres, but the best offer received was only $25 million. Atlantic Steel decided not to sell, and took the property off the market it in the mid-1990s. By the late 1990s, the economy had improved, and the company relisted the property, which sold for $76 million in 1997. The site is now Atlantic Station, a mixed-use model for sustainability and urban redevelopment. If Atlantic Steel had sold for the $25 million originally offered, there is little chance the proceeds would have tripled in four years through investment and interest returns. Therefore, it was strategic for Atlantic Steel to hold onto the property until real estate demand and the overall economy improved. General Motors appears to be following a similar path with the Doraville site.

OUTCOME

The community is seeking a development that will create a "sense of place" for the city. Residents do not want a big box store or strip mall to go on the site. They would prefer a mixed-use, transit-oriented development with life sciences, biotechnology, other research businesses and a new City Hall as well.

At present, GM's asking price remains $60 million, though the assessed value of the site is $53 million. GM currently pays $1.1 million annually in taxes; $555,000 to the school district, $300,000 to Dekalb County and $250,000 to Doraville. GM has approached the city about plans to demolish the buildings, thus reducing its tax burden. The city would prefer demolition occurs after a buyer has been found, since demolition without immediate redevelopment will mean even lower tax revenues derived from the property. On the other hand, GM could demolish the buildings, sell the scrap and provide the city with a shovel-ready site. Environmental Phase 1 and Phase 2 assessments have been completed, and scrap value of the site is estimated to be much higher than GM's anticipated remediation costs of $500,000 to $1 million.

References

CBRE and GM. "The Doraville Project: Legacy Mixed-Use Development Opportunity." CBRE and General Motors. 2008. Accessed July 18, 2011. <http://www.thedoravilleproject.com/TheDoravilleProject.pdf>.

City of Doraville Livable Centers Initiative. 2010 Downtown Master Plan. March 17, 2011. <http://tunspan.com/doraville/docs/Doraville2010LCI_Part1_Adopted.pdf>

Chrysler Lakefront Assembly Plant in Kenosha, Wisconsin

Chrysler Kenosha Lakefront Assembly Plant at a Glance:

Former Owner	Former Use	Year Closed	Current Uses at Site
Chrysler	Assembly Plant	1988	Residential, Commercial, Museum, and Park Space

The current HarborPark Development.

Kenosha Lakefront Plant before it was demolished.

Background

The Chrysler Kenosha Lakefront Plant encompassed a five-story body assembly plant and stamping plant that originally had been a Simmons mattress factory dating back to 1870. As the name suggests, the plant was located on the shore of Lake Michigan in Kenosha County, WI, approximately 32 miles south of Milwaukee. The site is also near Wisconsin Highway 32 and is seven miles away from I-94.

For many years, the auto industry was the lifeblood of the community. The Lakefront Plant was one of two sites that functioned as a single automotive assembly facility; the other site was known as the Kenosha Main Plant, located two miles from the Lakefront Plant. The Lakefront Plant produced automobiles for nearly a century, but underwent a series of ownership changes during its life. It first began automobile production for the Thomas B. Jeffrey Company, which was bought by Charles B. Nash and became part of Nash Motors. Later, Nash Motors merged with Kelvinator Appliance Company to become Nash-Kelvinator Corporation, and merged again with Hudson Motor Car Company to form American Motors Corporation (AMC). AMC was sold to Chrysler in 1987. Interestingly, the Lakefront

Plant property was never owned by AMC/Chrysler. Simmons sold the Lakefront site to Kenosha Auto Transport (KAT) in 1960, and KAT signed a long-term lease with AMC. After signing the lease for the Lakefront Plant, AMC began using it to stamp panels and manufacture vehicle bodies that were then sent two miles down the road to the Main Plant where they were assembled onto chassis.

In 1987, Chrysler bought AMC and gained four assembly plants – two in the U.S. and two in Canada.[11] Demand was not sufficient to support all of the newly acquired plants, and because the Canadian plants had competitive costs of doing business and would be expensive to close, Chrysler chose to close one of the two U.S. plants – the Kenosha plant or the Toledo Jeep plant. The Toledo plant survived because the union agreed to concessions, and the Kenosha plant was Chrysler's oldest and least efficient. In January 1988, just five months after purchasing AMC, Chrysler announced the Kenosha plant would close by December of that year. The Main Plant remained open as an engine plant.

Community Strategy

Despite the Kenosha plant's disadvantages, the community was still surprised by the decision to close—especially since Chrysler had just purchased the plant one year before. In early 1988, Governor Tommy Thompson and Congressman Les Aspin, along with other state legislators, pushed for retention of the plant. Once it was obvious that Chrysler could not be persuaded to retain the plant, lawmakers were active in negotiating a closing package. The UAW and local government officials contended that Chrysler had made a contractual commitment to keep production in Kenosha for five years, and were backed by Governor Thompson in threatening a lawsuit seeking damages for the city, county and state (Braunstein, 1988). Some employees who were adversely affected by the closing filed suit in federal court, attempting to block Chrysler from receiving federal grant money that would be used for other plants (Ruben, 1988). Eventually, Chrysler, in exchange for an agreement not to be sued, settled disputes by offering a plant closing package valued at $200 million — one of the largest ever made (Hyde, 2009). The package included funding for demolition, worker retraining, city and county improvements, and a trust fund supporting education, housing, and welfare needs of Kenosha workers among other things (Reuters, 1988; Cole, 1988; Sentinel, 1989; and Garza, 1989). In 1989, Chrysler began demolition, and donated several buildings and pieces of land from the Kenosha Main Plant to the city, county and Gateway Technical College (Telegraph-Herald, 1989 and Lakeland, 1989). The engine plant at the Main location continued operations until 2010. The Lakefront Plant, however, was demolished in its entirety.

[11] The four acquired plants were in Kenosha, WI; Toledo, OH; and Brampton and Bramalea, ONT.

In 1989, the community created a Tax Increment Financing (TIF) district to assist with front-end financing for some preliminary projects — including a marina and a housing development. When it came time to redevelop, there were two problems: the site required environmental remediation, and there was some community opposition to converting neighboring park land to a proposed housing development. The city had to address these issues before any type of redevelopment could occur.

New Policies Provide the Spark

Between 1989 and 1996, the city tried to determine the best path forward. Jupiter Holdings, which had previously acquired KAT, held onto the property during this time, hoping to sell it. The city wanted the site to be redeveloped into residential and public space to best take advantage of the location on the shore of Lake Michigan. Because the city issued nearly $20 million in debt to finance improvements on the lakefront, the delays caused by the environmental cleanup and public opposition meant the downtown TIF district was not generating sufficient tax revenues to amortize the debt (ULI, 2006). In the early 1990s, Mayor John Antaramian worked with the Wisconsin state legislature to amend two policies that would benefit redevelopment opportunities. One amendment increased the number of years required to pay off a TIF from 27 to 42 years; the other stated that for blighted properties, a city can use increment financing from another TIF that has already been paid off.

Additionally, environmental assessments revealed chemical groundwater contamination and heavy metal contamination in the soil (ULI, 2006). Some cleanup was done, but more remained. To define liability rules, the city worked with state officials in 1994 to pass Act 453, which would absolve a future owner from existing environmental contamination once they complete a Department of Natural Resources (DNR)-approved cleanup. The process involves performing a baseline environmental assessment, and assessing liability for whatever is found to the previous owners. Anything new that is discovered in subsequent assessments becomes the responsibility of the new owners. DNR and city officials negotiated what the Act would mean for Kenosha, and eventually, the DNR decided that Kenosha would fall under Act 453 protection if they (1) installed a cap of clean soil over the site; (2) cleaned up a remaining storage tank; and (3) performed long-term groundwater monitoring at eight locations (ULI, 2006). This act allowed the city to be comfortable owning the property, and in late 1994, Jupiter sold the site to the City of Kenosha for $1.

The Importance of Consensus-Building

Once in city ownership, Kenosha wanted to ensure the redevelopment of the site was for the best use possible. City officials hired the Urban Land Institute (ULI) to assess opportunities and develop a preliminary site plan for the property. One of the largest components of this plan is what many consider to be a key catalyst of why this property redevelopment occurred – community involvement. Soon after the ULI assessment was complete, the city employed LDR International, a planning consulting firm, to further develop the plans.

The city worked with these consultants, and assembled a group of community stakeholders to participate in monthly meetings about redevelopment plans and opportunities. These committee members were ambassadors from the planning team into their own micro-communities, and could promote the ideas on the redevelopment as well as provide input from their micro-communities on the plan.

The city also held large public meetings, which were broadcast on public television so that no resident could claim he or she was unaware of the city's plans. This strategy worked so well that at the final council meeting on redevelopment plans, only three people reportedly attended; two in favor and one in opposition. The person in opposition stated that while he knew his opinion wouldn't prevail, he appreciated the opportunity to have his voice heard. In this manner, the community rallied behind the city when the allowable redevelopment plans were finalized. These plans included residential units, a public museum and some commercial sites.

Selecting a Developer

In the late 1990s, there were few brownfield sites in Wisconsin. Most developers were unfamiliar with what redevelopment on such a site might entail. The City of Kenosha was clear that it was serious about wanting to redevelop the site by investing a total of $24.5 million towards environmental remediation, infrastructure, and a streetcar installation, plus an additional $7 million for construction of the public museum (constructed in 2001).

Eventually, New England Builders, a Chicago, IL, company, purchased the property from the city. The site was divided into eight parcels, and the developers were allowed to purchase parcels in succession once a certain number of units were constructed and sold on previously-purchased parcels. Development began in 2001 and the last parcels were purchased in 2003. The total price paid was $2,585,500.

Overcoming Hurdles

Community members note two items that were imperative to the success of this redevelopment.

Community Engagement

The most commonly-mentioned catalyst in the redevelopment process was the focus on community engagement as the city collectively determined what the site would become. It took Kenosha more time and effort to go through this process, but many credit the process with why community members have embraced the HarborPark development. Along the same lines, engaging the ULI to develop a preliminary plan and vision is also considered an important piece of the redevelopment, as a big part of their plan was strongly encouraging community involvement.

Policy Flexibility and Customization

Another important redevelopment aspect was the ability to change policies to benefit redevelopment plans. Changes to TIF financing rules allowed Kenosha to extend the payback time and utilize additional funding to invest in this project. Act 453 then ensured that a future developer would not be saddled with environmental liability from previous activities on the site. Together, these policies encouraged commercial interest in the site to make the development a reality.

Outcome

The HarborPark development itself is a mix of public/private property that includes a boardwalk and ring road around the perimeter, two public museums, an electric streetcar, a restaurant and residential condominiums. While residents had high hopes the development would spur downtown revitalization, the impact has not been as strong as originally hoped. Many of the HarborPark residents use their property as a summer or weekend getaway, and therefore do not provide the concentration of residents needed to support downtown businesses. Therefore, while the development itself is viewed as a success, its broader economic impact on the community has yet to be fully realized. However, to help with this effort, another policy was changed in 2006 to allow areas within a half mile radius of a blighted property to be considered part of the TIF district and receive increment financing. This helps ensure that communities can invest in areas surrounding the TIF as well.

The HarborPark development also helped expand Kenosha's horizons. Prior to this development, community residents were somewhat insular, with one resident noting that places like Racine, only 10 miles to the north, seemed far away, and Chicago was almost another world. But with a Chicago-area

developer marketing and selling the property to Chicagoans, it helped make Kenosha residents feel part of the broader community around them.

Financing Summary

	Name	Amount	Notes
Corporate Funding	Chrysler	$200 Million	Plant closing package to the city and employees
1st Purchase Price	City of Kenosha	$1	KAT transferred ownership to the city in 1994
Local Funding	City of Kenosha	$24.5 Million	Remediation, infrastructure, electric streetcar
Local Funding	City of Kenosha	$7 Million	Construction of a public museum
2nd Purchase Price	New England Builders, LLC.	$2.6 Million	Parcel purchases began in 2001

References

Braunstein, Janet. "Chrysler Faces Lawsuits." *The Day*. February 5, 1988.

Cole, David. "Chrysler Settlement Backed Despite Angry Protests." *The Milwaukee Sentinel*. September 23, 1988.

Garza, Malita Marie. "Chrysler Plant Razing Signals Rebirth." *The Milwaukee Journal*. February 5, 1989.

Hyde, Charles. S*toried Independent Automakers: Nash, Hudson, and American Motors*. Wayne State University Press. (Page 247). 2009.

Lakeland. "Chrysler Corp. Donates Buildings." *Lakeland Ledger*. February 5, 1989.

Reuters. "Chrysler Agrees to Aid Package for Kenosha." *Chicago Sun-Times*. September 24, 1988.

Rubin, George. "Developments in Industrial Relations." *Monthly Labor Review* 111(5): 54-57. May 1988.

Sentinel. "Chrysler Giving Kenosha Land." *The Milwaukee Sentinel*. February 3, 1989.

Telegraph-Herald. "Chrysler to Raze Lakefront Plant." *The Telegraph-Herald*. February 11, 1989.

Urban Land Institute (ULI) Advisory Services Panel Report. *Downtown Lakefront Site – Kenosha, Wisconsin.* 1996.

General Motors Assembly Plant in Sleepy Hollow, New York

GM Sleepy Hollow Assembly Plant at a Glance:

Current Owner	Former Use	Year Closed	Current Uses at Site
GM	Assembly Plant	1996	Demolished

The current site of the former GM Sleepy Hollow Plant along the Hudson River.

A large photo of when the plant was operational hangs in the council room at Sleepy Hollow Village Hall.

Background

The Village of Sleepy Hollow, known as North Tarrytown during General Motors' tenure there, lies less than an hour north of New York City along the I-87/I-287 corridor in Westchester County, NY. It borders the more affluent community of Tarrytown, NY. The property is adjacent to the Hudson River, and the Tappan Zee Bridge is visible from the site.

The Sleepy Hollow assembly plant was originally constructed in the late 1890s to build the Walker Steamer automobile. Through a series of ownership changes, the plant was acquired in 1914 by Chevrolet, which later became a division of GM.

Threat of Closure: 1983 to 1985

In 1983, General Motors announced the closure of the Sleepy Hollow plant, and a production shift to other facilities. New York's then governor, Mario Cuomo, worked intensely to retain the plant and its workforce. As a result of concerted efforts from state and local governments, the plant was retained, and GM received state and county tax breaks, allowing the company to continue production in Sleepy

Hollow. The total package of local, county and state concessions was estimated at $140 million (Brenner, 1993). The retention incentive package meant that GM would be making new investments in the facility, and voters approved a $30 million bond issue to construct a new paint facility (NY Times, 1995).

As part of the retention package offered to GM, the Village agreed to remove the plant from its tax rolls. In order to do this, Sleepy Hollow had GM sell the property to the Mount Pleasant Industrial Development Authority (MPIDA). To raise the money required to purchase the plant, the MPIDA used its legal ability to issue bonds, which were then sold to GM. The Village issued a Payment in Lieu of Taxes (PILOT) to GM that covered a 30-year period (1985-2015). The PILOT arrangement required GM to pay $140,000 per year to the Village, but GM would not be required to pay any taxes.

Official Closure

In February 1992, GM announced that it would close the plant in 1995 (Brenner, 1993). The plant cut its second shift and reduced its workforce from 3,450 in February 1992 to only 2,150 by August of that year. In 1993, General Motors announced that it would delay the closure until the summer of 1996 (Brenner, 1993). By fall of 1996, the plant that had been GM's oldest running assembly plant finally closed.

The closure negatively affected businesses on Beekman Avenue, the main retail street in Sleepy Hollow, resulting in loss of sales and reduced property tax collection. A number of employees took early retirement and many others transferred to other facilities and moved away.

Community Strategy

By the time the plant closed, it was no surprise to local residents. There were several reasons for the plant to be vulnerable: the closure threat in the 1980s; the plant's two-story construction was undesirable; its main product, the minivan, was not selling well; the third shift had previously been cut; and its congested location and lack of direct freeway access made just-in-time manufacturing difficult. Sleepy Hollow could see that of the other nearby industrial sites that had closed, few were redeveloped and many were too expensive to redevelop due to environmental remediation. The properties were a cause of blight in their host communities and a drain on local tax bases. Fearing that a similar fate could await Sleepy Hollow and its GM assembly plant, in June 1993, the Village Board moved to adopt a new local law — the Abandoned Industrial Property Reclamation law. The law required demolition of buildings and environmental cleanup on large industrial sites that were selling property or terminating

operations (Stever, 2003). In November 1993, GM filed a suit in court seeking an injunction against the law (Brenner, 1993), but ultimately, the judge sided with the Village of Sleepy Hollow.

Unlike in 1983, when there was support at the state level, the Village of Sleepy Hollow was on its own this time. Much of the region had shifted away from manufacturing in the meantime. The Village waited a few years to see if a new industrial operation would be interested in the site, but with little interest, GM demolished the factory between 1998 and 2001 (Berger, 2006; Stever 2003).

Early Redevelopment Efforts

General Motors began work on environmental site assessments soon after closing the plant. The Phase I Environmental Site assessment occurred in 1996, followed by the Phase II assessment in 1997. Other environmental studies were completed in the late 1990s and early 2000s (NYSDEC, 2011).

In 1997, with cooperation between the zoning, planning, and the local waterfront revitalization boards, the Village rezoned the property from industrial to mixed-use residential and commercial (Hadad 1997). Originally, zoning was approved for 1,800 residential units, in addition to retail space and a hotel. At the time, the general consensus among residents was that 1,800 was too many units, and this difference of opinion would become a major sticking point between locals desiring limited new development with fewer residential units, and developers striving to keep the project economically viable.

In July 2001, GM announced it had selected Roseland Property Corporation as its developer (Stever, 2003). In November 2002, GM and Roseland Property Company entered into a Voluntary Cleanup Agreement (VCA) with New York's Department of Environmental Conservation (NYDEC) to investigate and remediate the site property. By March 2005, GM and Roseland completed the VCA and transitioned to the Brownfield Cleanup Program (NYSDEC, 2011).

In the original deal between GM and Sleepy Hollow, the parties agreed that if there had not been significant progress in redeveloping the site within five years, the Village would have the right to purchase the property from GM. By 2002, when the five-year period had passed, Mayor Zegarelli argued that significant progress toward redevelopment had not been made, and the Village offered to buy the site for $12 million. General Motors balked, suggesting that the value of the property was much higher — even though $12 million was the figure used when calculating the property value for PILOT funds.

Sleepy Hollow sued GM to force the company to either pay taxes or sell the property. After a year-long court battle, the GM paid Village around $2 million over three years, in addition to the $140,000 PILOT

(Rubenstein, 2002a and 2002b). Sleepy Hollow agreed not to sue GM for additional taxes owed. The agreement also stated that the Village would accept whatever environmental mandates the NYDEC dictated, and would not add additional environmental requirements to the redevelopment.

As part of any redevelopment projects in New York, the State Environmental Quality Review Act (SEQRA) requires a review that includes studies on site contamination and the impact of redevelopment on traffic, schools and the local community. In compliance with SEQRA, the Village wrote Draft and Final Environmental Impact Statements (DEIS and FEIS). Individuals were invited to comment on these reports in public hearings, and the FEIS contained responses to all of the questions that surfaced during the hearings. The FEIS was completed at the end of December 2006, and by this point, the plan called for only 1,250 residential units. The Village accepted the FEIS, but then developed a Findings Statement which ended up further reducing the desired units to 1,177. The entire SEQRA process took four years—from 2003 to 2007.

Why Initial Redevelopment Efforts Failed

The FEIS and Findings Statement revealed other problems. Nearby Tarrytown contested Sleepy Hollow's traffic studies in court, arguing the studies underestimated the regional traffic impacts and wrongfully put the onus of traffic mitigation measures on Tarrytown. There were also issues between the Village Board and the developer. The Board was attempting to get concessions from Roseland for local amenities and improvements, overestimating how keen the developers were to make the deal happen. In addition, Roseland took issue with the reduction in approved units, which changed the economics of the deal. GM had priced the site around $90 million, which Roseland said it could afford if it built 1,250 residential units, but not if they were restricted to building only 1,177 units. Due to these issues, in December 2007, GM informed Sleepy Hollow that Roseland was no longer interested in the development project.

Past Experience Helps Current Redevelopment Efforts

In 2008, Village leaders and GM representatives met to regroup and attempt to get the site back on track for redevelopment. The meeting helped resolve some issues that had come up in the previous development process. For instance, rather than having the developer pay for amenities and improvements to the village infrastructure on a piecemeal basis, both the Village and GM decided that a lump sum for Village redevelopment costs would be appropriate. Recent articles mention that the amount currently agreed to is slightly just under $12 million (Roach, 2011).

In late 2008, the national economy collapsed and GM retrenched to focus on its own restructuring. The Village had little contact with the company during this period. Once the new General Motors was formed, the property was purchased by new GM as opposed to remaining with MLC. Village officials were pleased that the property went with the new GM since they believed the move signaled GM's continued interest in, and commitment to, selling the property.

In 2010, after hearing little from GM for more than a year, Sleepy Hollow approached the Industrial Development Authority in an attempt to get GM to get back on the tax rolls. General Motors asked the Village for a delay because the company was working on finding a developer. Sleepy Hollow backed off its request, and GM agreed to the village's desire to have 1,177 units and 60-70 percent occupant ownership among the residential units.

Impediments To Redevelopment

There are several issues that affected Sleepy Hollow's ability to redevelop the property.

Lack of Regionalism

Some residents feel that the region has lost the ability to work together. Another resident stated that because of a proliferation of attorneys in the region, the judicial process has crept into town councils and has superseded political processes. Municipalities have jurisdiction within their borders, but in Westchester County, there are many autonomous municipalities. While smaller municipalities often work together to share resources or combine systems, often these ties are too weak to encourage cooperation on a broader scale.

Neighboring Community's Concerns

Tarrytown's main voiced concern is the increase in traffic through its community that a mixed-use development in Sleepy Hollow would create. In the most recent development plan, Sleepy Hollow considered these concerns, and offered routing alternatives to ease the traffic burden on Tarrytown. Some in Sleepy Hollow feel that Tarrytown's real concerns are an increase in competition from the proposed retail, restaurants and a hotel on the site. Again, the issue represents a lack of regional cooperation.

"No One Cared"

There was not a big groundswell of support from the community to redevelop the site. As the region moved away from its dependence on manufacturing and automobile production, replacing GM's operations with a new manufacturer was not a major priority. The vacant plant was preferable to some people because GM still had to take care of it; there was no more pollution created on the site, which pleased environmentalists; and neighboring Tarrytown was relieved because it no longer had to deal with the traffic. One overall opinion was that there were more people who were happy with a closed and vacant property than were unhappy that the site remained undeveloped.

Bureaucracy and Disjointed Community Involvement

Approval for the redevelopment was a complicated process that required rezoning, public meetings, and a long approvals process. Even though environmental assessments began soon after the plant closed in 1996, the SEQRA process was not completed until 2007. After the environmental and impact studies had been completed, there were still negotiations with the developer and General Motors as well as additional public meetings and permits. While over 100 public meetings were held, initially the Board and residents were not on the same page, and some Village officials felt that they did not sell the project well enough. The final permitting process was more successful in disseminating information and soliciting and including community input.

Large Scope of Project

Any project on the site would have a large local impact due to its size, and hence redevelopment efforts received a lot of attention. As a result, there has been an emphasis on the importance of getting redevelopment right. Residents of Sleepy Hollow and neighboring areas want to make sure that the project is of a manageable size and is smoothly integrated into the broader community. Village Board members and other decision makers have assessed past decisions relating to the project, and have moved forward more cautiously, making sure their decisions are well informed.

Encouraging GM to Act

Because the PILOT that General Motors agreed to required annual payments that were much lower than what the company would have paid in taxes, it drastically reduced GM's incentive to move quickly on redevelopment. By reducing GM's annual tax burden, the PILOT reduced GM's urgency to sell the property.

Environmental Lobby

Environmental groups have a strong voice in Westchester County, often opposing developments that are not for green space, and frequently suing to stop development projects. In order to address the environmental groups' concerns, developers can try to meet demands for certain features in development. However, the economic model which aligns developer and environmentalist interests will not always materialize. In addition, traffic impact studies and SEQRA approvals can take so long that projects may be delayed beyond economic feasibility, which means no redevelopment occurs.

High Demands on the Developer

Municipalities often look to developers to fund improvements and amenities in return for approving a development. This type of bargaining caused Roseland to pull out from the GM redevelopment deal in 2007. The community overestimated Roseland's interest in making the deal happen.

OUTCOME

On June 9, 2011, Sleepy Hollow hosted a public meeting and passed a special permit that outlined the new redevelopment deal. Included in the permit were design specifications that included:

- 1,177 residential units
- 135,000 square feet of retail space
- 35,000 square feet of office space
- 140-room hotel
- Potential for the addition of 6,000 square feet of retail/restaurant space
- Approximately 45 acres for public open space, public interest or public use.

General Motors is working with commercial real estate broker Jones Lang LaSalle, and issued an RFP in July 2011, with a submission deadline of September 2, 2011. Developer selection is scheduled to be determined by November 1, 2011, and the GM hopes to close on the property on or before February 29, 2012 (GM, 2011).

References

Berger, Joseph. "Development, Done Right, Takes Time." New York Times. July 23, 2006. <http://select.nytimes.com/gst/abstract.html?res=F30A10FC3C5B0C708EDDAE0894DE404482>.

Brenner, Elsa. “Seeking a G.M. Package That Pleases Everyone.” New York Times. November 21, 1993. <http://www.nytimes.com/1993/11/21/nyregion/seeking-a-gm-package-that-pleases-everyone.html>.

GM. GM Sleepy Hollow Site Informational Website. Accessed August 11, 2011. <http://gmsleepyhollowdevelopmentopportunity.com/>

Hadad, Herbert. “Now Sleepy Hollow, But It’s Still Home.” New York Times. April 20, 1997. <http://www.nytimes.com/1997/04/20/nyregion/now-sleepy-hollow-but-it-s-still-home.html?src=pm>.

NYSDEC. “Former General Motors North Tarrytown (Sleepy Hollow) Assembly Plant Site No. C360070.” New York State Department of Environmental Conservation. Accessed June 15, 2011. <http://www.dec.ny.gov/chemical/8676.html>.

NY Times. “Saving the Tarrytown Riverbank.” New York Times. October 12, 1995. <http://www.nytimes.com/1995/10/12/opinion/saving-the-tarrytown-riverbank.html>.

Rubenstein, Carin. (2002a). “IN BUSINESS; A Hurdle Cleared on Riverfront Site.” New York Times. October 6, 2002. <http://www.nytimes.com/2002/10/06/nyregion/in-business-a-hurdle-cleared-on-riverfront-site.html>.

Rubenstein, Carin. (2002b). “IN BUSINESS; Sleepy Hollow and G.M. Agree on Development Deadline.” New York Times. September 22, 2002. <http://www.nytimes.com/2002/09/22/nyregion/in-business-sleepy-hollow-and-gm-agree-on-development-deadline.html>.

Roach, Sean. “Updated: Special Permit Approved for GM Property.” Tarrytown-Sleepy Hollow Patch. June 8, 2011. <http://tarrytown.patch.com/articles/special-permits-approved-for-gm-property>.

Stever, Donald W. “From Assembly Line to Sidewalk Café: Turning an Automobile Assembly Plant into a New Town in Sleepy Hollow, New York – A Case Study of Positive Land Use Change Triggered by a Local Environmental Law.” Pace Environmental Law Review. Volume 20(1): 177-188. <http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1165&context=pelr>.

General Motors Assembly Plant in South Gate, California

GM South Gate Assembly Plant at a Glance:

Former Owner	Former Use	Year Closed	Current Uses at Site
GM	Assembly Plant	1982	Education, Industrial

South East High School in South Gate, CA.

A view of the South Gate Industrial and Business Park, off of Alameda Street.

Background

The first General Motors facility west of the Mississippi River, the South Gate assembly plant opened in 1936. It was situated on 80 acres, about 8 miles south of the City of Los Angeles in Los Angeles County, CA. The site is located in the middle of South Gate, only one mile north of I-105, three miles east from I-110, and three miles west of I-710. The Southern Pacific Railroad has tracks that run along the west side of the plant site. The South Gate plant was created as a branch plant strategically located in a regionally population-dense area.

The plant was originally built to receive kits from plants in the Midwest for final assembly, as parts were much cheaper to ship than finished vehicles. The plant was closed when GM changed production strategies, and it became too expensive to assemble cars on the west coast, partially due to the increased sales of imported cars in the West (Cipriano, 1985). The plant closed in 1982, and at that time employed 4,300 workers.

COMMUNITY STRATEGY

The community was clearly disappointed by news the plant was closing. In addition to this plant, South Gate had also lost two other major employers in the early 1980s — Firestone Tire & Rubber Co., and Weiser Lock. A merchant on the city's main business route, Tweedy Boulevard, noted that "South Gate looks like any dying small town in Texas or [the] Midwest" (Klunder, 1983). The city also faced internal struggles, as in the late 1970s and early 1980s, city council disagreed on whether or not to accept federal funding to help spur redevelopment (Klunder, 1983).

Despite these economic conditions, South Gate was not completely surprised by GM's decision. Two years prior to the closure, GM had expressed interest in building a stamping plant to help support the assembly plant, but city council rejected those plans. According to one former city councilman, that was the beginning of the end to GM's assembly plant in South Gate.

Once the closure was announced, General Motors worked with Cushman and Wakefield to market the property (LA Times, 1986), and set the initial asking price at $32 million. The property was promoted as a manufacturing site, and at one point, even courted Toyota to manufacture vehicles there. Toyota instead ended up in a joint venture with GM at a plant in Fremont, CA.

One of South Gate's Councilmen was also the Assistant Director of UAW Region 6. In this position, he had access to GM management, and when the plant closure was announced, he made a trip to Detroit to discuss the property's fate. He appealed to, as he and the community saw it, GM's moral obligation to the city. GM had been one of the top employers in the community since the plant was built. He requested that GM donate the property to the community, and the company responded that while they could not donate it, they would be able to offer a bargain sale — selling the property to a non-profit entity below the appraised value of the property. The benefit to GM was that it could take an income tax deduction on the difference between the appraised value and sale price. Several community members believe that if it were not for the Councilman's connections to GM, this agreement would not have happened.

In August 1985, as part of the bargain sale, General Motors offered to sell the plant to the city for $15 million, provided South Gate could find a buyer by the end of the year (Cipriano, 1985). The city held discussions with six potential developers, two of which planned to use the land for a warehouse. These

property reuse options gained little traction with city officials as they would create very few jobs. A joint-venture developer, Goldrich & Kest and Sheldon Appel Co. Inc., provided an offer that was more appealing: their initial plans included 1.5 million square feet of industrial, light-manufacturing and retail distribution facilities, as well as a 13-acre shopping center (LA Times, 1986).

Financing

At the time of the deal, the site was appraised at $32 million. As mentioned, General Motors initially offered to sell the property for $15 million, but the city was unable to complete the purchase in the necessary timeframe. GM and the city then agreed to a plan for South Gate to purchase the site for a total of $12 million, which included $7 million for the property, and $5 million for GM to demolish the buildings and remediate the property. The plant was sold in January 1986 (Harris, 1987). In February of that year, the property was resold to developers Goldrich & Kest Industries and Sheldon Appel Co. Inc. (LA Times, 1986). Building demolition began the following April.

In 1987, the community applied for and received $5.1 million in federal grants as part of the Urban Development Action Grant (UDAG) (Harris, 1987). The UDAG program began in 1977, and was administered under the Department of Housing and Urban Development. UDAG's goals were to assist distressed urban communities, specifically with issues such as outmigration, declining tax base or a deteriorating housing stock (Dugan, 1979). Funds were approved to help with construction costs for the industrial development of the southern half of the site.

Finding a New User for the Facility

The southern half of the site was the first part to be developed. Goldrich and Appel created the South Gate Industrial & Business Park on speculation, and Koos Manufacturing was one of the first tenants on the property. Koos is a high-end jeans manufacturer, and ended up purchasing one of the buildings for operations and leasing another. American Apparel is another tenant on the site, where it dyes and finishes garments. Other industrial and warehousing tenants followed.

Los Angeles Unified School District Selects the Site

In 2000, the northern half of the site was proposed as the location for a new high school and middle school, to be paid for primarily through school construction bonds (Martin, 2000). At the time, the city was planning to locate a grocery store and other shopping areas on that portion of the property. But the school district has eminent domain, and could seize the property regardless of the city's wishes.

Though there was a need for more schools, officials were disappointed that South Gate would lose the potential for the large number of jobs, as well as the tax revenue associated with manufacturing and retail activity. However, community members also recognized that schools provide employment, and are also a productive use of the site.

In 2002, the school district purchased close to 33 acres of the north side of the property from Goldrich for $14 million. Since the property was to be used for schools, as opposed to industrial or commercial uses, the site underwent an extensive environmental investigation, which the school district paid for, that culminated in a large-scale removal action for lead, arsenic and PCBs in mid-2002. The removal action was certified complete on April 12, 2002 (Hinojosa 2007), and school construction began in August 2002.

Overcoming Hurdles

South Gate had to overcome several barriers to transition the site into productive use again.

Getting the Right Price and Having the Right Person

One of the biggest hurdles a community faces in transitioning a property is finding a buyer. The fact that GM allowed this property to be sold under a bargain sale to South Gate was key in this process, and many agree that the bargain sale would not have happened without the South Gate councilman's connection to the UAW and GM.

Waiting for a Desirable Reuse

Given South Gate's location near the port of Los Angeles, there was — and continues to be — a lot of interest in locating product warehousing and distribution facilities in the area. Community leaders recognize that these types of operations do not provide large numbers of jobs, and so have resisted allowing too many of them into the community. Even though it would also be a productive use of a vacant site, the community chose to hold out for uses that offer more jobs potential. Although the school district's purchase of the property wasn't ideal from a tax revenue perspective, it does employ a significant amount of people in the community and provides a modern facility for students.

Outcome

All the land at the former GM South Gate Assembly is in productive use. The South Gate Industrial & Business Park occupies the southern half of the site, and several manufacturing and warehousing companies are located there. These include:

- Koos Manufacturing, a denim jeans manufacturer, owns one building and leases another. It employs close to 700 employees.
- American Apparel, another apparel manufacturer on site, dyes and finishes garments at this location.
- California Transport Enterprises (CTE) offers warehousing and distribution services to major retailers.
- Iron Mountain operates a paper-shredding facility.

On the northern half of the site, the Los Angeles Unified School District manages three schools: South East High School, South East International High School and South East Middle School. There are also sports facilities, such as a track and football field, located on the property.

Financing Summary

	Name	Amount	Notes
Purchase Price	City of South Gate/Goldrich	$12 Million	Sold from GM to South Gate, then resold to Goldrich & Kest Industries and Sheldon Appel Co. Inc.
Purchase Price	South Gate School District	$14 Million	Sale of 33 acres on north side of site from Goldrich (developer) to school district
Federal Funding	HUD Urban Development Action Grant (UDAG)	$5.1 Million	Federal grant

References

Cipriano, Ralph. "South Gate OKs Sale of Ex-GM Plant : Facility Would Be Demolished to Create an Industrial Park." Los Angeles Times. December 20, 1985. <http://articles.latimes.com/1985-12-20/business/fi-5252_1_south-gate>.

Dugan, Dennis J. "Review of Urban Development Action Grant Program." GAO Statement Before the Subcommittee on Intergovernmental Relations and Human Resources, United States House Committee on Government Operations. May 23, 1979. <http://archive.gao.gov/f0302/109479.pdf>

Klunder, Jan. "South Gate Tries to Ensure Future." Los Angeles Times. January 2, 1983.

Harris, Lee. "Federal Funds to Get Business Park in Gear at South Gate GM Site." Los Angeles Times. April 5, 1987. <http://articles.latimes.com/print/1987-04-05/news/hl-161_1_light-manufacturing>.

Hinojosa, Javier. “SOUTHEAST AREA NEW HS NO. 2/MS NO. 3 (19370369).” Department of Toxic Substances Control. 2007. <http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=19370369>.

LA Times. “Defunct Auto Plant to be Industry Center.” Los Angeles Times. February 9, 1986. <http://articles.latimes.com/1986-02-09/realestate/re-6235_1_industrial-center>

Martin, Hugo. “New Middle, High Schools Proposed for South Gate.” Los Angeles Times. February 24, 2000. <http://articles.latimes.com/print/2000/feb/24/local/me-2167>.

Report Conclusions

A total of 267 automotive manufacturing facilities have closed in the United States since 1979. Of that number, 112, or 42 percent, were closed in the seven years between 2004 and 2010. Given that auto manufacturing plants are often one of the top three employers in a community, a closure negatively impacts the community in many ways. The large number of recent closures has presented communities across the U.S. with several challenges as they determine which steps to take to repurpose the property. Findings from this study provide insight for policy makers and communities to know how to best organize their resources toward repurposing auto manufacturing facility sites.

Given the high density of plants concentrated in the upper Midwest, it is harder for communities to repurpose the sites. The majority of closed automotive facilities are located in the region, with 173 of 267 (65 percent) located in Michigan, Indiana and Ohio. In fact, counties with ten or more closed plants had a repurpose rate of 35 percent, compared with 62 percent for counties with only one or two closed plants. Because of the difficulties involved with repurposing, targeted assistance to regions with a high density of plant closures is suggested.

High unemployment rates and decreasing population in a county are also conditions that make it difficult to repurpose a plant. Population change and unemployment levels are metrics often used to determine the economic vitality of an area. Given that counties with less economic activity have lower rates of repurposing former auto manufacturing facilities, it is therefore reasonable to focus assistance efforts to communities in this demographic.

Assistance at all government levels can encourage redevelopment. Several federal programs provided financial assistance in repurposing efforts from a variety of departments including the EPA, Commerce and HUD. This funding takes a variety of forms, from environmental remediation assistance to economic development and tax-related assistance. When communities receive federal funding, they are often able to leverage additional resources, such as state and local funding options, to make the redevelopment a reality.

There is no silver bullet that will always spur redevelopment, but there are several actions community leaders can take to assist in the redevelopment process. The first is to garner support of the broader region, so that the community is not acting alone. When redeveloping the site is part of a regional effort, chances are more likely that potential buyers will take notice.

Another helpful action is actively engaging community residents in potential site plans as they are established. This ensures that residents have a place to voice concerns for aspects of the development, and developers and community leaders have an opportunity to answer the concerns. While the community engagement method may take longer initially, it avoids delays and confusion later in the process.

Because development decisions are often made at a local level, understanding local politics is important. In a few case study examples, the developer did not necessarily connect with all the decision-makers, and some cite this issue as a reason development plans were turned down. When a developer understands the way planning decisions are made, he or she can communicate with the parties involved to ensure they are aware of and understand plans for the site.

The ability to customize both local and state policies was helpful in a few instances. When appropriate, policymakers amended policies to aid in the property redevelopment. Clearly, changing policies simply to encourage development is unwise, especially if there are negative externalities associated with those changes. But to the extent that a policy amendment makes sense, communities can recognize it may be an option at their disposal.

Investors looking to develop a property often have a tight timeline for when the development must generate revenue. When possible, reducing the bureaucracy and paperwork associated with redevelopment efforts, especially site permitting and financial assistance, is important. While it is imperative that regulatory requirements are met, and that a project is correctly assessed to ensure that benefits outweigh costs, recognizing when it is possible to streamline procedures is highly beneficial to the new investors and the community.

Finally, while there are many potential uses for closed automotive facilities, the highest and best use for a community is for the facility to remain in the automotive industry, which has been shown to support the highest number of quality jobs in the community. Beyond seeking new automotive investment, automotive communities have assets in their technological base, educational infrastructure, and skilled workforce. Capitalizing on these assets is paramount to moving communities forward.

APPENDIX A:
GLOSSARY OF TERMS FOR REPURPOSED AUTOMOTIVE FACILITIES DATABASE

Facilities: Refers to both the buildings of a plant and land that it occupies. Often many distinctly different plants will be located on a single piece of land or a "campus." For the purpose of this study, each of the individual buildings on a shared piece of land receives its own entry provided that it was used for a distinct manufacturing purpose. For example, a large assembly campus may include an assembly plant, an engine plant, a stamping plant, and a components plant. In that case, the single campus would be represented by four entries, one each for the assembly, engine, stamping, and components plants. Engineering or other non-manufacturing buildings on a campus are not included.

Last Automaker Owner: Denotes the most recent automaker owner of the site. This heading includes automakers/former automakers (Chrysler, Ford, GM, Volkswagen, Volvo, NUMMI, Isuzu, and Avanti Motorcar) and some suppliers that were spinoffs from automakers (ACH, American Axle, Delphi, Magna, and Visteon).

Automaker Plant Name: Denotes the most recent name of the facility when it still engaged in automotive manufacturing activities.

City, State: Contains known location data for each facility.

Plant Product Category: Denotes which type of manufacturing activity occurred on the site. Classifications include Assembly, Bodies, Chassis, Engine, Parts, Parts Processing and Parts Distribution Centers, Stamping, and Transmission.

- Facilities classified as **Assembly** were used for the final manufacture of automobiles as their end product.
- Facilities classified as **Bodies** were used to assemble the section of a vehicle in/on which passengers and load are carried.
- Facilities classified as **Chassis** were used to assemble the frame, wheels, and machinery of a motor vehicle.
- Facilities classified as **Engine** assembled engines for motor vehicles.
- Facilities classified as **Parts** manufactured a variety of components for automobiles including batteries, electronics, forged components, casted components, glass, molded components, stamped metal, tool and die components, and other components.
- Facilities classified as **Parts Processing Center** or **Parts Distribution Center** were storage facilities for automotive parts, and often manufactured parts in-house.

- Facilities classified as **Transmission** manufactured systems of shafts, gears, torque converters, and other components used to transfer force from an engine to the driving wheels of a motor vehicle.

Year Closed/Scheduled to Close: Denotes the year the facility ceased (or plans to cease) manufacturing automobiles and/or automotive components.

Current Conditions: Classifies whether a plant has been closed, repurposed, repurposed then vacant, or is transitioning.

- **Closed** – The automaker ceased operations, and to date, there is no new use at the site.
- **Closed*** – Other than in a bankruptcy proceeding, a plant cannot be officially "closed" unless agreed to by the company and the union in the labor agreement, regardless of whether production has halted. Two plants fit this category – Janesville, WI and Spring Hill, TN.
- **Repurposed** – There is a new use on the site of the former facility, regardless of whether the original building was demolished.
- **Repurposed/Closed** – There was a new use on the site of the former facility that has since closed.
- **Transitioning** – A site's ownership has changed from the automaker to another entity, but plans for the site are still in development.

Type of Reuse/Property Status: Denotes a broad category of reuse, including whether the site is vacant or demolished.

- **Automotive (Non-Manufacturing)**: Indicates the activity on the site no longer produces automobiles or automotive components, but still has some automotive-related purpose, such as automotive technical or testing centers.
- **Commercial**: Used for conducting business; may contain offices and retail space.
- **Demolished**: Closed facilities where the original manufacturing building has been torn down.
- **Education**: Includes reuses such as entire classrooms, schools, and university lab space.
- **Government**: Owned by government, and used for a variety of purposes that do not fit under other classifications. Examples include government-owned maintenance facilities, office space, and military bases.
- **Industrial**: Involved in either primary (raw materials, farming) or secondary (refining, construction, manufacturing) sector production.

- **Industrial – Automotive**: This is a subset of the "Industrial" category denoting sites that may have been sold to a different owner, but are still producing (or have restarted production of) automobiles or automotive products.
- **Logistics and Warehousing**: Includes distribution and storage centers.
- **Recreational**: Includes a wide variety of reuses, including golf courses, casinos, off-road courses, and physical fitness centers.
- **Research & Development**: Includes non-automotive technical centers and laboratories.
- **Residential**: Describes developments that offer private living space.
- **Vacant**: For closed facilities, the category indicates that the site retains an original manufacturing building that has not been repurposed.

Specific Reuse/Notes: Contains a short explanation of reuse or other items of note, such as a facility's new name, owner, product, and interested developers.

APPENDIX B:

LIST OF CLOSED AND REPURPOSED AUTOMOTIVE MANUFACTURING FACILITIES

Last Automaker Owner	Automaker Plant Name	City	State	Current Conditions
Avanti Motors	Avanti South Bend Assembly	South Bend	IN	Closed
Avanti Motors	New Avanti Motor Youngstown Assembly	Youngstown	OH	Closed
Chrysler	Coleman Products Company	Nogales	AZ	Closed
Chrysler	Newark Assembly	Newark	DE	Transitioning
Chrysler	Indianapolis Electrical	Indianapolis	IN	Repurposed
Chrysler	Indianapolis Foundry	Indianapolis	IN	Closed
Chrysler	New Castle Machining and Forge Plant	New Castle	IN	Closed
Chrysler	Richmond Engine Plant	Richmond	IN	Repurposed
Chrysler	Chrysler New Baltimore	New Baltimore	MI	Closed
Chrysler	Coleman Products Iron River	Iron River	MI	Repurposed/Closed
Chrysler	Conant Trim Plant	Hamtramck	MI	Repurposed
Chrysler	Conner Ave Assembly	Detroit	MI	Closed
Chrysler	Detroit Axle	Detroit	MI	Closed
Chrysler	Detroit Trim	Detroit	MI	Repurposed
Chrysler	Detroit Universal Joint	Dearborn	MI	Repurposed
Chrysler	Dodge Main	Hamtramck	MI	Repurposed
Chrysler	Introl Division-Ann Arbor	Ann Arbor	MI	Repurposed
Chrysler	Introl Scio Township Plant	Ann Arbor	MI	Repurposed
Chrysler	Jefferson Ave. plant	Detroit	MI	Closed
Chrysler	Lynch Road Assembly	Detroit	MI	Closed
Chrysler	Lyons Component Plant	Lyons	MI	Closed
Chrysler	McGraw Glass	Detroit	MI	Closed
Chrysler	Mercury Plastics Company	Clinton Township	MI	Repurposed/Closed
Chrysler	Mound Rd. Engine	Detroit	MI	Closed
Chrysler	Old Mack Stamping	Detroit	MI	Repurposed
Chrysler	Trenton Chemical	Trenton	MI	Repurposed
Chrysler	Vernor Tool and Die	Detroit	MI	Closed
Chrysler	Vernor Trim Plant	Detroit	MI	Closed
Chrysler	Warren Tool and Die	Warren	MI	Repurposed
Chrysler	Winfield Foundry	Detroit	MI	Closed

Chrysler	St. Louis North	Fenton	MO	Closed
Chrysler	St. Louis South	Fenton	MO	Closed
Chrysler	New Venture Gear-East Syracuse	East Syracuse	NY	Closed
Chrysler	Chrysler Van Wert	Van Wert	OH	Repurposed
Chrysler	Fostoria Foundry	Fostoria	OH	Closed
Chrysler	Sandusky Vinyl Products	Sandusky	OH	Repurposed
Chrysler	Toledo South (Parkway)	Toledo	OH	Closed
Chrysler	Toledo South (Stickney)	Toledo	OH	Closed
Chrysler	Twinsburg Stamping	Twinsburg	OH	Transitioning
Chrysler	El Paso Automotive Products	El Paso	TX	Repurposed
Chrysler	Coleman Products	Coleman	WI	Repurposed
Chrysler	Kenosha Assembly	Kenosha	WI	Repurposed
Chrysler	Kenosha Engine Plant	Kenosha	WI	Closed
Chrysler	Kenosha Stamping	Kenosha	WI	Repurposed
Chrysler	Milwaukee Stamping	Milwaukee	WI	Repurposed
Chrysler	Huber Foundry	Detroit	MI	Repurposed
Ford	Sheffield Aluminum Casting Plant	Sheffield	AL	Closed
Ford	Pico Rivera Plant (Los Angeles Assembly Plant)	Pico Rivera	CA	Repurposed
Ford	San Jose Assembly	Milpitas	CA	Repurposed
Ford	Ford Microelectronics	Colorado Springs	CO	Repurposed
Ford	Atlanta Assembly	Hapeville	GA	Transitioning
Ford	Auto Alliance Flat Rock	Flat Rock	MI	Repurposed
Ford	Dearborn Assembly Plant	Dearborn	MI	Closed
Ford	Dearborn Glass Plant	Dearborn	MI	Repurposed
Ford	Mount Clemens Groesbeck	Mount Clemens	MI	Repurposed
Ford	Mount Clemens Lafayette	Mount Clemens	MI	Repurposed/Closed
Ford	Northville Engine Components	Northville	MI	Repurposed
Ford	Vulcan Forge	Dearborn	MI	Repurposed
Ford	Wayne Assembly	Wayne	MI	Closed
Ford	Wixom Assembly	Wixom	MI	Closed
Ford	Twin Cities Assembly	St. Paul	MN	Closed
Ford	St. Louis Assembly	Hazelwood	MO	Transitioning

Ford	Edison Assembly	Edison	NJ	Transitioning
Ford	Mahwah Assembly (Ford Fairmount)	Mahwah	NJ	Repurposed
Ford	Green Island	Green Island	NY	Closed
Ford	Batavia Transmission	Batavia	OH	Repurposed
Ford	Cleveland Aluminum	Brook Park	OH	Closed
Ford	Cleveland Casting	Brook Park	OH	Closed
Ford	Cleveland Engine #2	Brook Park	OH	Closed
Ford	Fairfax Transmission Plant	Fairfax	OH	Repurposed
Ford	Lorain Assembly	Lorain	OH	Closed
Ford	Norfolk Assembly	Norfolk	VA	Transitioning
Ford (ACH)	Indianapolis Steering	Indianapolis	IN	Closed
Ford (ACH)	ACH Utica	Utica	MI	Closed
Ford (ACH)	Chesterfield	Chesterfield	MI	Repurposed
Ford (ACH)	Milan	Milan	MI	Closed
Ford (ACH)	Monroe Components	Monroe	MI	Repurposed
Ford (ACH)	Ypsilanti-Spring St.	Ypsilanti	MI	Repurposed
Ford (Visteon)	Chicago VRAP	Chicago	IL	Closed
Ford (Visteon)	Bedford Plant	Bedford	IN	Repurposed
Ford (Visteon)	Climate Control Division - Connersville Plant	Connersville	IN	Repurposed
Ford (Visteon)	Concordia VRAP	Concordia	MO	Closed
Ford (Visteon)	Kansas City VRAP	Kansas City	MO	Repurposed
Ford (Visteon)	St. Louis VRAP/VMAP	Eureka	MO	Repurposed
Ford (Visteon)	Durant Focused Factory	Durant	MS	Closed
Ford (Visteon)	Visteon West Seneca Facility	West Seneca	NY	Repurposed
Ford (Visteon)	Springfield VRAP	Springfield	OH	Repurposed
Ford (Visteon)	North Penn Electronics Plant	Lansdale	PA	Closed
Ford (Visteon)	Chesapeake VRAP	Chesapeake	VA	Closed
General Motors	Brea Seat Plant	Brea	CA	Repurposed
General Motors	Delco Systems Operations	Goleta	CA	Repurposed
General Motors	South Gate Assembly	South Gate	CA	Repurposed
General Motors	Van Nuys Plant	Van Nuys	CA	Repurposed
General Motors	Doraville Assembly	Doraville	GA	Closed
General Motors	Doraville Stamping	Doraville	GA	Closed
General Motors	Lakewood Plant	Atlanta	GA	Transitioning

General Motors	Danville Foundry	Danville	IL	Closed
General Motors	Willow Springs Stamping	Willow Springs	IL	Repurposed
General Motors	Kokomo Electronics I	Kokomo	IN	Repurposed
General Motors	Delco Shreveport Electronics	Shreveport	LA	Repurposed
General Motors	Framingham Assembly	Framingham	MA	Repurposed
General Motors	Baltimore Assembly	Baltimore	MD	Repurposed
General Motors	Chevrolet Motor Division	Detroit	MI	Closed
General Motors	Conner Street Stamping	Detroit	MI	Repurposed
General Motors	Detroit-Fort Street	Detroit	MI	Repurposed
General Motors	Drayton Plains Parts Processing Center #78	Drayton Plains	MI	Closed
General Motors	Fisher Body Division - Plant 40	Detroit	MI	Repurposed
General Motors	Fisher Body Division-Plant 37	Detroit	MI	Repurposed
General Motors	Fisher Body Division	Tecumseh	MI	Repurposed
General Motors	Fisher Body Plant 1	Flint	MI	Repurposed
General Motors	Fisher Body Plant 21	Detroit	MI	Closed
General Motors	Fleetwood Assembly, Plant #18	Detroit	MI	Repurposed
General Motors	Flint Plant #1	Flint	MI	Closed
General Motors	Flint V8 Engine Plant	Flint	MI	Closed
General Motors	Grand Rapids Trim and Seating	Grand Rapids	MI	Repurposed
General Motors	Hydra-matic Division-Constantine	Constantine	MI	Repurposed
General Motors	Kalamazoo Stamping	Kalamazoo	MI	Repurposed
General Motors	Lansing C Part of Lansing Car	Lansing	MI	Closed
General Motors	Lansing M Assembly (Part of Lansing Car)	Lansing	MI	Closed
General Motors	Livonia Trim	Livonia	MI	Repurposed
General Motors	Romulus Transmission and Service Parts Operation	Romulus	MI	Repurposed
General Motors	Van Slyke Metal Fabrication	Flint	MI	Closed
General Motors	Willow Run Assembly	Ypsilanti	MI	Repurposed
General Motors	Hazelwood Distribution Center	Hazelwood	MO	Repurposed
General Motors	St. Louis Truck and Bus Assembly	St. Louis	MO	Repurposed
General Motors	Delco Remy-Meridian	Meridian	MS	Repurposed
General Motors	Linden Assembly	Linden	NJ	Transitioning
General Motors	Delco Products Rochester	Rochester	NY	Repurposed

General Motors	Harrison Radiator- Buffalo	Buffalo	NY	Closed
General Motors	Tarrytown Assembly	Sleepy Hollow	NY	Closed
General Motors	Dayton-Kuntz Road	Dayton	OH	Repurposed
General Motors	Fairfield Fisher Body	Fairfield	OH	Repurposed/Closed
General Motors	Fisher Body Division Stamping	Cleveland	OH	Repurposed
General Motors	Fisher Body Division Euclid	Euclid	OH	Repurposed
General Motors	Fisher Guide Elyria	Elyria	OH	Closed
General Motors	Harrison Division	Dayton	OH	Repurposed
General Motors	Lordstown Van Plant	Lordstown	OH	Closed
General Motors	Norwood Assembly	Norwood	OH	Repurposed
General Motors	GM Oklahoma City Assembly	Oklahoma City	OK	Repurposed
General Motors	Spring Hill Assembly	Spring Hill	TN	Closed*
General Motors	Spring Hill Transmission	Spring Hill	TN	Closed
General Motors	El Paso Components	El Paso	TX	Repurposed
General Motors	Inland Fisher Guide	Brownsville	TX	Repurposed
General Motors	Janesville Assembly Plant	Janesville	WI	Closed*
General Motors	Martinsburg SPO	Martinsburg	WV	Repurposed
General Motors (American Axle)	Detroit Manf. Complex	Hamtramck	MI	Closed
General Motors (American Axle)	Detroit Manf. Complex	Hamtramck	MI	Closed
General Motors (American Axle)	Buffalo Plant	Buffalo	NY	Repurposed
General Motors (American Axle)	Tonawanda Forge	Tonawanda	NY	Closed
General Motors (American Axle)	Tonawanda Foundry	Tonawanda	NY	Repurposed
General Motors (Delphi)	Delphi Athens	Athens	AL	Closed
General Motors (Delphi)	Delphi Tuscaloosa	Tuscaloosa	AL	Repurposed
General Motors (Delphi)	Anaheim Battery	Anaheim	CA	Repurposed
General Motors (Delphi)	Bristol Bearings	Bristol	CT	Repurposed
General Motors (Delphi)	Energy & Engine Mgmt Systems	Albany	GA	Repurposed
General Motors (Delphi)	Fitzgerald Battery Plant	Fitzgerald	GA	Closed
General Motors (Delphi)	Sioux City Components	Sioux City	IA	Repurposed
General Motors (Delphi)	Aluminum Foundry	Anderson	IN	Closed
General Motors (Delphi)	Anderson Electronics	Anderson	IN	Closed
General Motors (Delphi)	Anderson Ignition Plant	Anderson	IN	Closed

General Motors (Delphi)	Energy & Engine Mgmt Systems	Anderson	IN	Closed
General Motors (Delphi)	Muncie Battery	Muncie	IN	Transitioning
General Motors (Delphi)	Plant 10, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 15, Delphi Anderson	Anderson	IN	Repurposed
General Motors (Delphi)	Plant 16, Delphi Anderson	Anderson	IN	Repurposed
General Motors (Delphi)	Plant 17, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 18, Delphi Anderson	Anderson	IN	Repurposed
General Motors (Delphi)	Plant 2, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 20, Delphi Anderson	Anderson	IN	Repurposed
General Motors (Delphi)	Plant 4, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 5, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 6, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 8, Delphi Anderson	Anderson	IN	Closed
General Motors (Delphi)	Plant 9, Delphi Anderson	Anderson	IN	Repurposed
General Motors (Delphi)	Second Plant 3	Anderson	IN	Closed
General Motors (Delphi)	Olathe Battery Plant	Olathe	KS	Closed
General Motors (Delphi)	Interior & Lighting Systems	Monroe	LA	Transitioning
General Motors (Delphi)	Delphi Coopersville	Coopersville	MI	Repurposed
General Motors (Delphi)	Flint East	Flint	MI	Closed
General Motors (Delphi)	Flint East	Burton	MI	Repurposed
General Motors (Delphi)	Flint West - Plant 10	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 2	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 2A	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 3	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 35	Flint	MI	Repurposed
General Motors (Delphi)	Flint West - Plant 4	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 5	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 6	Flint	MI	Closed
General Motors (Delphi)	Flint West - Plant 8	Flint	MI	Closed
General Motors (Delphi)	Interior & Lighting Systems	Auburn Hills	MI	Repurposed
General Motors (Delphi)	Delphi- O'Fallon	O'Fallon	MO	Repurposed
General Motors (Delphi)	Clinton	Clinton	MS	Closed
General Motors (Delphi)	Laurel	Laurel	MS	Repurposed
General Motors (Delphi)	New Brunswick	New Brunswick	NJ	Closed

General Motors (Delphi)	Lockport	Lockport	NY	Repurposed
General Motors (Delphi)	Rochester-Lee Road	Rochester	NY	Repurposed
General Motors (Delphi)	Columbus Plant	Columbus	OH	Transitioning
General Motors (Delphi)	Cortland Parts Plant	Cortland	OH	Transitioning
General Motors (Delphi)	Dayton-Home Ave	Dayton	OH	Closed
General Motors (Delphi)	Dayton-Needmore Road	Dayton	OH	Closed
General Motors (Delphi)	Delco Moraine W Dayton	Dayton	OH	Repurposed
General Motors (Delphi)	Delphi Packard Plant 41	Warren	OH	Repurposed
General Motors (Delphi)	Kettering Plant	Kettering	OH	Closed
General Motors (Delphi)	River Road Complex North	Warren	OH	Closed
General Motors (Delphi)	Warren Parts Plant	Warren	OH	Closed
General Motors (Delphi)	Spring Hill Parts Plant	Columbia	TN	Closed
General Motors (Delphi)	Delphi Wichita Falls	Wichita Falls	TX	Repurposed
General Motors (Delphi)	Former Delphi Oak Creek PT	Milwaukee	WI	Closed
General Motors (Delphi)	Milwaukee Electronics & Safety	Milwaukee	WI	Closed
General Motors (MLC/RACER)	Wilmington Assembly	Wilmington	DE	Repurposed
General Motors (MLC/RACER)	Anderson Electronics	Anderson	IN	Closed
General Motors (MLC/RACER)	Delco Plant #5	Kokomo	IN	Closed
General Motors (MLC/RACER)	Indianapolis Metal Center	Indianapolis	IN	Closed
General Motors (MLC/RACER)	Manual Transmissions-Muncie	Muncie	IN	Closed
General Motors (MLC/RACER)	Fairfax #1	Kansas City	KS	Closed
General Motors (MLC/RACER)	Shreveport Assembly	Shreveport	LA	Closed
General Motors (MLC/RACER)	Shreveport Metal Center	Shreveport	LA	Closed
General Motors (MLC/RACER)	Buick City Assembly (Buildings 12,4,8,44,16,40,41, 10, 394A, New Factory 40)	Flint	MI	Closed
General Motors (MLC/RACER)	Chassis Livonia	Livonia	MI	Closed
General Motors (MLC/RACER)	Clark Street Assembly	Detroit	MI	Repurposed
General Motors (MLC/RACER)	Clark Street Stamping	Detroit	MI	Repurposed
General Motors (MLC/RACER)	Coldwater Plant	Flint	MI	Closed
General Motors (MLC/RACER)	Flint #1 / Flint North (Building 36)	Flint	MI	Closed
General Motors (MLC/RACER)	Flint Components- Flint North (Building 20, Factory 10 (originally numbered 05))	Flint	MI	Closed

General Motors (MLC/RACER)	Flint Converter and Components (Building 70, Factory 81)	Flint	MI	Closed
General Motors (MLC/RACER)	Flint Engine Factory #31 (Building 11, Factory 31)	Flint	MI	Closed
General Motors (MLC/RACER)	Flint Powertrain North (Building 30, Factory 03)	Flint	MI	Closed
General Motors (MLC/RACER)	Flint West - Plant 9	Flint	MI	Closed
General Motors (MLC/RACER)	GMPT Saginaw Malleable Iron	Saginaw	MI	Closed
General Motors (MLC/RACER)	Grand Rapids Stamping	Wyoming	MI	Transitioning
General Motors (MLC/RACER)	Grey Iron Castings Pontiac	Pontiac	MI	Closed
General Motors (MLC/RACER)	Lansing Car Assembly-Body	Lansing	MI	Closed
General Motors (MLC/RACER)	Lansing Craft Center	Lansing	MI	Closed
General Motors (MLC/RACER)	Lansing Craft Center Stamping	Lansing	MI	Closed
General Motors (MLC/RACER)	Lansing Engine	Delta Township (Lansing)	MI	Repurposed
General Motors (MLC/RACER)	Lansing Engine Plant #1	Lansing	MI	Closed
General Motors (MLC/RACER)	Lansing Metal Center	Lansing	MI	Closed
General Motors (MLC/RACER)	Livonia Engine	Livonia	MI	Closed
General Motors (MLC/RACER)	Nodular Iron Plant	Saginaw	MI	Closed
General Motors (MLC/RACER)	Pontiac Assembly (Fiero plant 17)	Pontiac	MI	Closed
General Motors (MLC/RACER)	Pontiac Central Assembly	Pontiac	MI	Repurposed/Closed
General Motors (MLC/RACER)	Pontiac East Assembly	Pontiac	MI	Closed
General Motors (MLC/RACER)	Pontiac Engine Plant	Pontiac	MI	Closed
General Motors (MLC/RACER)	Pontiac Pre-Production Operations	Pontiac	MI	Closed
General Motors (MLC/RACER)	Pontiac Stamping Plant	Pontiac	MI	Closed
General Motors (MLC/RACER)	Pontiac West Assembly	Pontiac	MI	Closed
General Motors (MLC/RACER)	Powertrain Flint - GMPT (Building 43, Factory 05)	Flint	MI	Closed
General Motors (MLC/RACER)	Willow Run Transmission	Ypsilanti	MI	Closed
General Motors (MLC/RACER)	Pontiac North Operations	Pontiac	MI	Transitioning
General Motors (MLC/RACER)	Leeds Assembly	Kansas City	MO	Closed
General Motors (MLC/RACER)	Hyatt Clark Bearings	Clark	NJ	Repurposed
General Motors (MLC/RACER)	Trenton (Ewing)	Ewing	NJ	Closed
General Motors (MLC/RACER)	Inland Fisher Guide-Syracuse	Salina	NY	Repurposed
General Motors (MLC/RACER)	Massena Powertrain/Castings	Massena	NY	Closed
General Motors (MLC/RACER)	Delphi Harrison Moraine City	Moraine City	OH	Closed

General Motors (MLC/RACER)	Mansfield Metal Center (Ontario)	Mansfield	OH	Closed
General Motors (MLC/RACER)	Moraine Assembly	Moraine City	OH	Transitioning
General Motors (MLC/RACER)	Moraine Engine	Moraine City	OH	Closed
General Motors (MLC/RACER)	Moraine Thermal Plant	Moraine City	OH	Closed
General Motors (MLC/RACER)	Parma Components	Parma	OH	Transitioning
General Motors (MLC/RACER)	Pittsburgh Metal Center	West Mifflin	PA	Closed
General Motors (MLC/RACER)	GMPT Fredericksburg Components	Fredericksburg	VA	Closed
NUMMI (GM and Toyota JV)	NUMMI Assembly Plant	Fremont	CA	Repurposed
NUMMI (GM and Toyota JV)	NUMMI Stamping Plant	Fremont	CA	Repurposed
Volkswagen	Westmoreland Assembly	New Stanton	PA	Repurposed
Volkswagen	Fort Worth Manufacturing	Fort Worth	TX	Repurposed
Volkswagen	VW South Charleston Stamping	South Charleston	WV	Repurposed