

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 large³ 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 facilities⁵ 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

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 listings⁷ 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.

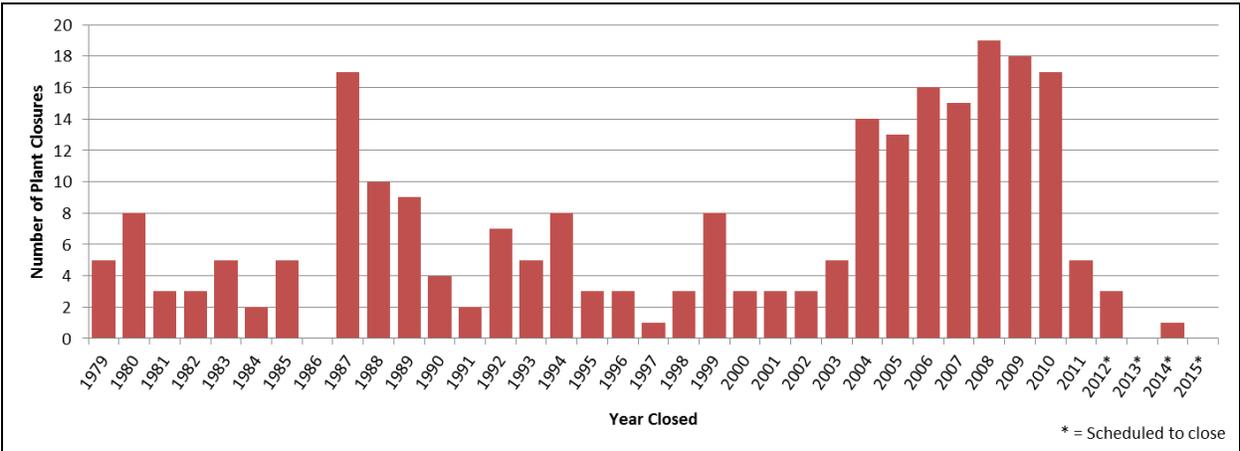
TRENDS IN CLOSED AND REPURPOSED FACILITIES

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



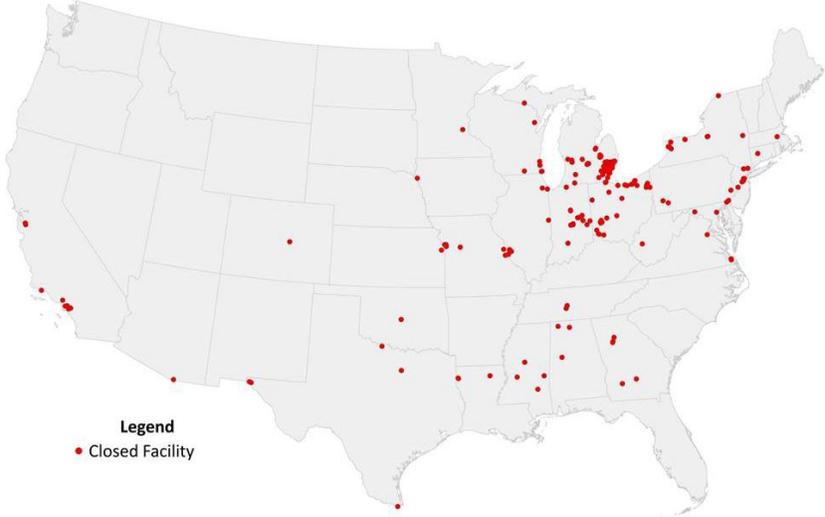
Source: Center for Automotive Research

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

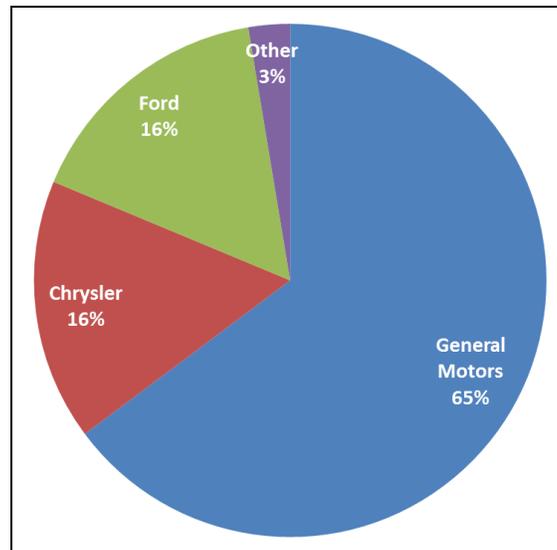


Source: Center for Automotive Research

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

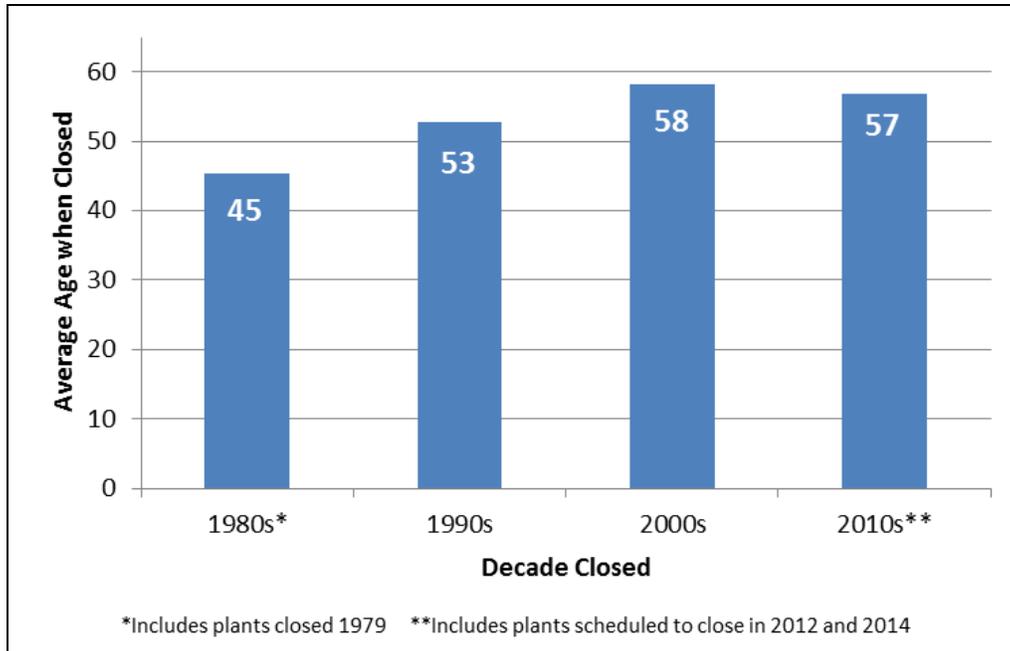
Historically, both Ford and General Motors relied on branch assembly plants to serve various markets across the nation. These plants were often located in the center of major regional markets, and would assemble vehicles using parts that were primarily manufactured in the Midwest. The companies relied 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



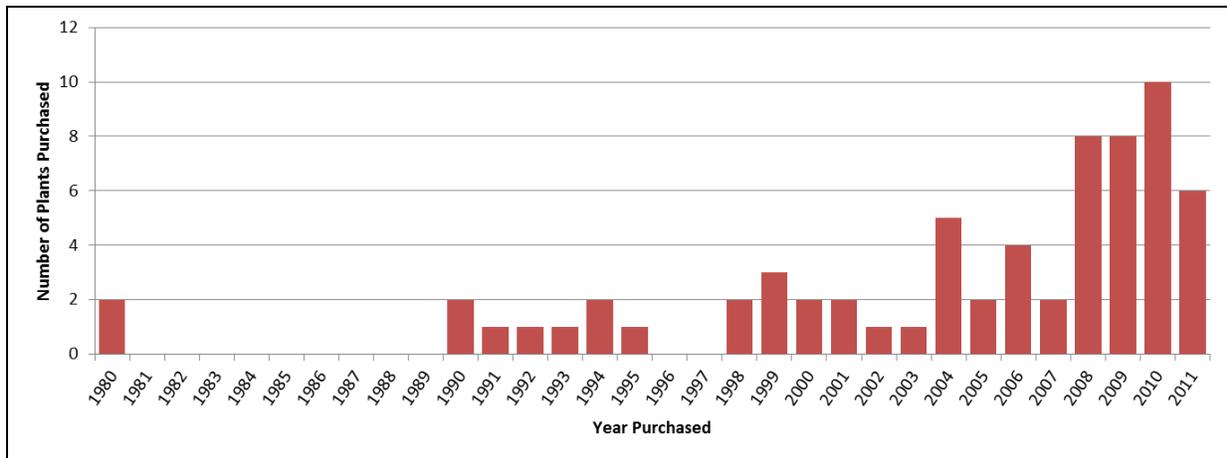
Source: Center for Automotive Research

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

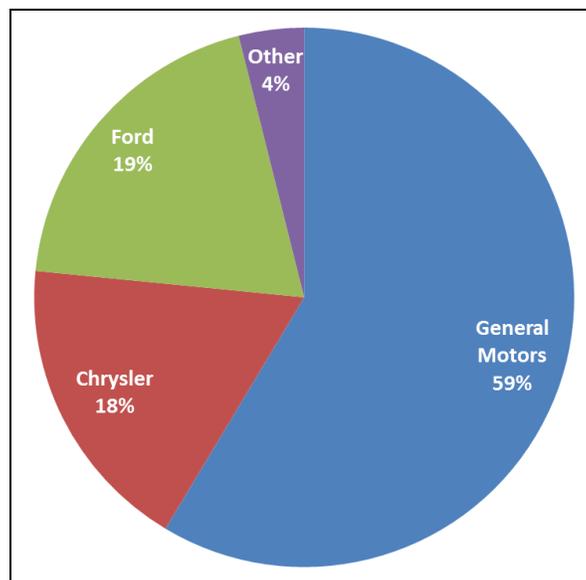


Source: Center for Automotive Research

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.

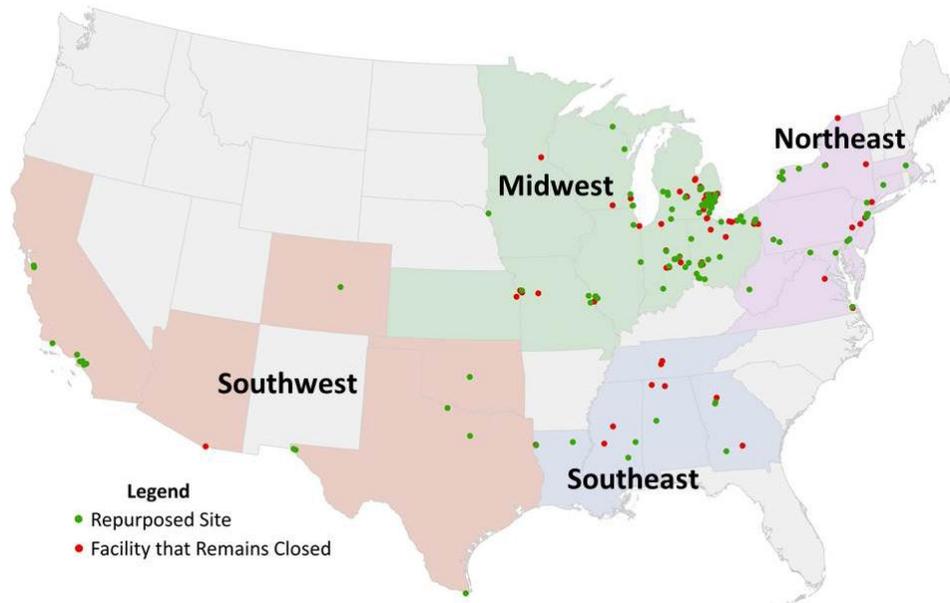
FIGURE 7: GEOGRAPHICAL COMPARISON OF FACILITIES THAT REMAIN CLOSED AND REPURPOSED SITES



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.

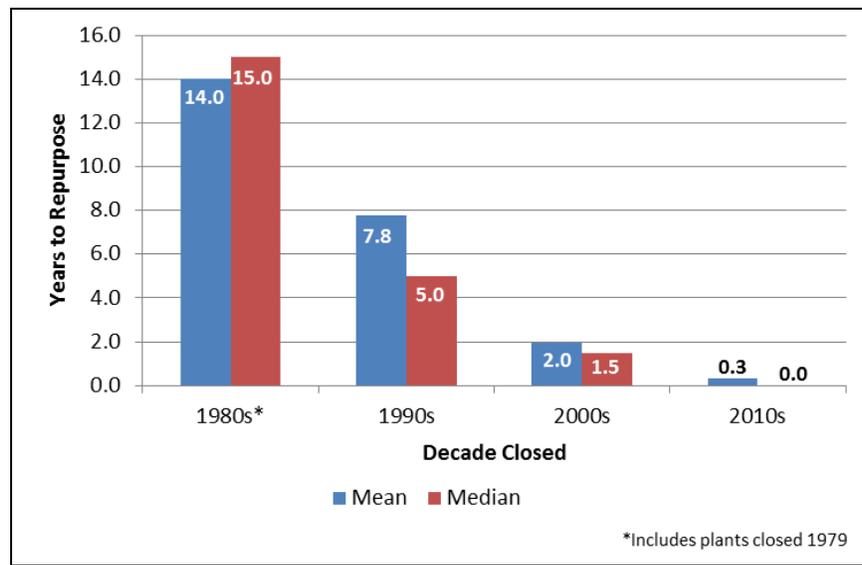
CLOSED AND REPURPOSED PLANT SITE COMPARISONS

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



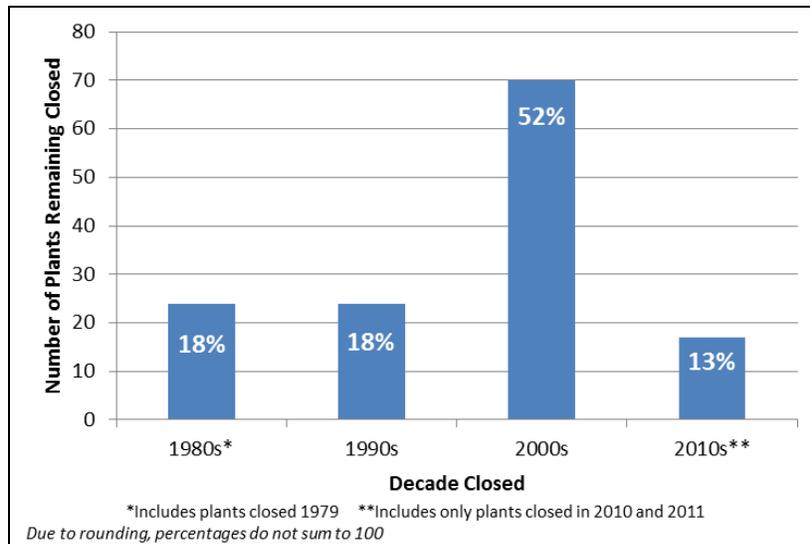
Source: Center for Automotive Research

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

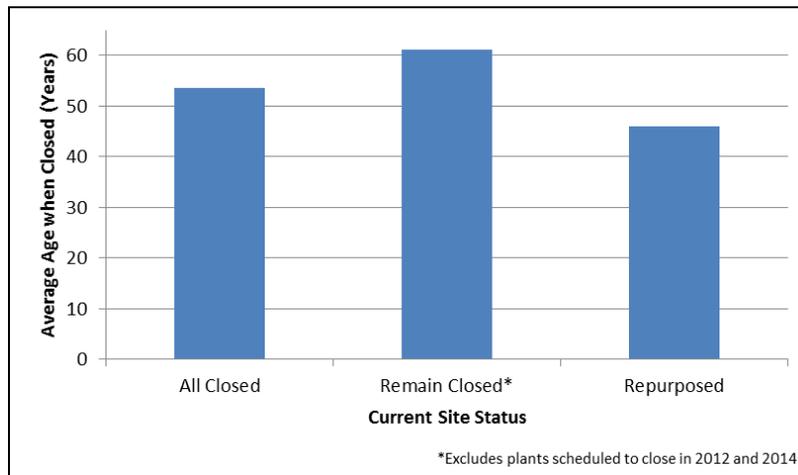


Source: Center for Automotive Research

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.

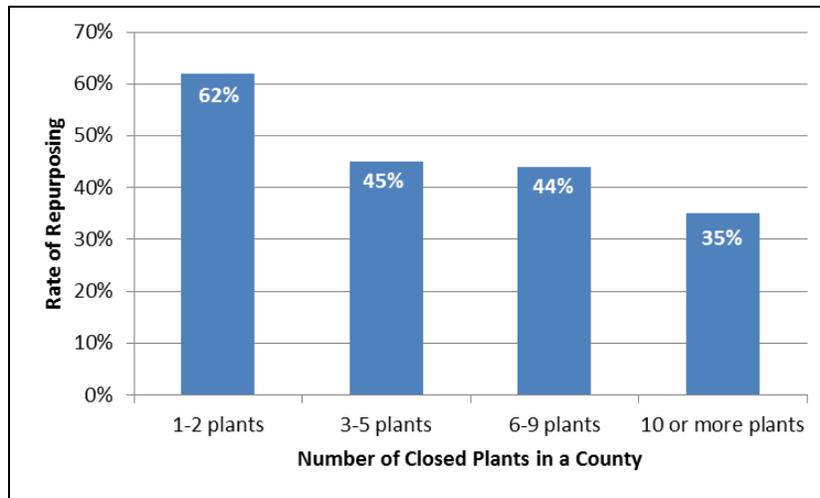
NUMBER OF CLOSED PLANTS BY COUNTY

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.

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.